IFAD
Investing in rural people

Viet Nam

Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Project Design Report

Main report and annexes

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Map of the Project Area

IFAD

The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.

Map compiled by IFAD | 16-04-2021

Abbreviations and Acronyms

AMD	Project for Adaption to Climate Change in the Mekong Delta in Ben Tre and Tra Vinh Provinces ARP
ARP	Agriculture Restructuring Program
ASWQMS	Automated Salinity and Water Quality Monitoring System
AWPB	Annual work plan and budget
BT	Ben Tre
CCAF	Climate Change Adaptation Fund (TV)
CCCO	Climate Change Coordination office
CIG / CG	Community interest groups / Community group
CPC	Commune People's Committee
DA	Designated Account
DARD	Department of Agriculture and Rural Development
DoNRE	Department of Natural Resource and Environment
DPC	District People's Committee
DPI	Department of Planning and Investment
GoV	Government of Viet Nam
HCMC	Ho Chi Minh City
IFAD	International Fund for Agriculture Development
M&E	Monitoring and Evaluation
MARD	Ministry of Agriculture and Rural Development
MFI	Micro Finance Institution
MoF	Ministry of Finance
MTR	Mid-term Review
NTP- NRD	National Target Program for New Rural Development
ODA	Official Development Assistance
PCU	Project Coordination Unit
PD	Project Director
PPC	Provincial People's Committees
PPP	Public – Private Partnership
PSC	Project Steering Committees
RIMS	Results and Impact Management System
SBV	State Bank of Viet Nam
SCG	Savings and Credit Groups
SEDP	Socio-Economic Development Plan
SME	Small and Medium Enterprise
SOE	Statements of Expenditure
ToR	Terms of Reference
TV	Tra Vinh
VBSP	Viet Nam Bank for Social Policy
VC	Value Chain
VND	Vietnamese Dong
WDF	Women's Development Fund
WU	Women's Union

In line with IFAD11 mainstreaming commitments, the project has been validated as:

☐ Gender transformational ☑ Youth sensitive ☐ Nutrition sensitive ☑ Climate finance

IFAD Adaptation Finance	$18,529,000
IFAD Mitigation Finance	$0
Total IFAD Climate-focused Finance	$18,529,000

Executive Summary

Background and Rationale. The Government of Viet Nam (GoV) and IFAD agreed to finance and develop jointly Climate Smart Agriculture Transformation Project (CSAT) for the Ben Tre and Tra Vinh provinces in the Mekong Delta. CSAT builds on the successful IFAD / ASAP funded Adaptation in the Mekong Delta project (AMD; 2013 – 2020). The project design draws from the lessons learnt from AMD, recently completed IFAD projects, and other development partner funded projects in Viet Nam. In addition, an IFAD Impact Assessment is currently being finalized and its results are expected to fine-tune the design and implementation arrangements.

In the Mekong Delta region, overexploitation of natural resources and climate change are posing an increasing threat on people's livelihoods, on their agricultural production activities and their income generating activities. The Mekong Delta region has one of the lowest poverty rate in Viet Nam, but due to the population density the absolute number of poor and near poor remain high. IFAD has focused previous investments in Ben Tre and Tra Vinh, two of the poorest provinces and home to 60,000 poor and near poor households. Tra Vinh province is home to the Khmer ethnic group, which has a disproportionately higher poverty rate (25 percent; 2019) than the average (6 percent). Ben Tre and Tra Vinh provinces are coastal provinces and suffer the adverse impacts of ground water scarcity, saline water intrusion in cropland, storms and flooding. 70 percent of local population [1] is considered to be still vulnerable to climate change impact and other shocks, which are estimated high and may require significant change in livelihoods. This means that they can easily slip back into poverty. These poor and near poor smallholders require continued assistance to turn agriculture into a profitable climate resilience business.

GoV policies notably the Resolution 120, the Mekong Delta Plan (MDP) and the Agriculture Transformation Programme (ATP) aim to address the above challenges and build a future for smallholders and small rural enterprises in the Mekong Delta, while reducing vulnerabilities to climate change effects. GoV sees IFAD as an agent of change in agriculture and sustainable rural development and in working with poorer and remote areas. CSAT is fully embedded within the above policies and will contribute to the ATP, which is led by the Netherlands and covers the entire Mekong Delta Region.

During the previous COSOP 2012 - 2019, IFAD funds provided capacity building, direct institutions support and finance to beneficiaries, besides rural infrastructure. The current government ODA policy and consequent decrees limit the use of ODA funds to infrastructure investments. Finance for other expenditures foremost capacity building need to be mobilised form domestic or international grant funds.

For previous IFAD investments it is known that rural infrastructure generates the highest impact when it is linked with value chain capacity building (COSOP Completion Report 2012–2019). Meanwhile Mekong Delta Plan emphasized the need for coordinated infrastructure planning. This capacity building is based on participatory and market oriented planning, where adaptation to climate change is mainstreamed, financial services are available and technical and business skills enhanced among producers. A critical element is linking private sector with small producers through project investments that incentivise (e.g. infrastructure, enhancing producer capacities) and de-risk their investments and generate the *pull* – effect. There is therefore a strong rationale to continue these investments and scale-up lessons learned through the design of CSAT, which will focus on investments in climate smart and productive infrastructure for inclusive, pro-poor value chains.

The Government of Viet Nam is committed to allocate USD 11.2 million of co-financing in cash and USD 6.6 million in kind to address the need for capacity building and other soft investments that IFAD is not eligible to finance anymore. Additional private sector financing is available for group formation and strengthening, group organization, investments in private sector enterprises and value chain development.

IFAD funded project in Viet Nam demonstrated also that rural women can be empowered through supporting their businesses or generating decent employment within the value chain. A similar effect can be expected for youth, if the right instruments are developed. Lastly, lessons from CSAT will contribute directly to the Mekong Delta Plan and the larger Agriculture Transformation Programme (ATP). It is therefore expected that CSAT will generate lasting scale and policy impacts for the Mekong Delta region.

Goal and development objective. The goal of CSAT is to achieve sustainable and climate resilient rural transformation in Ben Tre and Tra Vinh province that would serve as a model for the Mekong Delta region. The project development objective is to generate sustainable income opportunities and improved rural livelihoods for poor households and their women, men, EM and youth in Tra Vinh and Ben Tre provinces. This will be assessed in terms of income increase of and empowerment improvements by the target groups. Tangible project outcomes will be generated in the areas of inclusive and climate resilient value chain planning, adoption of CSA technologies and practices, construction/rehabilitation of climate resilient infrastructures, commercial enterprise – producer partnerships and market linkages. The inclusion and empowerment of rural women and youth [2] will be mainstreamed across the CSAT outcomes.

Target area. In line with the government's request, CSAT will be implemented in Tra Vinh and Ben Tre provinces which are highly vulnerable to the effects of climate change. The location of the key value chains will determine CSAT's geographical intervention areas.

Target group. CSAT is expected to directly reach 60,000 smallholder households (Ben Tre 25,000 and Tra Vinh 35,000) equivalent to some 210,000 people. The project design identified the following target groups:

- Poor and near poor households *(13% of project target)* - having limited or no land and financial resources. They will benefit from infrastructure, vocational training, and access to microfinance and decent employment along the promoted value chains. Those with limited land and labour resources will gradually participate in value chain activities through their Collaborative Group (CG) membership.
- Vulnerable households [3] *(58% of project target)* – produce in vulnerable production systems and in vulnerable areas as identified by climate change risk management planning. This group includes the poor, near poor, medium, ethnic minorities, youth and women-headed households as identified by the local SEDP processes. They may fall back (deeper) into poverty in the event of weather disasters. They will benefit from all project activities i.e. CSA, access to finance, infrastructure and engaging in contracts with for product supply to markets.
- Medium and better off farmers *(~20% of project population)* – these are not the prime target group. They are included in CSAT interventions because they have the ability to assist poor smallholders in commercial agricultural production for example through CG investments, and co-investments in agricultural demonstrations. Mixed groups also decrease risks in rural finance.
- Ethnic minority [4] (EM) in Tra Vinh province. People from ethnic minorities will make up at least 18 per cent of the total beneficiaries, which corresponds to 30% of the total EM population in Tra Vinh province. An Ethnic Minorities Plan has been developed and includes specific activities, for example, in terms of awareness raising, capacity building and livelihoods support.
- Rural women and women headed households- CSAT targets directly women with business and technical training including ICT; access to finance and indirectly through infrastructure and CSA. Women would account for at least 40 per cent of total project target.
- Rural youth. CSAT intends to be youth sensitive; Young people (between 16 – 29 years old) [2] will be the main force to promote digitalisation and e-commercialisation in value chains. They will benefit from training, access to finance, infrastructure and CSA. Youth will make up at least 20 per cent of the beneficiaries (reaching approximately 80% of youth population in the project area will be targeted).

Targeting strategy. (1) Geographic targeting: CSAT will apply a similar approach as AMD and use a participatory value chain action planning (VCAP). This will be conducted during the first year of implementation. The VCAP will identify potential value chains with the highest possible degree of inclusion. In a second step, the VCAP process will identify those communes which fit the selection criteria, such as poverty rate and vulnerability, as agreed at design. CSAT will likely reach around 80 communes in both provinces [3].

During project design, the following value chains pre-identified for Ben Tre: coconut, fruits (mango, rambutan, pomelo), seedlings, and aquaculture (eco-shrimp, clam); and for Tra Vinh: coconut, fruits (mango, mandarin, pomelo), rice, aquaculture (eco-shrimp, clam). In addition, one to two local value chains [27] will be supported as offer good opportunities for the engagements of youth, women, and ethnic minorities. These value chains cover the three ecological regions and eight districts in each province. The VCAP will finalise the list of value chains and their location during the first year, pending confirmation of public and private partnership and co-financing in activities of component 1.

(2) Self-targeting. The selection of value chains and related infrastructure development will be done on the basis of how likely they are to bring benefits to poorer producers and other target groups. The participatory planning exercise aims to create interest and obtain the highest possible inclusion of poor women and men farmers, and other target groups. Besides, the training programmes on ICTs for rural businesses development/ employment are expected to meet the interest of rural youth, especially young women.

(3) Direct targeting. Women and youth will be directly targeted with access to finance through the WDF, training on ICT and business. CSAT will identify eligible beneficiaries to tap into start-up funds by DOIT and others public / private services. Targets are set for reaching women (40 per cent; of which 16 per cent are heads of households), youth (20 per cent [7] of which 50 per cent are % young women) and EM (30 per cent in Tra Vinh).

Component/Outcome 1. Effective provincial & regional coordination for sustainable and inclusive rural transformation. This component aims at improving the effectiveness of

the regional/interprovincial cooperation on the socio-economic development plans (SEDP) at provincial, the Mekong Delta Plan at regional levels and stronger integration of climate resilience. The integrated SEDP forms the basis for climate resilient value chain action plans, planning, capacity building and public-private collaboration. CSAT joins the efforts for improved coordination led by GoV and with other partners including the World Bank, the Netherland Embassy, Japanese International Co-operation Agency (JICA), and the Canadian International Development Agency (CIDA). Such coordination facilitates convergence of co-financing along VCAP and business proposals developed in output 1.2 and forming the basis of component 2.

- Sub-component / output 1.1 – Provincial and sectoral plans for the period 2021-2025 promote innovative pro-poor, gender empowerment and climate resilient VC development.
- Sub-component / output 1.2 - Value chain action planning (VCAP) for climate resilient, inclusive, and remunerative value chain investment.
- Sub-component / output 1.3 - Functioning of 4P multi-stakeholder platforms in support of priority value chains & Mekong Delta Plan.
- Sub-components / output 1.4 - Enhanced Capacities for building inclusive value chains.

Component/ Outcome 2. Inclusive and climate smart value chain established. The outcomes of this component build on component 1, notably value chain action plans (VCAP) and converging finance along SEDP and 4P. They comprise: Smallholders engage in value chains; they have improved access to financial services, water and market infrastructure and extension services; and they adopt environmentally sustainable and climate resilient technologies, including efficient water usage. All contribute to create jobs for women, youth and ethnic minorities. Component 2 outputs are financed from the IFAD loan (output 2.1 only), public and private sectors sources.

- Sub-component/output 2.1 - Climate resilient infrastructure for sustainable water usage and enhanced access to markets (IFAD funded).
- Sub-component/output 2.2 - Rural producers and enterprises access RF services for VC development.
- Sub-component/output 2.3 - Smallholder farmers invest in climate smart agriculture (CSAT).

Project costs and financing. Total costs for CSAT are estimated at USD 136.4 million, corresponding to VND 3,154,408 million, over the five years implementation period. The project will be financed by an IFAD loan of USD 43 million at ordinary terms, which will be exclusively finance infrastructure investments (component 2.1). Co-financiers will include in cash contributions from the borrower, the Provinces of Tra Vinh and Ben Tre, in kind contributions from the borrower [5], beneficiaries, financial institutions, including the Dutch Fund for Climate and Development (DFCD) and the private sector. IFAD financing will amount to 32% of total project costs. Counterpart in cash contributions, including taxes, will amount to 8% of project costs. Counterpart in kind contributions, corresponding to contributions to project implementation by government institutions, will amount to 5% of total project costs. Contributions from financial institutions, largely through loans, will amount to 52% of project costs.

In addition to the above, IFAD and UNIDO will jointly implement the project for Women and Youth Centred Value Chain Development in Ben Tre province, funded by a grant of USD 425,000 from the UN COVID-19 MPTF during 2021 and 2022. This project will be support the start-up phase of CSAT by drawing first lessons learnt on the inclusive value chain development. A number of international funded projects will work closely with CSAT, such as the EU funded DeSIRA, implemented by FAO and CIRAD, and the Canadian Government funded SME development project in Tra Vinh.

Table 1. Programme/project costs by component (and sub-components) and financier (Thousands of United States dollars)

	IFAD loan		Borrower/ counterpart (cash)		Borrower/ counterpart (in kind)		Beneficiaries (100% in kind)		Financial institutions (in cash and kind)		Private Sector		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Effective provincial and regional coordination for sustainable and inclusive rural transformation	-	**0%**	**1 256**	***71%***	-	**0%**	-	**0%**	-	**0%**	**521**	***29%***	**1 778**	***100%***
1. Provincial and sectoral plans for the period 2021-2025 promote innovative pro-poor, gender empowerment and climate resilient VC development.	-		137	*100%*	-	*0%*	-	*0%*	-	*0%*	-	*0%*	137	
2. Value chain action planning (VCAP) for climate resilient, inclusive, and remunerative value chain investment.	-		80	*100%*	-	*0%*	-	*0%*	-	*0%*	-	*0%*	80	
3. Functioning of 4P multi-stakeholder platforms in support of priority value chains & Mekong Delta Plan	-	*0%*	57	*100%*	-	*0%*	-	*0%*	-	*0%*	-	*0%*	57	*100%*
4. Enhanced Capacities for building inclusive value chains.	-	*0%*	982	*65%*	-	*0%*	-	*0%*	-	*0%*	521	*35%*	1 503	*100%*
B. Inclusive and climate smart value chain established	**42 991**	***33%***	**5 099**	***4%***	**5 581**	***4%***	**4 596**	***4%***	**70 408**	***55%***	-	***0%***	**128 675**	***100%***
1. Climate resilient infrastructure for sustainable water usage and enhanced access to markets	42 991	*75%*	4 777	*8%*	5 257	*9%*	**4 596**	*8%*	-	*0%*	-	*0%*	57 620	*100%*
2. Rural finance services support value chain development	-	*0%*	101	*0%*	-	*0%*	-	*0%*	**70 083**	*100%*	-	*0%*	70 184	*100%*
3. Smallholder farmers adopt climate smart agriculture (CSA) for value chain development	-	*0%*	221	*25%*	325	*37%*	-	*0%*	**325**	*37%*	-	*0%*	871	*100%*
C. Project management	-	***0%***	**4 880**	***82%***	**1 051**	***18%***	-	***0%***	-	***0%***	-	***0%***	**5 931**	***100%***
1. Project Management	-	*0%*	4 880	*82%*	1 051	*18%*	-	*0%*	-	*0%*	-	*0%*	5 931	*100%*
TOTAL	**42 991**	**32%**	**11 235**	**8%**	**6 632**	**5%**	**4 596**	**3%**	**70 408**	**52%**	**521**	**0%**	**136 383**	***100%***

Most if not all domestic funding has been confirmed. Consultations with DFCD have commenced during the design mission and are expected to mature before IFAD and Government approval for CSAT. As demonstrated by the EFA and its sensitivity analysis, CSAT will generate substantial benefits even without DFCD funding.

Implementation and coordination arrangements. CSAT is planned to be implemented over a period of five years from financial year 2022 onwards. The project coordination follows the proven structure of AMD and other IFAD funded projects in Viet Nam. For CSAT, it takes on board a number of additional functions including risk management, policy engagement, facilitating private sector linkages, and partnerships.

The Ministry of Finance (MOF) and Ministry of Development and Investment (MPI) provide oversight at national level and vis-a-vis IFAD. The National Government of Viet Nam appoints the Province People Committees (PPC) of Ben Tre and Tra Vinh provinces, respectively, who are the project owners and Lead Project Implementing Agencies.

Each province establishes a project steering committee (PSC) to lead the project coordination. It is composed of provincial line agencies, Farmer Union, Women Union/Women Development Fund (WDF) and Youth Union, district level project steering committees, development partners and private sector companies which are party to the CSAT. The PSC provides the strategic direction to the implementation of CSAT, oversees project planning, financing and procurement processes, mobilises adequate and timely finance for the AWPB, and reviews progress reports.

Each of the two provincial PPCs establishes a dedicated Project Management Unit (PMU) for CSAT, led by a project director and supported by dedicated technical staff on social inclusion, value chain development, environmental safeguards and climate adaptation activities, infrastructure, monitoring and evaluation, knowledge management, procurement and financial management.

Financial management. The PMUs comprises of qualified FM staff on a full time basis. A draft Financial Management Manual has been prepared for GoV and IFAD's concurrence. The project will identify and customize web-based accounting software before project start-up for all financial reports. CSAT will establish a control framework integrating periodic internal audits, independent external audits, and social safeguards based on IFAD policies.

Exit strategy and sustainability. The CSAT design is embedded in a national policy framework notably Resolution 120 and the Mekong Delta Plan, both of which are focusing the particular challenges of rural producers in Viet Nam's Mekong Delta region. CSAT contributes to the Agricultural Transformation Programme (ATP), which is led by Viet Nam's Prime Minister and co-sponsored by The Netherlands.

CSAT exit strategy encompasses the gradually phasing of its results, institutional arrangements, domestic funding, policy products and the inclusive and climate value chain approach and tools phase into the ATP during and ex-post implementation. Component 1 strengthens the delivery capacities of public institutions for participatory, market oriented and climate sensitive provincial, and regional planning is entirely financed and embedded in the provincial government institutions. To ensure mainstreaming of CSAT outputs notably the VCAP, the exit strategy outlines the roles, responsibilities and mechanisms for the continuation of the activities. Component 2 is more complex. Infrastructure supervision and O&M rests with the provincial governments, or in case of specific infrastructures, with pre-identified owners. All irrigation will be managed by water users groups that need to be in place, trained and mentored as a pre-condition for CSAT investments. Rural finance services continue with the WDF, the public funds and private banks that would join CSAT.

A key condition for sustainability will be how producers can cope with climate change effects. CSAT builds the required institutional back up and links it with the funding resources required. Based on AMD experiences, CSAT promotes innovations, learning and implementation as a continued mechanism to be led by PPC, Can Tho University and the 4P platform. Technology (including digital) and knowledge transfers are sponsored mainly by private sector to ensure a steady flow of high quality products according to market standards. CSAT with private sector will mainstream digital technology for tracing and monitoring of quality standards including certification. This aims to enhance trust of markets and end consumers.

Project risks and mitigation. Key risks include: (1) The COVID-19 pandemic impacts stronger than anticipated on the economy; public revenues are reduced and Government may not be able to provide sufficient funds to the provinces for development programmes like CSAT; and (2) Climate events increase in frequency and intensity and affect CSAT target are before or during early project phase.

Risk mitigation measures include: CSAT is fully integrated in the countrywide Agricultural Transformation Programme, i.e. a core government programme. CSAT provides demand driven; participatory approaches in line with directives from the highest political levels; it contains the risk of underfunding and low attention by national or local policy levels. Government protocols have managed efficiently climate disasters in the recent pasts. CSAT complements disaster risk programmes by fostering resilience ex ante and enabling fast recovery ex post a climate disaster.

Environment and social category. IFAD's Social, Environmental and Climate Assessment Procedures (SECAP) - review note classifies potential social and environmental impacts of CSAT as low to moderate or **Category B.** Most if not all CSAT investments aim to enhance the climate resilience of people and their production, and improve the environment through sustainable management and preservation of natural resources. CSAT will support better ground water management, protect cropland from saline water intrusion and open water resources from pollution. CSAT will promote better land management practices, organic farming and good agricultural practices in view of growing market demand. A good example is the proposed ecological clam/mangrove production. The SECAP review note includes the Environmental and Social Management Plan (ESMP) for the entirety of the project and the

Environmental and Social Management Framework (ESMF) for climate resilient infrastructure investments.

Climate Risk classification. The SECAP Review Note (see Annex 5) assessed the climate risk of CSAT as **High.** The target areas i.e. Ben Tre and Tra Vinh provinces have been exposed to extreme climatic events, mainly drought and salinization. Saline water intrusion on cropland and groundwater has been occurring for more than a decade and has affected livelihoods and economy of the entire Mekong delta region. In both project provinces, which are located at the estuaries of the delta, farmers have shifted away from rice to other crops or fish farming. The proposed project investments, notably infrastructures, will take place in low-lying coastal areas/zones and other areas with a track record of extreme weather events (e.g. drought, tropical storms, salt water intrusion etc.). The project will promote agricultural activities in marginal and/or highly degraded areas that would mitigate sensitivity to climatic events.

Economic and Financial Analysis – summary

A)

			1	2	3	4	5	6	7	8	9	10-20	NPV, million VND	NPV, USD	IRR
Road	Black tiger shrimp	Tra Vinh	- 2 136	1 226	1 226	1 226	1 226	1 226	1 226	1 226	1 226	1 226	7 546	326 793	57%
Road	Rice	Tra Vinh	- 2 136	268	268	268	268	268	268	268	268	268	131	5 692	11%
Road and embankment	Rice	Tra Vinh	- 1 000	- 6	- 6	- 6	- 6	- 6	- 6	- 6	- 6	- 6	953	- 41 276	#NUM!
Sluice gate	Rice	Tra Vinh	- 750	- 41	- 41	- 41	- 41	- 41	- 41	- 41	- 41	- 41	1 003	- 43 436	#NUM!
Sluice gate	Rice => rice and. shrimp	Tra Vinh	- 750	- 95	95	286	286	286	286	286	286	286	1 072	46 432	24%
Road	Black tiger shrimp	Ben Tre	- 2 136	1 002	1 002	1 002	1 002	1 002	1 002	1 002	1 002	1 002	5 814	251 787	47%
Road	Fruits, durian	Ben Tre	- 2 136	694	694	694	694	694	694	694	694	694	3 430	148 540	32%
Road	Coconut	Ben Tre	- 2 136	688	688	688	688	688	688	688	688	688	3 383	146 518	32%
Road and embankment	Seedlings	Ben Tre	- 1 000	1 335	1 335	1 335	1 335	1 335	1 335	1 335	1 335	1 335	9 423	408 117	133%
Road and embankment	Fruits, durian	Ben Tre	- 1 000	434	434	434	434	434	434	434	434	434	2 453	106 260	43%
Road and embankment	Coconut	Ben Tre	- 1 000	623	623	623	623	623	623	623	623	623	3 914	169 532	62%
Sluice Gate	Coconut	Ben Tre	- 750	323	323	323	323	323	323	323	323	323	1 816	78 667	43%
Sluice gate	Rice => rice and b.t. shrimp	Ben Tre	- 750	177	275	373	373	373	373	373	373	373	1 968	85 219	40%

B)

Project cost and logframe indicators			
Total project costs	**131 027**	**Adoption rates**	**70% to 90%**
Beneficiaries	**200 000**	**Households**	**60 000**
Cost per beneficiary, USD	**655**	**Cost per HH, USD**	**2 184**
Components	**Cost, thousands USD**		
A. Effective provincial and regional coordination for sustainable and inclusive rural transformation	1 778	Persons trained in income-generating activities or business management	
B. Inclusive, remunerative, and climate smart value chain established	123 318	Km of road built, # of hectares of farmland under water-related infrastructure constructed/rehabilitated	
C. Project management	5 931		

C)

Conversion factors	Financial price/index	Economic price/index	Conversion factor
Import substitute or import, VAT free	1.0	1.0	1.0
Import substitute or import, with VAT	1.0	0.9	0.9
Export good	1.0	1.0	1.0
Non-tradable, VAT free	1.0	1.0	1.0
Tradable, with VAT	1.0	0.9	0.9
Infrastructure	1.0	0.9	0.9
Labour	150 000	135 000	0.9
Labour opportunity cost	135 000	135 000	1.0
FX	23 090	23 463	1.0

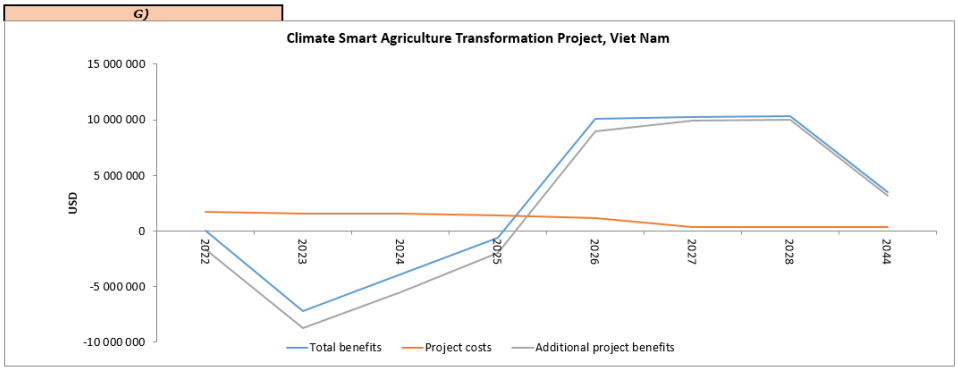
D)

Infrastructure	VC	Province	Unit	2022	2023	2024	2025	2026	Total
Phasing, Tra Vinh									
Road	Black tiger sl	Tra Vinh		90%	0	9	9	9	36
Road	Rice	Tra Vinh		90%	0	9	9	9	36
Road	Fruits, durian	Ben Tre		90%	0	9	9	9	36
Road	Coconut	Ben Tre		90%	0	9	9	9	36
Road and embankment	Rice	Tra Vinh		90%	0	0	0	0	0
Road and embankment	Fruits, durian	Ben Tre		90%	0	11	11	11	44
Road and embankment	Coconut	Ben Tre		90%	0	11	11	11	44
Sluice gate	Rice	Tra Vinh		90%	0	0	0	0	0
Sluice Gate	Coconut	Ben Tre		90%	0	11	11	11	44
Sluice gate	Rice => rice	Tra Vinh		70%	0	8	8	8	32
Phasing, Ben Tre									
Road	Black tiger sl	Ben Tre		90%	0	7	7	7	28
Road	Fruits, durian	Ben Tre		90%	0	7	7	7	28
Road	Coconut	Ben Tre		90%	0	7	7	7	28
Road and embankment	Seedlings	Ben Tre		90%	0	5	5	5	20
Road and embankment	Fruits, durian	Ben Tre		90%	0	5	5	5	20
Road and embankment	Coconut	Ben Tre		90%	0	5	5	5	20
Sluice Gate	Coconut	Ben Tre		90%	0	7	7	7	28
Sluice gate	Rice => rice	Ben Tre		70%	0	6	6	6	24

E)

Project economic incremental benefits			2022	2023	2024	2025	2026	2027	2028	2044
TOTAL, incremental benefits TRA VINH	million VND		- -	102 860 -	61 466 -	18 525	128 825	131 920	133 468	44 489
TOTAL incremental benefits, BEN TRE	million VND		- -	63 733 -	29 869	4 603	103 417	104 635	105 243	35 081
Total benefits	**million VND**		**- -**	**166 593 -**	**91 335 -**	**13 922**	**232 242**	**236 555**	**238 711**	**79 570**
Total benefits	USD		- -	7 215 030 -	3 955 681 -	602 932	10 058 245	10 245 045	10 338 444	3 446 148
Project costs	USD		1 678 117	1 539 507	1 540 027	1 373 967	1 116 087	300 000	300 000	300 000
Additional project benefits	USD		- 1 678 117 -	8 754 537 -	5 495 707 -	1 976 899	8 942 159	9 945 045	10 038 444	3 146 148
NPV, @7%	million VND	1 405 425								
NPV, @7%	USD	60 868 084								
IRR	%	33.5%								

G)



Sensitivity Analysis				
	Δ%		NPV, million USD	IRR
Baseline scenario			60.9	33.5%
Costs increase of	10%	Delayed implementation of activities, unexpected inflation	60.1	32.6%
Cost increase of	25%		58.8	31.3%
Decrease in benefits of	10%	Stronger than expected exreme weather events (which could also destroy plantations), fluctuation in commodity prices	54.0	32.5%
Decrease in benefits of	25%		43.6	30.6%
Delay of 1 year in benefits		Delay in project start or VC planning, delay in counterpart funds,	55.7	30.8%
Delay of 2 years in benefits			49.3	27.3%

1. Context

A. National context and rationale for IFAD involvement

a. National Context

1. Viet Nam's macro-economic development record over the past 30 years is remarkable. Economic and political reforms have spurred rapid economic growth and development and transformed Viet Nam from one of the world's poorest nations to a lower middle-income country. The economy is performing well, propelled by the sustained global recovery and continued domestic reforms. Robust growth is boosting job creation and income, leading to broad-based welfare gains and poverty reduction. Viet Nam's gross domestic product is estimated to have increased by seven per cent in 2019.

2. Between 2009 and 2019 the contribution to GDP by agriculture, forestry and fisheries grew by 70 percent, from US$ 20.2 billion to US$ 34.3 billion. In contrast, agriculture's contribution to GDP has decreased from 25 percent in 2000 to 15 percent in 2018, reflecting a deep transformation of Viet Nam's economy. Growth in the agriculture sector is fuelled by significant export earnings from fisheries, wood and wood products, cashews, coffee, rice, rubber, black pepper, tea and cinnamon. Export earnings from agriculture reached US$ 41 billion in 2019, contributing to an agriculture trade surplus of about US$ 20 billion[6].

3. Agriculture's significant contribution to economic growth and rural poverty reduction has come at a cost. Growth in the sector has been heavily subsidized by unsustainable exploitation of soil, water and forest resources and the degradation and loss of the ecological services that they provide. In the Mekong Delta, overuse of surface and ground water is leading to water scarcity for irrigation and household use. Climate change effects like rising sea level, droughts and increasing air temperatures, has aggravated these impacts on agriculture.

4. The outbreak of COVID-19 has had a significant impact on Viet Nam's economic development in 2020. The GDP growth in 2020 was reduced to 2.8 percent [8]. Manufacturing sector collapsed and lost millions of jobs, whilst small and family businesses faced bankruptcy. For 2021, economic recovery is uncertain due to new COVID outbreaks and a slow global recovery. Recent GoV policies focus on recovery by boosting investments in public infrastructure, access to finance, labor productivity and use of digital technology.

5. **Rural Poverty**. Viet Nam has made impressive progress in poverty reduction. The proportion of the population living below the national poverty line reached six percent in 2019, down by over 70 percent from 1993. More than 40 million people escaped poverty over the period, largely from rapid economic growth that has created more and better jobs [9].

6. The remaining poor live in rural, remote, mountainous areas in Viet Nam's northern and central uplands. Most poor belong to ethnic minority groups. In the Mekong Delta region, poverty head count ratio stands at 5.9 percent, due to the high population density. Poor households rely on informal sources of income, e.g. small household enterprises and occasional wage employment. Earnings in these sectors are typically variable and tend to be lower than in the formal sector.

7. Vulnerability to external shocks is prevalent among households with a strong dependence on agricultural and non-wage and wage incomes [10] and with limited access to required water infrastructure, insurance and climate sensitive agro-advisory services to mitigate such risks. In addition, illness, death and external shocks such as loss of employment due to COVID-19 or natural disaster can push poor and near poor families deeper into poverty. There are 400,000 smallholders in the targeted province who practice fragmented, low investment, risky and less profitable agriculture. Limited group aggregation capacities and lack of market infrastructure constrains their participation to remunerative value chains. Despite policy promoting financial inclusion, agricultural and value chain finance remains limited and it constrains farmers' ability to make required investments to meet climate challenge and value chain requirements.

8. **Relevant national strategies and policies.** The Government of Viet Nam's goals for agricultural and rural development are articulated through the Agriculture Restructuring Program (ARP) for 2015-2020 [11], which was approved in 2013 and updated in 2017. The goal of the ARP is to maintain the current growth rate and competitiveness of agriculture, promote value chain development, ensure food security and food safety, and improve rural people's income while reducing adverse impacts on the environment. A key instrument for the ARP has been the National Target Program for New Rural Development's [12](NTP-NRD). Several Decisions/Decrees promote agribusiness and value chain development, such as Decree 156/2017, which promotes private sector investments land consolidation through smallholder farmer organizations and Decree 98/2018 and Decree 57/2017 on value chain development.

9. Viet Nam submitted Intended Nationally Determined Contribution (INDC) to the United Nations Framework Convention on Climate Change. The INDC priority actions for 2021-2030 have been detailed in the National Climate Change Strategy and are implemented through the National REDD+ Action Plan (NRAP) 2030. One of the many key instruments relevant for the CSAT is the Mekong Delta Plan [13] (MDP 2013-2020) and its Resolution 120. Both aim to address the increasing threat of climate change and unsustainable use of natural resources, especially groundwater. Details are presented in the SECAP Annex 5.

b. Special aspects relating to IFAD's corporate mainstreaming priorities

10. **Gender & Social Inclusion.** Viet Nam has advanced in developing policies protecting women's rights, but implementation lags behind especially in rural areas. Women, especially ethnic minority women, continue to form a large majority of the working poor, earn less income, and are more often affected by under- and un-employment and precarious working conditions than men. Women in Viet Nam are principally found in lower paid occupational sectors or in vulnerable employment. The majority of women work as unpaid family workers, and in largely "invisible" areas of informal employment as migrant domestic workers, house- workers, street vendors and in the entertainment industry. Social inequalities are becoming more visible, especially for ethnic minorities and the rural poor. Gender inequality is recognized as one of the key causes of poverty among ethnic minorities, as a result of socio-cultural practices which define and compound the vulnerability and marginalization of ethnic minority women and girls.

11. Climate change and increase in frequency of natural disasters are posing new challenges to gender equality and women's empowerment in Viet Nam. More women than men depend on agriculture, putting them at higher risk of losing income and resources from storms, floods and droughts. Moreover, less access to resources, credit, markets and

extension services makes women less resilient, especially those from poor households. Increasing pressure on water and forest resources often leads to women having to travel longer distances to fetch water or wood, exposing them to health risks, and increasing their burden of unpaid care.

12. CSAT will mainstream gender equality. Direct and indirect targeting strategies will be employed to reach poor women, especially ethnic minority women, and engage them in social awareness and business capacity building training programmes. Women will be learning about digital technology as a pathway to reduce workload, cope with climate change, and apply a flexible time management when engaging in agriculture and agribusiness as employees or in their own business.

13. **Youth.** [2] In Viet Nam, young persons aged 15-29 account for around a quarter of the country's population [14]. Employment is perhaps the biggest challenge for youth in Viet Nam. Though youth unemployment rate increased from 2006 when it was 5.2%, it remains relatively low at 7.3% in 2019. The low unemployment rate, however, does not reflect the quality of jobs young people have. Informality remains the norm for most young wage workers and over half of employed youth are poorly paid, i.e. earning below the average wages or income. Skills mismatch also affects close to half of working youth. Efficient linkages from agricultural production to processing and sales are not well-developed in agricultural regions and producers lack business skills to develop their products. Youth often face difficulties in transiting from traditional agriculture to modern and sustainable methods of production. CSAT aims to create an enabling environment for decent employment opportunities and own business start-up along value chains. Interventions include vocational training, access to digital technology, financial and business development services.

14. **Nutrition.** Viet Nam still experiences a malnutrition burden among its under-five population. The national prevalence of under-five overweight increased to 5.3 percent in 2015. The national prevalence of under-five stunting is 24.6 percent, but this hides differences between ethnic minorities (32 percent) and rural poor households (17.7 percent) for the majority Kinh ethnic group. The underlying and basic causes of malnutrition are related to food security, maternal and child caring practices, water and sanitation, and personal hygiene. One of the reasons for the high percentage of malnourished children is the traditional diet of most Vietnamese, which does not provide enough vitamins and minerals for the children's physical, mental and intellectual development.

15. CSAT design does not foresee specific interventions on nutrition. However, the focus on climate resilient crops and livestock production and value chain development will enhance increased household revenues and availability of nutritious food in local markets.

16. **Climate and Environment.** Viet Nam is ranked amongst the top 10 countries globally for their long-term climate risk [15]. The Mekong Delta is considered one of the most vulnerable river deltas to climate change impacts, notably in terms of sea level rise, droughts, extreme heat, severe storms and flooding all of which are causing substantial economic and human losses (see Annex 5 - SECAP Review Note) [16]. The compounded effects of global warming, the construction of 470 plus hydro-power and other dams and sand mining upstream the Mekong river system, and overexploitation of groundwater, which exacerbates land subsidence and sea level rise, have aggravated sea water intrusion in river water and cropland, which in turn increased salinity, reduced water flow, low sedimentation and reduced biodiversity. There is reduced domestic water supply during the dry season. Due to limited climate sensitive planning, non-climate adapted production systems and non-climate adapted infrastructure, drought disasters have affected 200,000 hectares of rice and fruit cultivation in Tra Vinh and Ben Tre provinces and pushed 11,000 households back into poverty, while an additional 65,000 households [17] became highly vulnerable [18].

17. About 50 percent of Viet Nam's rice is produced in the Mekong Delta, with 80 percent being exported. Hence, the delta holds an important economic role and as an income and foreign exchange earner for Viet Nam. Saline water intrusion into cropland threatens the lucrative rice cultivation (with 3 harvests per year) and forces farmers to shift to lower productive, saline tolerant production. This has been exacerbated with lack of, or poor quality of productive infrastructures such as access roads for production areas and irrigation systems, making these infrastructures inefficient and prone to damages as a result of extreme weather events. The compounded effects of climate change and overexploitation of natural resources put agriculture at serious risks and demands policies like resolution 120 to be implemented fast and effectively.

18. CSAT will strengthen the abilities of the government to support small-scale producers in building the anticipatory capacity (to anticipate and reduce impacts of shocks), absorptive capacity (ability to absorb and cope with the impacts of shocks and stresses, including through social network, financial inclusion etc.) and adaptive capacity [19]. This will be achieved through a number of interventions: CSAT will support improved preparedness and planning by mainstreaming climate considerations into public planning (i.e. Socio Economic Development Plan) at the provincial and regional levels, allowing for more effective coordination in post shock situations; climate proofing measures in the construction and rehabilitation of public infrastructures and strengthening the existing early warning systems for salinity and other risks. CSAT will also enhance the adaptive capacity of smallholders towards climate change by promoting more diversified income, including improved farming systems through the adoption of climate smart agriculture (CSA) technologies and practices, such as the use of drought tolerant varieties, mixed farming/crop diversification, and water efficient irrigation systems. Finally, CSAT will also enhance the absorptive capacity of target groups by strengthening their social capital (community and group organizations, enhanced participation in decision making, multi-stakeholder platform and public-private partnership), and by increasing and diversifying their income sources through enhanced business capacities and increased financial inclusion (access to saving, credit and insurance).

c. Rationale for IFAD involvement

19. The CSAT project responds to the Government of Viet Nam request to design a follow-on project to the recently closed Adaptation to Climate Change in the Mekong Delta (AMD) project, which was co-funded by an ASAP grant [21] [22]. The government and IFAD consider AMD as a successful project in terms of piloting participatory socio-economic planning and innovative technology transfer for enhancing adaptation capacities of smallholder farmers to climate change and their ability to be part of value (see Section B: lessons learned).

20. In the Mekong Delta region, overexploitation of natural resources and climate change pose an increasing threat on people's livelihoods, on their agricultural production activities and on their income generating activities. The Mekong Delta region has one of the lowest poverty rates in Viet Nam, but due to the population density the absolute number of poor and near poor remains very high.

21. IFAD's strategy in Viet Nam over the past 20 years has been characterised by thematic consistence, with a focus on supporting the Government's achievement of its key development target to move rural populations from subsistence farming to climate resilient market oriented agriculture. IFAD has focused previous investments in Ben Tre and Tra Vinh, two of the poorest provinces of the Mekong Delta and home to 60,000 poor and near poor households. Tra Vinh province is home to the Khmer ethnic group, which has a disproportionately higher poverty rate (25 percent; 2019) than the average (6 percent). Ben Tre and Tra Vinh provinces are coastal provinces and suffer the adverse impacts of ground water scarcity, saline water intrusion in cropland, storms and flooding. 70 percent of the local population is considered to be vulnerable to climate change impact and other shocks, with negative impacts foreseen on current livelihoods, notably where infrastructure are not adapted to such changes. This means that they can easily slip back into poverty and lose their livelihood temporarily or permanently. These poor and near poor smallholders require continued assistance and adapted infrastructure to make required investments to turn agriculture into a profitable, climate resilience business.

22. IFAD has an important comparative advantage as an agent of change in agriculture, rural finance and small scale infrastructure for sustainable inclusive development, and in working with poorer and more remote areas in Viet Nam [20] (see Section B: lessons learned). The IFAD Viet Nam country programme has adopted a programmatic approach whereby instruments are being developed, refined and scaled up across projects and provinces, including the precursor, the on-going projects (e.g. AMD, CSSP), CSAT and RECAF currently under design. CSAT will also benefit from the network of Women Development Fund progressively established across 11 provinces in Viet Nam to scale up and enhance the impact of microfinance program for women. The current COSOP (2019-2025) is focused on smallholders and agricultural small and medium-sized enterprises in underserved areas with a concentration of ethnic minorities. CSAT is fully aligned with the COSOP, directly contributing to its three strategic objectives by sustainably increasing: (i) production, productivity and climate resilience of smallholder agriculture; (ii) integration of smallholders into the markets; and (iii) access to and use of financial services by the rural population.

23. From previous investments it is known that rural infrastructure generates the highest impact when linked with value chain capacity building (COSOP Completion Report: 2012–2019), see lessons learned below. This capacity building is based on participatory and market oriented planning, where adaptation to climate change is mainstreamed, financial services are available and technical and business skills enhanced among producers. A critical element is linking private sector with small producers through project investments that incentivise (e.g. infrastructure, enhancing producer capacities) and de-risk public and private investments, so as to generate the pull effect.

24. Building on AMD, there is therefore a strong rationale to continue these investments and scale-up lessons learned through the design of CSAT, which will focus on investments in climate smart and productive infrastructure for inclusive, pro- poor value chains. Given that the current government policies limit the use of ODA funds to infrastructure investments, the Government of Viet Nam is committed to working with IFAD and supporting CSAT. It has allocated USD 11.2 million of co-financing in cash and USD 6.6 million in kind to address the need for capacity building and other soft investments that the IFAD loan is not eligible to finance anymore. Additional private sector financing has been sourced for group formation and strengthening, group organization, investments in private sector enterprises and value chain development (see Section G.b).

25. IFAD funded project in Viet Nam demonstrated also that rural women can be empowered through supporting their businesses or generating decent employment within the value chain. A similar effect can be expected for youth, if the right instruments are developed. Lastly, lessons from CSAT will contribute directly to the Mekong Delta Plan and the larger Agriculture Transformation Programme. It is therefore expected that CSAT will generate a lasting scale and policy impacts for the Mekong Delta region.

B. Lessons learned

26. The recently closed AMD project and the IFAD portfolio across Viet Nam have accumulated a wealth of lessons learned. The most relevant for the design of CSAT include:

27. **Regional planning and coordination for the Mekong Delta**. The recent years showed a lack of consistent planning and effective coordination within the Mekong Delta. The past joint policy work by government and development partners showed that a regional approach and empowered institutions are required to address root causes of climate change in the

delta.

28. **Institutional capacities.** AMD results suggested that the institutional capacities of government agencies and mass organisations (Women Union and Farmer Union) were strong in terms of timely delivery and quality. The line agencies delivered the participatory, market oriented and climate change sensitive SEDP at provincial, district and commune levels which was scaled out to all communes. Every year Tra Vinh PPC allocated funds for the planning process and training of local staff, and Ben Tre PPC would do the same from 2021. Women Union through the Women Development Fund had a strong role in terms of capacity building and provision of investments loans to poor women. AMD cooperated with the Farmers Union to scale out technical extension notably the Farmer to Farmer (F2F) model. Strong institutions ensured also that infrastructure have been properly operated and maintained.

29. **Inclusive value chain development**. The IFAD portfolio in Viet Nam generated impressive results for inclusive value chain development in 11 provinces. However, the previous approach of IFAD in Viet Nam i.e. to pre-select and support target communes limited the potential outreach of the value chain investments. As value chains are not confined to administrative boundaries, value chain development should be defined by market demand and production capacities and not by geographical location. An important and key selection criteria for value chains will be their potential to include the IFAD target groups. Poor smallholders require technical and financial support for their livelihood development and to be gradually included in value chains. IFAD recent evaluation on pro-poor value chain development suggested that multi-stakeholder platforms are effective to improve social and environmental governance.

30. **Synergy of Value chain instruments**: AMD and other IFAD projects (including CSSP) adopted a comprehensive set of inter connected value chain instruments (value chain action plan (VCAP), technical and business skills training, infrastructure, collaborative groups (CG) farmer/producer approach, Farmer to Farmer (F2F) extension, access to finance through matching grants and Women Development Fund (WDF) loans etc). It was found that the synchronization of infrastructure with the other instruments was a prerequisite to build inclusive and effective value chains. This was met by a high commitment from PPCs and DPCs for mobilising required resources in a timely and adequate fashion. Similarly, in CSSP, VCAP are being promoted by PPC and DPC as instruments to integrate public resources, as matching grants are no longer available as part of the IFAD loan. However, lessons from PruFBeB [23] case studies suggest that partnership with commercial banks based on bankable proposals can help strengthen value chain coalitions and co-finance comprehensive support package. Similarly, VNFU supported youth to develop business models and had over 90% success bringing best ones to commercial banks.

31. **Common Interest Groups (CIG) and Collaborative Groups (CG)** are central to increase efficiency of agricultural production, household income and in linking smallholder value chains. AMD and other IFAD funded projects in Viet Nam found that CIGs/CGs successfully integrated poor farmers, who learned about improved farm and business practices from their peers through a Farmer two Farmer (F2F) approach. The partnership with Farmer Union was considered instrumental to sustain these approaches.

32. **Women empowerment.** IFAD funded projects generated impressive results for sustainable women economic empowerment, through dedicated women development funds (WDF) under the provincial Women Union (WU), which provided rural women with effective access to savings and loans on a commercial and sustainable basis. Investments were supported with effective technical support services that boosted women's access to technology and knowledge and lastly their socio-economic status and decision making roles. A continued collaboration with the Women Union will enable a gender empowerment approach across the Mekong Delta.

33. **Private sector engagement**. AMD and other IFAD funded projects demonstrated the strong impact of the Public-Private-Producer-Partnerships (4P) approach for poverty reduction. AMD and other projects provided matching grants to enterprises that led to farm contracts, higher incomes and employment of poor women (refer to PCR 2020 & CCR 2019). It also confirmed the demand for finance by SMEs and larger private enterprises. In order to engage with small producers, private sector required, among others: (i) involvement in planning processes for public infrastructure; (ii) support on land allocation for producers and processers; (iii) organization of producer groups; and (iv) effective technical support services and business development support.

34. **Climate Resilience.** AMD increased resilience of beneficiary through (i)improved infrastructure through resource integration (e.g. dykes and dams in salinity-prone areas, roads combined with storm surge prevention, saline intrusion prevention sluice systems, and water supply canals helped communities diversify production, reduce risk and access market; (ii) CSA (e.g. mulching, intercropping, compost and climate-resilient varieties; and (iii) participatory climate resilience planning.

35. AMD showed that a joint coordination mechanism and action plan for Provincial government and line agencies advanced the widespread adoption of climate smart agriculture (CSA) for over 26,000 households who were not AMD beneficiaries. Moreover, districts and communes needed to be engaged early on, as well as research institutions, independent experts and private enterprises in order to integrate CSA in VCAP, SEDP and business plans. AMD introduced the monitoring and forecasting salt water intrusion monitoring. It was a key achievement as it raised awareness for the salinity problem, and will be helped protecting less saline tolerant crops. AMD showed the need for CCA models and solutions that match requirements along the salinity gradient. We learned also that these models should consider: (i) CCA potential; (ii) impact on agricultural productivity and income, (iii) market potential; and (iv) costs and other barriers of adoption for the different target groups. AMD successfully cooperated with private enterprises, to co-invest, manage and report on climate resilience. For instance, the installation of automatic in-field monitoring on salinity and pest displayed on the Mekong software managed by Rynan Company helped reduce significantly salinity damage in 2019-20. Finally, VietGap and organic standards facilitated co-finance of CSA investments in AMD VC partnership.

36. **Project management and KM.** AMD and other projects were directly supervised by the provincial government which enhanced the coordination and local planning and down to the communes. Strong M&E and knowledge sharing developed within projects and across the portfolio and with other IFAD country programmes. CSAT will require a strong coordination with line agencies and national programmes such as NTP-NRD, to leverage in kind support and finance for inclusive development. The participatory planning approaches for the oncoming Socio Economic Development Planning SEDP should be deepened for the climate adaptation and value chain aspects at commune, district and province levels. Regular information exchange among stakeholders within and between provinces are critical to advance the rural transformation process.

37. **ODA policies and counterpart finance.** During the last years, the country programmes of IFAD and other IFI's experienced a number of challenges. Provision of ODA funding against the approved AWPB was released twice, at the beginning and the end of each fiscal year, and often the first tranche was not sufficient to cover the expenditures foreseen. Projects had to delay procurements which impacted on the implementation progress. Government's aim was to promote an efficient use of ODA finance. In IFAD funded projects, project management units adapted quickly and adjusted their work plans and mobilised additional provincial government funds to pre-finance activities.

38. A second major set-back was the change of ODA policies in 2019. Now, they require that less concessional loans such as the IFAD ordinary loan should be used for infrastructure investments only, while additional grant finance should be mobilised for soft investments such as capacity building and technical assistance. The scaling out of successful IFAD approaches notably the matching grant mechanism and financial support to the Women Development Fund are not possible anymore and needs to be substituted.

2. Project Description

C. Project objectives, geographic area of intervention and target groups

39. The **goal** of CSAT is to achieve sustainable and climate resilient rural transformation in Ben Tre and Tra Vinh province that would serve as a model for the Mekong Delta region. This will be measured in terms of decreased provincial multi-dimensional poverty incidence and increased households' resilience towards climate, environmental and economic shocks in both provinces.

40. The project **development objective** is to generate sustainable income opportunities and improved rural livelihoods for poor households and their women, men, EM and youth in Tra Vinh and Ben Tre provinces. This will be assessed in terms of income increase of and empowerment improvements by the target groups. Tangible project outcomes will be generated in the areas of inclusive and climate resilient value chain planning, adoption of CSA technologies and practices, construction/rehabilitation of climate resilient infrastructures, commercial enterprise – producer partnerships and market linkages. The inclusion and empowerment of rural women and youth will be mainstreamed across the CSAT outcomes.

41. **Geographic area.** In line with the government's request, CSAT will be implemented in Tra Vinh and Ben Tre provinces. As outlined above and in the SECAP (Annex 5), both provinces are highly vulnerable to the effects of climate change and have pockets of poverty. Its population, food production and economic well-being of its inhabitants is under rising threat from climate change. The location of the key value chains will determine CSAT's geographical intervention areas.

42. **Target groups and beneficiaries.** CSAT is expected to directly reach 60,000 smallholder households (Ben Tre 25,000 and Tra Vinh 35,000) equivalent to some 210,000 people. The project design identified the following target groups:

- *Poor and near poor households (13% of project target)* - having limited or no land and financial resources. They will benefit from infrastructure, vocational training, access to microfinance and decent employment along the promoted value chains. Those with limited land and labour resources will gradually participate in value chain activities through their CG membership.
- *Vulnerable households* [24] *(58% of project target)* – produce in vulnerable production systems and in vulnerable areas as identified by climate change risk management planning. This group includes the poor, near poor, medium, ethnic minorities, youth and women-headed households as identified by the local SEDP processes. They may fall back (deeper) into poverty in the event of weather disasters. They will benefit from all project activities i.e. CSA, access to finance, infrastructure and engaging in contracts with for product supply to markets.
- *Medium and better off farmers (~20% of project population)* – these are not the prime target group. The inclusion of better off farmers has been made across the Viet Nam portfolio over the last decades. Within CSAT, the inclusion will be beneficial for a number of reasons. Better off farmers in CG enable poorer farmers to build their capacities and

knowledge. Better off farmers spur group sustainability and economic growth. F2F extension is more effective with a mix of very knowledgeable/better off farmers. WDF includes also better off women and these support the WDF finance, which translates into development of new capacities too. CSAT will prevent the potential risks including the elite capture from the better-off through participatory planning, coupled with free, prior and informed consent procedures and the proposed grievance mechanism. These instruments will monitor and tripper remedial actions in case of misconduct.

- *Ethnic minority (EM) in Tra Vinh province* [25]. The project targets at least of 30% EM of project population, similar to the ratio of total EM population in Tra Vinh province. People from ethnic minorities will make up at least 18 per cent of the total beneficiaries, which corresponds to 30% of the total EM population in Tra Vinh province. An Ethnic Minorities Plan has been developed, which takes into consideration the cultural and language barriers they face, ensures their involvement in decision-making processes and includes specific activities, for example, in terms of awareness raising, capacity building and livelihoods support.
- *Rural women and women headed households-* CSAT targets directly women with business and technical training including ICT; access to finance and indirectly through infrastructure and CSA. Close collaboration with the Women's Union and the Women's Development Fund will be key. Women will account for at least 40 per cent of total project target.
- *Rural youth.* CSAT intends to be youth sensitive; Young people [2] (between 16 – 29 years old) will be the main force to promote digitalisation and e-commercialisation in value chains. They will benefit from training, access to finance, infrastructure and CSA. 80% of youth population in the project area will be targeted. The Youth Union will be a key partner. Youth will make up at least 20 per cent of the beneficiaries (reaching approximately 80% of youth population in the project area).

43. **Targeting strategy.** CSAT's targeting strategy will involve the following measures and methods:

44. *Geographic targeting:* CSAT will apply a similar approach as AMD and use a participatory value chain action planning (VCAP). This will be conducted during the first year of implementation. CSAT will reach around 80 communes in each province.
The VCAP will identify potential value chains with the highest possible degree of inclusion. This requires that VCAP process will identifies those communes which fit the selection criteria. To ensure the best possible inclusion of CSAT's target groups, the following criteria for the selection of value chains applies: (i) rural poverty (rate, head count weighted by ethnic minority poverty, and poverty severity) and opportunities for women, youth, poor and ethnic minorities; (ii) vulnerability to climate change risks; (iii) potential scale-up and economic impact of value chain development; (iv) commitment, readiness, and absorptive capacity of the province for implementing and mainstreaming innovations related to market orientation and climate change; and (v) resources needed by the province, while taking into consideration central-level support, provincial budgets, potential for private-sector contributions and other development partner resources. The selected communes/villages will include communes with "good market linkages" to serve as a springboard for remote communes to join through VCAP induced value chain development (see PIM - annex 8 for details). CSAT will likely reach around 80 communes in both provinces. Within the commune targeting, emphasis will be placed on reaching out to poor, ethnic minorities, youth and women entrepreneurs.

45. The design mission jointly with local experts have pre-selected 5 key value chains per province for planning purposes. These value chains cover the above mentioned three ecological regions and eight districts in each province. In the first project year, the VCAP will finalise the list of key value chains and their location.

46. *Enabling measures:* Building on AMD practices, CSAT reinforces the participation of the target groups and their organisations in the planning processes under component 1 (commune SEDP and the VCAP processes). It aims at creating and sustaining favourable operational and policy environments for social inclusion and poverty targeting. CSAT trains project staff and implementing partners on issues related to targeting and social inclusion. A Gender Action and a Youth Action Plans will be part of the VCAP at start-up. CGs and SCGs formed under AMD and recently Farmers' Union will be primarily targeted, given their proportion of poor – near poor, women and EM and willingness to engage in CSAT activities.

47. *Empowerment and capacity-building measures.* Building on IFAD's experiences in Viet Nam and as part of the participatory planning, CSAT promotes empowerment for decision making processes of its target groups. CSAT works with women, youth and ethnic minorities and their organisations, including the Women Union, Youth Union and EM groups, to create the required clout for expressing their specific needs in the various planning and decision-making processes. CSAT strengthens further the capacities of CG/SCG formed under AMD (1200 CG & 4000 SCG ~ 40,000 households) foremost to enhance their access to finance and CSA practices.

48. *Prevention of elite capture.* There is a risk that wealthier and influential people could gain access to project resources, for example by influencing the decision on the type and location of infrastructure to their economic benefit. CSAT has is based participatory planning, coupled with free, prior and informed consent procedures and the grievance mechanism. These instruments are likely to inform local government and IFAD and trigger remedial actions, should such malpractice occur.

49. *Self-targeting.* The selection of value chains and related infrastructure development will be done on the basis of how likely they are to bring benefits to poorer producers and other target groups. The selection criteria, mentioned above, should ensure that value chains (and related infrastructure investments) with the highest inclusion potential be selected, besides the economic and climate resilience related criteria. The participatory planning exercise aims to create interest and obtain the highest possible inclusion of poor women and men farmers, and other target groups. In AMD, smallholder have shown keen interest in the CSA training. This will be expanded under CSAT. Besides, the training programmes on ICTs for rural businesses development/ employment are expected to meet the interest of rural youth, especially young women.

50. *Direct targeting.* Women and youth will be directly targeted with access to finance through the WDF, training on ICT and business. CSAT will identify eligible beneficiaries to tap into start-up funds by DOIT and others public / private services. CSAT will use beneficiary targets for women (40 per cent; of which 16 per cent are heads of households), youth (20 per cent of which 50 per cent are young women) and EM (18 per cent).

D. Components/outcomes and activities

51. The activities of the proposed CSAT are organised in two mutually interdependent components [26]:

- Component 1: Support to effective provincial and regional coordination and investment planning
- Component 2: Inclusive and climate resilient value chains established

52. **Component 1 / Outcome 1:Effective provincial and regional coordination for sustainable and inclusive rural transformation.** This component aims at improving the effectiveness of the regional/interprovincial cooperation on the socio-economic development plans (SEDP) at provincial, the Mekong Delta Plan at regional levels and stronger integration of climate resilience. The integrated SEDP forms the basis for climate resilient value chain action plans, planning, capacity building and public-private collaboration. CSAT joins the efforts for improved coordination led by GoV and with other development partners including the World Bank, the Netherland Embassy, Japanese International Co-operation Agency (JICA), and the Canadian International Development Agency (CIDA). Such coordination facilitates convergence of co-financing along VCAP and business proposals developed in output 1.2 and forming the basis of component 2.

53. *Sub-component / output 1.1* - Provincial and sectoral plans for the period 2021-2025 promote innovative pro-poor, gender empowerment and climate resilient VC development.

54. There is already a government process for the development of Provincial socio-economic development plans (SEDP), which are consolidated into the Mekong Delta Plan, and form the basis of Provincial budgets and workplans. This sub-component draws from IFAD's experience on SEDP planning support in 11 provinces during the last 10 years, including in Ben Tre and Tra Vinh Provinces. To achieve this, output 1.1will review and update these existing SEDPs (2021-2025) incorporating a climate resilience vision to 2050 and an increased value chain orientation. The revised SEDPs will identify government co-financing of CSAT activities in Component 2.

55. DPI in close coordination with DARD and DOIT will lead this sub-component. DPI will undertake a capacity needs assessment of key institutions (DPI, DARD, DONRE, DOIT, FU, CEM, YU and WU) to design and deliver a tailored training program on market-led economic development, disaster risk management and climate change adaptation planning. This involves the preparation and integration of the various sector plans (e.g. the Provincial Climate Change Adaptation and Disaster Risk Management Action Plans, the Agricultural Master Plans and the Agricultural Industry and Trade Strategy) which form parts of the SEDPs. Consultation meetings within and between provinces will promote the integration into the revised provincial SEDPs and inform the Mekong Delta Plan (MDP). Based on the above planning, DPI will allot financial resources to CSAT and other investment programmes in the provinces.

56. *Sub-component / Output 1.2.* Value chain action planning (VCAP) for climate resilient, inclusive, and remunerative value chain investment.

57. During design potential value chains were assessed based on value chain readiness, innovation, inclusion, resilience, and financing and co-financing opportunities. Based on this assessment, the following value chains have been pre-identified for Ben Tre: coconut, fruits (mango, rambutan, pomelo), seedlings, and aquaculture (eco-shrimp, clam); and for Tra Vinh: coconut, fruits (mango, mandarin, pomelo), rice, aquaculture (eco-shrimp, clam). A preliminary assessment during design to estimate the sensitivity of the proposed value chains to key climate change risks factors (i.e. salt tolerance, drought tolerance, tolerance to inundation and saturated soil conditions, heat and high winds) found that the majority of proposed commodities have low/moderate risks in terms of the key climate risks, with the exception of rice and fruits which appeared to be moderate-high in some targeted districts (see Annex 5 – SECAP Review Note).

58. An in-depth value chain action planning (VACP) process will be conducted in the fist year. The VCAP process will identify pro-poor value-chains that offer higher income potential, are inclusive of women and youth, are resilient and adapted to climate change and that are linked to private sector technical support and/or off-takers. In addition, one to two local value chains [28] will be supported that offer good opportunities for the engagement of youth, women, and ethnic minorities. This VCAP process will identify specific investments needed to promote climate resilience in VC (e.g. CSA practices, climate monitoring system and climate resilient infrastructure). DOIT and DARD will lead the VCAP development process.

59. *Sub-component / Output 1.3.* Functioning of 4P multi-stakeholder platforms in support of priority value chains & Mekong Delta Plan supported.

60. To support implementation of the VCAP, linkages to the different value chain actors is critical to agree who is interested to be involved and who is able to provide technical assistance, transportation, storage and processing, financing and contract arrangements etc. CSAT will therefore support the establishment of Public-Private-Producer-Partnerships (4P) platforms. These consists of relevant stakeholders within a value chain, including government representatives (DPI, DOIT, DARD, FU, WU, and others), farmers' and private sector organizations, traders, processing enterprises, farmer representatives, input suppliers, consumer representatives and financial institutions. The 4P platform will be established simultaneously with the VCAP. The 4P platforms' main tasks are to facilitate coordination of value chain actors, negotiations of farm gate prices, quality standards, trade contracts, product branding and ensure market transparency. The 4P platform includes also a conflict resolution / grievance system. The Provincial Entrepreneur Association (PEA) [29] in each province will lead the establishment and implementation of the 4P platforms.

61. *Sub-component / output 1.4.* Enhanced Capacities for building inclusive value chains.

62. This sub-component aims to enhance the value chain actors' capacities to prepare an enabling business environment, and create incentives to attract investments to be implemented in Component 2. Building on AMD lessons, CSAT will work with proven service providers (e.g. Enterprise to Enterprise (E2E), Enterprise to Farmer (E2F) and Farmer to Farmer (F2F)). Each of these partners will provide their own financing to work with CSAT. The curriculum as introduced by the AMD project will be expanded to include: (a) marketing, (b) production and business planning (c) bankable business proposal for 2.1, CSA

63. The 4P platform will conduct a number of activities to improve business linkages among value chain actors, producers' groups and SMEs which will be fostered through the VCAP process. Areas of interventions include (1) Strengthening public policy environment (property rights, business licensing, tax structures etc) and (2) Engagement of banks and other financial institutions. Climate change adaptation and social inclusion measures will be integrated as much as possible in such strengthened enabling environment, for instance through promotion of value chain indicators and standards.

64. A core activity will be the strengthening of Business Development Services (BDS) for VC actors and "farming as a business" for households. The 4P platform will assess and consolidate the demand for BDS identified in the VCAP and develop a BDS capacity building plan for producers' groups and enterprises/SMEs. The curriculum for SMEs and enterprises includes climate smart and bankable business plan development, market identification especially for niche products, sourcing supply from smallholder producers, product development, VietGAP etc certification branding, marketing, e-commerce, access to financial services etc. Technical assistance will be mobilized, as required. In addition, CSAT will support the provinces to pilot a climate smart R&D centre for innovative product development, to promote product design, green and food safety standards and certifications, packaging, labelling, branding etc.

65. To ensure social inclusion, CSAT will promote specific Gender, Youth, and Ethnic Minority action plans to target BDS and farming as a business capacity building to women, youth and EM. This will boost their technical, financial and business skills, along with group management and individual/collective value chain activities, borrowing relevant elements from the Household Methodology.

66. Digital technology presents a growing opportunity for women and youth in the Mekong Delta region. Farm management, climate advisory, business planning, training and new technology, agricultural trade is increasingly "digitalised" in Viet Nam. CSAT, supported by a grant from the UN COVID-19 Response and Recovery Multi-Partner Trust Fund [30], will develop programmes to train and equip rural women and youth with skills and digital equipment, so that they become an agent of change by engage in new professional areas and boost their economic and social advancements. The latter project will be closely linked to CSAT under this component.

67. **Component / outcome 2. Inclusive and climate smart value chain established.** The outcomes of this component build on Component 1, notably value chain action plans (VCAP) and converging finance along SEDP and 4P. They comprise: Smallholders engage in value chains; they have improved access to financial services, water and market infrastructure and extension services; they adopt environmentally sustainable and climate resilient technologies, including efficient water usage. All contribute to create jobs for women, youth and ethnic minorities.

68. The component 2 outputs are financed from the IFAD loan (output 2.1 only), public and private sectors sources:

69. Sub-component / output 2.1. Climate resilient infrastructure for sustainable water usage and enhanced access to markets. Depending on size, type, scale, location of each scheme the investment management will be assigned on a contractual basis to the project communes/district construction management boards in line with current investment management regulations. Design consultants, construction contractors will be selected through competitive bidding in accordance with IFAD's and Viet Nam's procurement regulations. Benefiting individuals/groups will contribute 10 percent of the construction cost in term of land acquisition and site clearance, labour, locally collected construction materials and/or cash. Force account method (implementation by community) is encouraged for the construction of small projects, simple techniques, using intensive manual labour.

70. CSAT invests in climate resilient infrastructure [31] needed for inclusive value chain development. All planned infrastructure will be vetted using social, environmental, climate change and sustainability criteria. These infrastructures will enable agriculture and related VC actors to withstand better weather variability and adverse climate events.

71. During the design, three potential categories of infrastructures were identified: (i) climate resilient access roads will enhance mobility, especially under extreme weather conditions. This will consider climate risk factors (e.g. sea level rise, floods, tide surge, high temperature) in the design specifications; (ii) improved water infrastructure to improve quantity and quality of water resources (fresh, brackish) for production (e.g. small-scale irrigation, embankments and canals, sluices and sluice gates, water-harvesting) and (iii) other infrastructures include collection points and transit warehouses, where some possible measures include suitable floor elevation to avoid flood and tide surge, heat-insulation layers for roofing, and the use of natural ventilation. It will also include salinity and water quality monitoring stations/points, which will monitor and provide early warning/real-time information on salinity and water quality for agriculture/aquaculture production. Annex 9 of the PIM on Climate resilient infrastructures outlines the list of identified potential climate resilient infrastructures to be developed under CSAT, including the proposed adaptation measures and the estimated budget to cover climate adaptation measures for each type of infrastructure.

72. Operation & Maintenance (O&M). IFAD and the provincial governments have long experience in O&M of infrastructure investments and follow national government guidelines (e.g. establishment and support to local water use groups is mandatory for small in-field irrigation canals and embankments). The PIM presents detailed guidance for efficient O&M, which are also included in terms of reference of procurement and infrastructure officers and in the budget. Experience gathered by IFAD funded projects in Viet Nam suggests that infrastructure requiring intensive O&M in terms of cost and capacity should be either leased out to a private company or assigned to a specialized government agency (e.g. salinity monitoring systems).

73. *Sub-component / output 2.2.* Rural finance services support value chain development.

74. IFAD funded projects in Viet Nam confirm the high demand by both rural enterprises and smallholders and their difficulties in accessing financial services. CSAT will recruit rural finance specialist to take on the role of facilitator and to leverage linkages between formal financial institutions and SMEs and producers. A range of financing institutions have been brought together to complement the IFAD resources and to finance the VCAP and platform activities (See Section G.b. for detail commitments by partner): Women Development Fund (WDF) [33]. IFAD through the AMD project supported the establishment and operations of the WDFs in 11 provinces in Viet Nam, with oversight from the provincial Women Union. The WDF is the provincial level umbrella structure for ca. 2500 Saving and Credit groups (SCG) per province. These SCGs provide financial services (savings and loans) to poor, low-income women at commercial terms and combined with capacity building. The results have been simply impressive in terms of increased income and improved social status of poor, rural women within their families and society. The WDFs in both provinces have applied for registration as a formal Micro Finance Institution (MFI) with the State Bank of Viet Nam (SBV), as required by recent laws. Current loan portfolio amounts to VND 125 billion (US$ 6 million) in Ben Tre, and VND 75 billion (US$ 3.5 million) in Tra Vinh. Besides savings, the WDFs offer the financial services: (i) a loan from the SCG to an individual household of up to VND 35 million (US$ 1,500)/household/year, and (ii) loan to start-up and SME with maximum VND 200 million (US$ 9,000) for each/year.

75. Collaborative Group Revolving fund under the AMD project. During the AMD, 1200 CGs received a matching grant of US$3500/group. The returns from the grant investments were used to set up a revolving fund that enabled CGs to continue and roll out investments for farm inputs on a growing basis over years.

76. Farmer Support Fund (FSF). The Farmer Union (FU) manages a FSF of VND 20 billion (US$ 900,000) in each province. The FSF operation is similar to the WDF providing credit to FU members through their Farmer Collaborative Groups (CG). Each member can borrow up to VND 20 million (US$ 900) per year.

77. The Start-up Support Fund is managed by the Department of Planning and Investment in Ben Tre. The fund exists in Ben Tre province with contribution from enterprises and other donors. Current portfolio averages at VND 8 billion (US$ 360,000). The fund provides start-up grants to new businesses of up to VND 100 million (US$ 4,500).

78. The SME support fund is managed by the Department of Industry and Trade in Tra Vinh province. The fund with current portfolio of VND 7 billion (US$ 350,000) providing grant of maximum VND 300,000 (US$ 14,000) to SME that promotes climate smart technology including ICT (E-extension, E-commerce).

79. CSAT will also link with the Canadian Government funded SME development project in Tra Vinh (2015-2022) [34]. The project provides technical and financial support to SMEs to engage in coconut and eco-tourism value chains. This includes business development services (BDS) to SMEs, SME support matching fund (US$ 500,000), Start-up seed fund (US$ 50,000), and SME loans channelled through the WDF (US$ 80,000).

80. CSAT will enter into co-operation agreements with each of the above funds at the beginning of the project. The cooperation contracts will outline the criteria (including social inclusion and climate resilience), amounts, costs and conditions for funding training and investment finance (grant or loan) for producers, producer groups and SMEs. The arrangements would be regularly reviewed and updated.

81. VC finance for enterprises. CSAT aims to mobilise also access to finance for participating enterprises. In this way, enterprises could graduate to a higher level of performance and

expand, while this would directly benefit other value chain actors, notably the CSAT main target group i.e. smallholder farmers.

82. The Dutch Fund for Climate Change and Development (DFCD) [35] with total budget of Euro 160 million covering different developing countries, including Viet Nam, has a special focus in Mekong Delta. The fund provides credits to lead enterprises for value chain development with each package up to Euro 5 million soft loan and Euro 45,000-150,000 grant for capacity building and BDS.

83. It is envisaged that CSAT and DFCD enter into a Memorandum of Understanding and outline an investment strategy with clear targets in terms of investment size, numbers, other benefits such as climate resilience of producers and other value chain actors. DFCD funds are a time bound, results oriented investments under strictly commercial criteria. Investments need to be bankable and commercially viable, environmentally neutral or promote climate change adaptation. The strong screening of business proposals amplifies the likelihood of sustained business expansion, as only investments with a promising market opportunity will be able to obtain funding. The strong focus on business combined with environmental and climate concerns promotes sustainability of the investments.

84. *Sub-component / output 2.3.* Smallholder farmers invest in climate smart agriculture (CSA) for value chain development.

85. The output of this sub-component is that smallholders, women, youth and ethnic minority groups have access to up-to-date location-specific CSA technologies and practices. This will include the 120 CSA models promoted under the AMD. An initial update of these models will be conducted using the AMD criteria: (i) identification of technologies and practices, (ii) review and analysis of the CSA, and (iii) selection and packaging of the CSA. CSAT will also engage with other projects such as the EU funded Development of Smart Innovation through Research in Agriculture (DeSIRA) implemented by CIRAD and FAO that is expected to provide incremental technical inputs. CSAT will enter into a cooperation mechanism with DeSIRA before start-up of CSAT.

86. The new generation of CSA technologies will promote new elements such as digital technology, food safety and quality standards. Due consideration would be placed on reducing workload for women, e.g. through higher skilled jobs in ICT based food processing and marketing, promoting youth employment, enhance food/nutrition security and of course, have climate change mitigation/adaptation potential. Quality standards in production and processing would be compliant with COVID-19 measures. Further, CSA technologies promote soil and water conservation, and dissemination of climate information services. On the basis of previous work under AMD, digital technology will be expanded for applications at producer's, processor and retailer levels. Examples include early warning of salinity, automated water dosage (e.g. dry/wetting in rice), digital pest control and tracking food safety. Digital technology in farming will favour a stronger participation of women and attract tech-savvy rural youth.

87. During the design additional CSA opportunities have been identified for each value chain:

- Develop GPCB (Garden-Pond-Cage-Biogas) systems, such as coconut + fish or fresh water shrimp + chicken or cattle or goat or rabbit + composed fertilizer production for coconut plantation
- Use of natural parasitoids (e.g. Asecodes hispinarum) for pest control on coconut
- Tricoderma application for rice straw, coconut coir, and coconut by-products to produce organic fertilizer
- Intercropping (e.g. coconut and fruit trees)
- Rice-shrimp/fish aquaculture
- Rainwater collection/harvesting
- Water saving technologies (e.g. irrigation by crop dosage/demands, drip/sprinkler irrigation, misting systems automatic irrigation)Use of improved seed varieties (e.g. drought-resistant, saline tolerant)

88. The adoption of CSA practices will improve the adaptive capacity of smallholder farmers to climate change/variability and to better manage the scarce resources (notably water) contributing to maintaining and/or enhancing agriculture production.

89. The CSA selection process will be led by the PPMU and linked closely with the VCAP in which relevant agencies (FU, WU) and private sectors (enterprises and cooperatives) are closely involved/consulted. The CSA technologies and practices will be primarily disseminated by FU and WU through F2F and through E2F, notably for value chain partnership requiring certification as demonstrated in AMD. They will target the established smallholder collaborative groups (CGs) and saving and credit groups (SCGs). CSAT will build on the strong basis of AMD, when 1200 CGs and 4000 SGCs (Saving and Credit Group) – equivalent to about 40,000 households in both provinces invested in and benefited from CSA. In addition, FU and WU, NTP-NRD and others established additional 20,000 CGs (equiv. to ca. 80,000 households). CSAT will target at least 4,000 CGs/SCGs) to benefit from the CSA activities.

90. Project management including M&E and knowledge Management is covered in section 4.

E. Theory of Change

91. Rural livelihoods in the Mekong Delta region have become highly vulnerable to the ever increasing adverse impacts of climate change, which are amplified by inadequate infrastructure, insufficient climate-sensitive planning and poor natural resources management, notably the unsustainable groundwater management. Rice cultivation, the main livelihood for farmers in the delta, is heavily affected by saline water intrusion and increasing periods of drought. Many smallholders are under pressure to switch from profitable rice production to alternative farming systems that are adapted to saline water intrusion and other climate change effects. Supporting investment in these new production activities, or in adaptation to these climate impacts is needed from public and private service providers, so that smallholders can maintain food security and increase income generation. Yet, they face difficulties to access finance as they lack (a) viable business proposals associated with trusted value chain arrangements and (b) bank worthy collateral and risk mitigation mechanisms. Smallholder producers and SMEs have limited capacities, technical and business services to enter new remunerative markets and need technical support to identify how and where to invest in profitable, climate resilient value chains. Vulnerability and gender inequalities persist amongst the poor, especially for women and youth. They often do not possess the right information, skills or finance to start their own businesses or meet the requirements of the labour market. So they often simply migrate to cities to engage in informal labour in the construction and manufacturing sectors (Problem).

92. The AMD supported smallholder farmers in Ben Tre and Tra Vinh provinces have demonstrated their willingness when supported to invest and produce marketable surpluses for local and regional markets, including through certified value chains, e.g. Vietgap and organic coconut which have helped both increase price and facilitate adoption of CSA practices. However, supply chains remain under-developed, market access is seasonal and affected by climate change and insufficient infrastructure (e.g. roads and post-harvest). Moreover, farmers' organisations are still weak and the prices for farmers' produce are largely dictated by the off-takers. At the same time smallholder farmers have to deal with increased threats from a changing climate and degradation of their natural resources base, in addition to rising market demands for quality standards and other things.

93. Against this scenario, CSAT will respond by boosting climate resilience and supporting inclusive rural economic development in the two target provinces Ben Tre and Tra Vinh (Result). CSAT will do so by engaging in, and providing evidence to key national policies i.e. Resolution 120, the Mekong Delta Master Plan, the Agriculture Restructuring Programme and consequent national programmes. CSAT achievements would be scaled up to the Mekong Delta region to inform and shape the regional Mekong Delta Master plan and related policies in terms of agricultural transformation, social inclusion and gender empowerment (Impact).

94. For the past 10 plus years, IFAD funded projects have mainstreamed climate adaptation, participatory planning and market focus in the SEDP in 11 provinces in Viet Nam. Access to markets was enhanced for CGs/CIGs; new jobs were created and more than 100 PPP contracts issued, for instance on organic value chains [36].

95. Building on these lessons, several aspects need to be deepened to ensure an inclusive rural transformation process as envisaged by Government policies (Interventions). First, CSAT will focus on the climate resilient value chain action planning (VCAP) as it will enhance capacities to plan, leverage resources from private and other public sector sources including national target programmes. Second, CSAT will establish critical business development services and a 4P platform for rural producers and their organisations, public sector and enterprises to facilitate investments and partnerships required that would render agriculture into a profitable business and which is adapted to climate change risks and attract investments by private sector and financial institutions.

96. Third, CSAT will apply the outputs of the VCAP, 4P platform, BDS and capacity building to invest in climate resilient infrastructure that promotes climate resilience and key value chains in which the target groups engage to generate income. Based on AMD experiences, dykes and dams with increased salinity-proofed areas, roads combined with storm surge prevention, saline intrusion prevention sluice systems, water supply canals and water harvesting helped communities diversify production, reduce salinity and climate risk and access market. Such investments will reduce vulnerability, production risks and costs and serve as incentives for co-investments from the private commercial and financial sectors. In addition, CSAT will broker access to financial services for producers, SMEs and enterprises and support the development and adoption of climate smart agriculture technologies, for example a water salinity early warning system, mulching, intercropping, compost and climate-resilient varieties. In addition, as earmarked in the climate study, some areas and value chains are at high risk of climate and salinity (i.e. rice, fruits etc.). Farmers will need to be supported to make the shift also indicated in Mekong land use plan (i.e. from rice to rice-aquaculture, coconut etc.)

97. The transformation process would not be inclusive if special focus were not placed on very vulnerable groups that are women, youth and ethnic minorities (in Tra Vinh). Women, farmers, youth and ethnic groups will be co-implementing partners and will participate actively in project planning and decision from grassroots level up to VC platform and steering committees. Multiple and complementary project activities to promote gender equality and women's empowerment will have an important factor in challenging local gender roles and responsibilities. These activities include, amongst others, the promotion of women's active engagement in common interest groups, increasing their access to extension and financial services, creating livelihoods opportunities for women. Technical training on digital technology, business and technical tools and access to rural financial services will be assist them to acquire new skills that are in demand by the labour market and assist them to start their own business or find decent jobs in the food and agriculture sectors in the provinces. CSAT will take a youth inclusive approach that focuses on the economic, political, economic and cultural causes of vulnerability of different groups. Value chains in where

youth were already engaged will be selected. The project will support their profitable engagement in on-and off-farm activities, promote the use of digital technology, make sure their voices are heard in decision-making processes and empower them as agents of change.

98. All project interventions are expected to increase income, reduce vulnerability among the target groups. Moreover, the provincial planning processes and knowledge management will inform the regional planning and shape the rural transformation process in the Mekong Delta.

F. Alignment, ownership and partnerships

99. ***Alignment with national priorities***. The CSAT is fully aligned with the Government's strategic goals in three key development areas: (i) enabling market-led rural development, (ii) advancing access of the poor to commodity and labour markets, and (iii) enhancement of rural poor capacity to adapt to climate change. These are articulated in the Viet Nam Socio-Economic Development Plan (SEDP) 20231-2025as mentioned earlier, CSA, the Viet Nam Socio-Economic Development Strategy (SEDS) 2021-2030, the Agriculture Restructuring Programme, and the National Target Program for Climate Change Response and Green Growth for the 2016-2020

100. CSAT provides the means to implement the Law on Gender Equality (2006) that empowers women in economic participation and decision making, and the Youth Development Strategy 2011-2020 that promotes vocational training and employment.

101. CSAT harmonizes its activities with the National Target Programme for New Rural Development (NTP NRD), National Target Programme for Sustainable Poverty Reduction, and National Target Programme for Ethnic Minority, and provide inputs to National Climate Change and Green Growth policy frameworks, with the aim of scaling up accumulated knowledge and best practices at national level. Most importantly, CSAT promotes the Resolution 120 on sustainable development in the Mekong Delta region. CSAT underpins the Viet Nam's National Determined Contributions (NDC) by increasing resilience to climate change through adaptation processes in the most vulnerable communities and access to technology and finance for climate change adaptations.

102. ***Alignment to SDGs and IFAD***. CSAT contributes to the Sustainable Development Goals (SDG), especially SDG 1 (end poverty), SDG 2 (zero hunger), SDG 5 (gender equality), and SDG 13 (climate action). It contributes to all three strategic objectives of IFAD's Strategic Framework. CSAT contributes to all the three strategic objectives of the 2019-2025 Viet Nam COSOP: (i) Leverage greater investment from the private sector into inclusive value chain development, (ii) Enhance and expand financial inclusion for climate resilient rural livelihoods; and (iii) Foster the environmental sustainability & climate resilience of smallholder economic activities. CSAT focuses on IFAD's mainstreaming agenda on gender, youth, indigenous people (i.e. ethnic minorities) and climate change resilience.

103. The IFAD Viet Nam country programme has adopted a programmatic approach whereby tools are being developed, refined and scaled out across projects and provinces, including the ongoing Commercial for Smallholder Support Project (CSSP), precursor projects, and CSAT. Key approaches include the 4P based inclusive value chain approach, climate resilient agriculture, value chain action planning (VCAP), WDF, CG/CIG group, and Gender focus The projects have developed similar tools and approaches and enhanced these through a closed knowledge/learning loop within the country programme.

104. CSAT will build on most recent lessons from AMD and CSSP on using "VCAPs of all key provincial and district value chains, which will be promoted by the PPC and DPCs as instruments for integrating public and private resources. In addition, remunerative value chains attractive for private sector investments in recent projects will continue to do so under CSAT as well. The scaling out of climate smart technologies under CSSP will be second stream of knowledge for CSAT and vice versa. CSSP is testing the adoption of geospatial planning tools for making the SEDP process a tool for land-use zoning and climate resilient investment decision making which will be of direct use to the landscape approach adopted under CSAT. Finally, for the past 10 years plus the IFAD country programme has established a network of WDF across 11 provinces, including Tra Vinh and Ben Tre to scale out and enhance the impact of microfinance for women that will be continuously rolling-out in CSAT.

105. ***Country and local ownership***. Ownership and commitment to project investments have been traditionally strong in Viet Nam, from national to province, district and commune levels. A comprehensive and fully participatory design process sensitizes and engages provincial and local authorities, including the WU, YU and Committee on Ethnic Minorities. Similar to all IFAD-supported projects in the past, project ownership will be decentralized to the province-level governments namely the Province People Committees of Ben Tre and Tra Vinh provinces (which are identified by the national regulation as "investment owners" of the project).

106. ***Harmonization and partnerships***. IFAD has built up close co-operation with other development partners notably World Bank (WB) and Asian Development Bank (ADB), FAO and bilateral partners including the Netherlands, French Development Agency (AFD) and Germ International Cooperation (GIZ). IFAD is an active member in the Mekong Delta Working Group which advises Government on salient policy issues to address climate change in the Mekong Delta.

107. CSAT will closely collaborate with both national and international institutions: (i) National Coordination Office for NTP-NRD and OCOP; (ii) Central Committee for Ethnic Minorities (CEM) for integration with the NTP-EMD; (iii) the Mekong Delta Coordination Committee (MDCC); (iv) The Netherlands supported ATP and other programmes in the Mekong Delta; (v) the EU funded DESIRA project, implemented by CIRAD and FAO; (viii) UNIDO for co-implementation of the UN COVID-19 MPTF project on *Women and Youth Centred Value Chain Development*; (x) Dutch Fund for Climate and Development (DFCD) for financing climate smart investments by the private sector; and (xi) private sector enterprises and associations for public-private-producer partnership (4P) development.

108. CSAT engagement with the WDF in both provinces provides an opportunity to continue IFAD's policy engagement with the State Bank of Viet Nam, especially on the registration of the WDFs as microfinance institutions. Provincial governments in Ben Tre and Tra Vinh are strongly committed to the WDFs and to enhancing their capacities towards their registration as formal institutions. Also, the IFAD country programme has established a network of WDF across 11 provinces in Viet Nam which facilitates knowledge exchange and policy engagement to scale out and enhance the impact of microfinance for women. Besides support to WDF development, IFAD has started to work on promoting the agricultural insurance system using the IFAD INSURANCE grant and may seek to engage concerned partners to facilitate testing and adoption of insurance to mitigate risk. The Mekong Delta Development Master Plan, the Mekong Delta Agriculture Transformation Programme, and the Agriculture Sector Restructuring Plan 2021-2025 are the key instruments for partnership, alignment and resources mobilization.

G. Costs, benefits and financing

a. Project costs

109. The current Viet Nam policy prescribes that ODA funded infrastructure should be completed within four years. Viet Nam has excellent governance structures for infrastructure development, strong commitment and are using e-tools in procurement. During negotiation of this design, the government allowed a fifth year due to the participatory capacity building and value chain development activities. Also, as most infrastructure development will be small-scale and will not require lengthy international procurements a five year project period is considered sufficient to implement CSAT investments.

110. The main assumptions underpinning the project costs and its financing plan are presented in Annex 3. Total project costs are estimated at 136.4 million USD, corresponding to VND 3,154,408 million, over the five years implementation period. Physical contingencies amount to USD 3.2 million (corresponding to VND 74,045 million), 3% of project base costs, and price contingencies amount to USD 7.1 million (corresponding to VND 163,696 million), 6% of project base costs. Investment costs amount to USD 128.9 million (VND 2,982 billion), 95% of total project costs.

111. The breakdown of costs by component and financiers is shown in Table 2. The project will be financed by an IFAD loan of USD 43 million, which will exclusively finance infrastructure investments in Component 2.1. Co-financiers will include in cash contributions from the borrower, the Provinces of Tra Vinh and Ben Tre, in kind contributions from the borrowers [37], beneficiaries, financial institutions, including the Dutch Fund for Climate and Development (DFCD) and the private sector. IFAD financing will amount to 32% of total project costs. Counterpart in cash contributions, including taxes, will amount to 8% of project costs. Counterpart in kind contributions, corresponding to contributions to project implementation by government institutions, will amount to 5% of total project costs. Contributions from financial institutions, largely through loans, will amount to 52% of project costs.

Table 2. Programme/project costs by component (and sub-components) and financier (Thousands of United States dollars)

	IFAD loan		Borrower/ counterpart (cash)		Borrower/ counterpart (in kind)		Beneficiaries (100% in kind)		Financial institutions (in cash and kind)		Private Sector		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Effective provincial and regional coordination for sustainable and inclusive rural transformation	-	**0%**	1 256	*71%*	-	**0%**	-	**0%**	-	**0%**	521	*29%*	1 778	*100%*
1. Provincial and sectoral plans for the period 2021-2025 promote innovative pro-poor, gender empowerment and climate resilient VC development.	-		137	*100%*	-	*0%*	-	*0%*	-	*0%*	-	*0%*	137	
2. Value chain action planning (VCAP) for climate resilient, inclusive, and remunerative value chain investment.	-		80	*100%*	-	*0%*	-	*0%*	-	*0%*	-	*0%*	80	
3. Functioning of 4P multi-stakeholder platforms in support of priority value chains & Mekong Delta Plan	-	*0%*	57	*100%*	-	*0%*	-	*0%*	-	*0%*	-	*0%*	57	*100%*
4. Enhanced Capacities for building inclusive value chains.	-	*0%*	982	*65%*	-	*0%*	-	*0%*	-	*0%*	521	*35%*	1 503	*100%*
B. Inclusive and climate smart value chain established	**42 991**	***33%***	**5 099**	**4%**	**5 581**	**4%**	**4 596**	**4%**	**70 408**	***55%***	-	**0%**	**128 675**	***100%***
1. Climate resilient infrastructure for sustainable water usage and enhanced access to markets	42 991	*75%*	4 777	*8%*	5 257	*9%*	**4 596**	*8%*	-	*0%*	-	*0%*	57 620	*100%*
2. Rural finance services support value chain development	-	*0%*	101	*0%*	-	*0%*	-	*0%*	**70 083**	*100%*	-	*0%*	70 184	*100%*
3. Smallholder farmers adopt climate smart agriculture (CSA) for value chain development	-	*0%*	221	*25%*	325	*37%*	-	*0%*	**325**	*37%*	-	*0%*	871	*100%*
C. Project management	-	**0%**	**4 880**	***82%***	**1 051**	***18%***	-	**0%**	-	**0%**	-	**0%**	**5 931**	***100%***
1. Project Management	-	*0%*	4 880	*82%*	1 051	*18%*	-	*0%*	-	*0%*	-	*0%*	5 931	*100%*
TOTAL	**42 991**	***32%***	**11 235**	**8%**	**6 632**	**5%**	**4 596**	**3%**	**70 408**	**52%**	**521**	**0%**	**136 383**	***100%***

Table 3. Project costs by expenditure category and financier (Thousands of United States dollars)

	IFAD loan		Borrower/ counterpart (cash)		Borrower/ counterpart (in kind)		Beneficiaries (100% in kind)		Financial institutions (in cash and kind)		Private Sector		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs														
A. Equipment and materials	-	0%	278	2%	-	0%	-	0%	-	0%	-	0%	278	0%
B. Credit, Guarantee Funds	-		-		-		-		68 600		-		68 600	
C. Grants and subsidies	-	0%	-	0%	-	0%	-	0%	1 448	2%	-	0%	1 448	1%
D. Works	42 991	100%	4 777	43%	3 406	51%	3 803	83%	-	0%	-	0%	54 977	40%
E. Consultancies														
Studies	-	0%	571	5%	-	0%	-	0%	36	0%	-	0%	606	0%
Technical assistance	-	0%	634	6%	325	5%	-	0%	325	0%	18	4%	1 302	1%
Subtotal	-	*0%*	*1 205*	*11%*	*325*	*5%*	-	*0%*	*361*	*1%*	*18*	*4%*	*1 909*	*1%*
F. workshops	-	0%	266	2%	-	0%	-	0%	0	0%	80	15%	346	0%
G. Training	-	0%	939	8%	-	0%	-	0%	-	0%	423	81%	1 362	1%
H. Vehicles	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%
Total Investment Costs	**42 991**	**100%**	**7 464**	**66%**	**3 731**	**56%**	**3 803**	**83%**	**70 408**	**100%**	**521**	**100%**	**128 919**	**95%**
II. Recurrent Costs	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%
A. Operating costs	-	0%	659	6%	1 850	28%	793	17%	-	0%	-	0%	3 302	2%
B. Salaries	-	0%	3 111	28%	1 051	16%	-	0%	-	0%	-	0%	4 162	3%
Total Recurrent Costs	-	**0%**	**3 770**	**34%**	**2 901**	**44%**	**793**	**17%**	-	**0%**	-	**0%**	**7 464**	**5%**
TOTAL	**42 991**	**100%**	**11 235**	**100%**	**6 632**	**100%**	**4 596**	**100%**	**70 408**	**100%**	**521**	**100%**	**136 383**	**100%**

112. Project Component 2: Inclusive and climate smart value chain established, notably *Sub-component 2.1: Climate resilient infrastructure for sustainable water usage and enhanced access to markets* is partially counted as climate finance [39], with the total amount of IFAD climate finance/ adaptation: **US$ 18 526 000** or **43%** of IFAD total project cost in CSAT.

Table 4. Project costs by component and year

Viet Nam
Climates Smart Agriculture and Transformation Project
Project Components by Year – Totals Including Contingencies

	Totals Including Contingencies (Local Million)						Totals Including Contingencies (US$ '000)					
	2022	2023	2024	2025	2026	Total	2022	2023	2024	2025	2026	Total
A. Effective provincial and regional coordination for sustainable and inclusive rural transformation												
1. Regional integrated, climate resilient and inclusive socio economic planning	2 760	813	1 143	839	794	6 349	119	35	49	36	34	274
2. Enhanced capacities for building inclusive value chains	9 595	9 038	8 367	7 059	704	34 764	415	391	362	305	30	1 503
Subtotal	12 355	9 851	9 510	7 899	1 498	41 112	534	426	411	341	65	1 778
B. Inclusive and climate smart value chain established												
1. Climate resilient infrastructure for sustainable water usage and enhanced access to markets	18 039	305 809	323 915	342 980	341 949	1 332 691	780	13 222	14 005	14 829	14 784	57 620
2. Rural finance services support value chain development	232 212	405 878	405 912	405 548	173 743	1 623 293	10 040	17 548	17 550	17 534	7 512	70 184
3. Smallholder farmers adopt climate smart agriculture (CSA) for value chain development	4 729	4 818	4 958	4 803	833	20 142	204	208	214	208	36	871
Subtotal	254 980	716 506	734 785	753 331	516 524	2 976 126	11 024	30 979	31 769	32 571	22 332	128 675
C. Project management												
1. Project Management	26 056	26 474	28 160	27 286	29 194	137 169	1 127	1 145	1 218	1 180	1 262	5 931
Subtotal	26 056	26 474	28 160	27 286	29 194	137 169	1 127	1 145	1 218	1 180	1 262	5 931
Total PROJECT COSTS	293 390	752 831	772 455	788 515	547 217	3 154 408	12 685	32 549	33 398	34 092	23 659	136 383

b. Project financing/co-financing strategy and plan

113. The financing structure of CSAT encompasses IFAD loan funds (US$ 43 million) and national finance including government, beneficiaries, banks, WDF, private sector enterprises and DFCD. In line with Government decree 56, IFAD funding can be invested only in public infrastructure. All other project activities need to be shouldered by other national and international finance.

Financier	Amount (USD million)	Status	Activities Financed	Comments
IFAD	**43.0**	confirmed	Infrastructures (SC 2.1)	
Government (cash)	**11.2**	confirmed	All sub-components	
Government (in- kind)	6.6	confirmed	Various contributions (SC 2.1, 2.3 and C3)	
Beneficiaries(in-kind)	4.6	confirmed	Contribution to infrastructures	
Financial Institutions	**70.4**			
Women Development Fund (WDF)	20.8	confirmed	Loans and trainings for beneficiaries (SC 2.2 and 2.3)	From ongoing operations in BT & TV with IFAD's target groups
DFCD	40.0			
Other (Farmer Support Fund, government funds and collaborative groups)	9.6	Tbd	Loans and grants (SC 2.2)	Can be assessed upon investment deals only
Private sectorenterprises	**0.5**	Tbd	Co-financing of some training (SC 1.2)	
TOTAL	**136.4**			

114. Domestic finance was mobilized from the provincial budget in cash and in-kind (e.g. staff time for infrastructure planning and supervisions) and beneficiaries' in-kind contribution in small infrastructures. Direct finance was mobilized from a number of public agencies such as DOIT who have committed to provide start up support to rural business under CSAT. The microfinance institution WDF, formed under the precursor project AMD, is committed to continue its outreach under CSAT in terms of savings and loans to rural women, for agriculture and small businesses (see component 2.2) [38]. The project will broker additional resources from formal banks during implementation for which the amount cannot be assessed at this stage.

115. The Dutch Fund for Climate and Development (DFCD) expressed strong interest in investing in commercially viable and bankable business proposals that promote climate adaptation, such as ecological mangrove- shrimp, clam and rice production. DFCD would engage with private enterprises and farmer groups who are working under the CSAT. Finance would be made available for technical assistance, capacity building and equipment. The amount of these investments are being developed. Consultations with stakeholders are on the way and expected to conclude before CSAT starts. As soon as possible, IFAD, local government and DFCD will enter in a Memorandum of Understanding outlining the commitments and responsibilities.

116. IFAD and UNIDO will use jointly a grant of USD 425,000 from the UN COVID-19 MPTF to implement project on Women and Youth Centred Value Chain Development during 2021 and 2022. This project will be help the CSAT start-up and for drawing first lessons learnt on the inclusive value chain development approach.

117. A number of international funded projects will work closely with CSAT. An example is the soon starting EU funded DeSIRA, implemented by a consortium of CIRAD and FAO. It will provide technical know-how and assistance to smallholders to adapt to climate change in the Mekong Delta by supporting agro-ecological value chains and strengthening the learning and advisory system. These aspects are highly complementary to CSAT. Partnerships will developed through joint consultations and planning, technical assistance, joint training programmes and alignment of investments in value chains.

118. Fall back position if co-finance does not materialize. Most if not all domestic funding has been confirmed. In particular, government counterpart financing was already approved by provincial governments. Consultations with DFCD have commenced during the design mission. A Memorandum of Understanding (MoU) has been drafted and is under review by IFAD and DFCD. The cooperation is expected to mature before IFAD and Government approval for CSAT. As demonstrated by the EFA, CSAT will generate substantial benefits even without DFCD funding. There would be a delay in the realization of benefits as enterprises will seek for other financiers and temporarily interruptions of investments. This has subsequently repercussions on generating new jobs for women and youth, notably. Smallholder producers may also divert to other markets to establish supply chains. However, the markets in southern Viet Nam are robust and very dynamic as their fast recovery from COVID19 crisis suggests.

c. Disbursement

119. The entire IFAD allocation to Viet Nam 2019-2021 of USD 43.0 million will be provided to co-finance CSAT infrastructure investments of CSAT in sub-component 2.1 . The loan would be provided at on ordinary IFAD lending terms and conditions.

120. **Designated Accounts (DAs).** Upon entry into force of the Financing Agreement, the GoV is required to open and maintain one Designated Account (DA) for each Ben Tre and Tra Vinh provinces.. The two DAs shall be located at a commercial bank and denominated in the loan denominating currency. The DA will be operated by the Ministry of Finance (MoF) and will be administered following Imprest Account arrangements. Advances from this financing must be segregated from other funds as received by the Project. The maximum Authorized Allocation for each Designated Accounts is set at USD 2 million. One or more advances may be withdrawn within this authorized allocation. The SOE threshold for all expenditures pertaining to all categories is recommend to be capped at a ceiling of USD 100,000. The flow of fund is described in figure 1.

121. **Project Accounts.** Each PMU shall open and maintain in their provincial treasuries the Project Accounts denominated in local currency for project operations. The Project Accounts shall be replenished as necessary from the Designated Account, upon request of the PMU to the MoF and in accordance with expenditures incurred under approved AWPBs. The Project Director shall be authorized to operate the Project Accounts, in line with government regulations. The Government counterpart contributions to the project should be provided through the provincial Departments of Finance in a timely fashion. Government counterpart financing will be segregated in the Project Accounts from the IFAD finance and other financing sources.

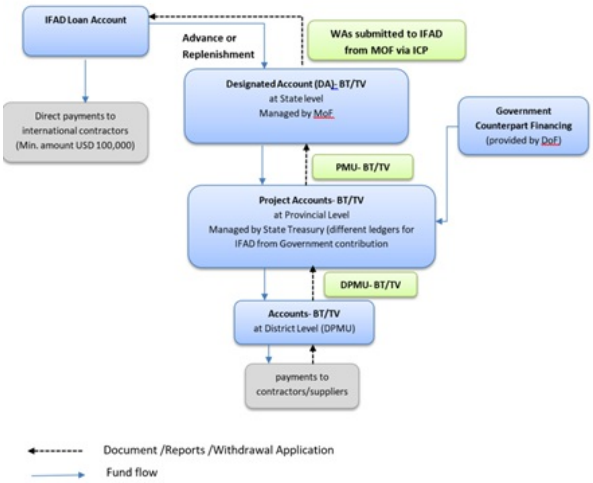
122. The lead project agency will endeavour to communicate to IFAD (i) the designated officials authorized to sign withdrawal applications and statements of expenditures (ii) the authenticated specimen signatures, (iii) official email address and mobile number.

123. In addition to IFAD's General Conditions, the following conditions precedent to withdrawal from the IFAD loan will apply:

1. 1. The provincial PMU shall have been established and the key Project staff (i.e. Project Director and Financial Staff) shall have been selected;
   2. The Borrower, through the Lead Implementing Agency, shall have submitted, and the Fund shall have received, an official document confirming the availability of counterpart funds for the first Project Year;
   3. The Designated Accounts shall have been duly opened and the names of authorized signatories shall have been duly submitted to the Fund;
   4. The PIM shall have been approved by IFAD; and
   5. The computerized accounting system in compliance with national standards and acceptable to the Fund, shall have been identified and selected by the Project.

124. **Start-up costs:** the GoV may request advance withdrawals up to USD 300,000 equivalent for each province after the financing agreement is entry into force and prior to meeting the conditions precedent to withdrawal,. Any unused balance of the start-up advance will be considered as part of the initial advance under the authorized allocation.

125. Figure 1: CSAT Flow of Funds:



d. Summary of benefits and economic analysis

126. The direct benefits generated by CSAT have been assessed to be mainly investments in climate smart infrastructure under component 2.1, corresponding to 60,000 households. The Economic and Financial Analysis (EFA) focuses on these beneficiaries of Component 2.1.

127. Expected indirect benefits from the other components include the adequate planning of infrastructure investments, in particular in terms of maximising its economic impact, the adequate targeting of beneficiary groups, improved capacities on climate smart agriculture practices, accessing financial services and job creation. These benefits accrue to 20,000 beneficiary households in addition to the above stated 60,000 households covered by sub-component 2.1, in particular through job creation, improved capacity on CSA and other value chain functions and access to finance. Detailed assumptions on outreach are presented in annex 4 - Economic and Financial Analysis.

128. The EFA assesses the viability of the project from financial and economic perspectives. In order to assess the project costs and benefits, activity models were prepared around the key infrastructure envisaged, comparing with-project and without project investments.

129. The infrastructures can be classified in three main categories: (1) rural roads, (2) water infrastructure and (3) other value chain relevant infrastructures. The EFA presents a few models for each category and places a focus on significant investments. The expected benefits of the roads are reduced transportation costs in most cases, which lead to reduced production costs, an increase in market prices for producers and, in some cases, an increase in production area. Water infrastructure, such as sluice gates and embankments, improves water efficiency and in particular, the risk of salt water intrusion in cropland. The salt water intrusion are caused by droughts, which have become more frequent and severe due climate change. The overexploitation of water from the Mekong River upstream reduced water availability downstream in the delta, which in turn exacerbates salt water intrusion from the sea. The models on water infrastructure demonstrate improved resilience, reduced losses associated to the reduced risks of salt water intrusion. However, they are not able to capture long-term decreases in yields due to the upstream activities. The third category of infrastructures support production and processing. Some of these have indirect benefits (e.g. centres for seed testing, salinity and water monitoring points), while others will have direct benefits (e.g. cold storages, medium-low voltage electricity lines).

130. The financial analysis shows that, with the exception of the water infrastructure for rice production models, all financing models are profitable, with internal rates of return (IRRs) ranging from 11 per cent (road and rice) to 133 per cent (road and embankment with seedlings). While the latter return in surprisingly high, it is based on evidence from the AMD project. See annex 4 for discussion and further details.

131. Similarly, the economic analysis shows that the returns on investment for CSAT are substantial, with a Net Present Value (NPV) of USD 52 million, corresponding to VND 1,208 billion. The Economic Internal Rate of Return is assessed at 32.1 per cent. For the economic analysis, the sensitivity analysis reveals that the project remains positive in all scenarios envisaged, including a reduction of project benefits of 25%, an increase in project costs of 25% and a delay of project benefits of 2 years. The analysis uses a discount

rate of 7%, which is higher than the interest rate on long-term Vietnamese bonds [40].

132. The results per province are aligned with the costs of investment per province. The flow of benefits from the investments in Tra Vinh amount to 56% of benefits, while the flow of benefits from the investments in Ben Tre amount to 44% of benefits.

e. Exit Strategy and Sustainability

133. The CSAT design is embedded in a national policy framework notably Resolution 120 and the Mekong Delta Plan, both of which are focussing on the challenges facing rural producers in Viet Nam's Mekong Delta region. CSAT is closely linked to the Agricultural Transformation Programme (ATP), which is led by Viet Nam's Prime Minister and co-sponsored by The Netherlands. The ATP's aim is to transform agriculture towards a climate resilient and competitive sector. The core of CSAT exit strategy is that results , institutional arrangements, GoV co-financing, policy products and the inclusive and climate value chain approach and tools phase gradually into the ATP during and ex-post implementation (see Annex 10 - Exit Strategy).

134. CSAT's exit strategy is built into the design approach, domestic funding mobilisation and institutional setting. The two PPCs are the project owners and delegate tasks to the line agencies in each province. The PPCs are co-responsible for the delivery on resolution 120 through CSAT and other national and international programmes. In this context, component 1 strengthens the delivery capacities of public institutions in terms of a participatory, market oriented and climate sensitive provincial and regional planning, with emphasis on the empowerment of women and youth. It is critical to note in relation to the exit strategy that this component and its outputs are entirely financed and embedded in the provincial government institutions and budgets. To ensure mainstreaming of CSAT outputs notably the VCAP, the project exit strategy outlines the roles, responsibilities and mechanisms for the continuation of the activities. DPI will take a key role in terms of planning and coordination as well as the mobilisation of funds for capacity building. DPI with lead agencies including DARD and DOIT have agreed upon their roles as regards the full adoption of the improved VCAP, roles, responsibilities and the funding for each institution upon at start-up. This needs to be re-confirmed no later than the Mid Term Review.

135. CSAT's value chain approach starts with the identification and engagement of the private sector companies through the value chain analysis alias VCAP. As per AMD and other experiences, these public – private partnerships have been strong and continue if the right commodity is selected, the producers are organised, their production adjusted to market needs in terms of quantities and qualities (standards) and infrastructure is put in place for commercial activities.

136. The project's support to the CGs and SCGs is critical as it ensures the inclusion of CSAT target groups, notably the poor, women, youth, ethnic minorities and other vulnerable people. CSAT promotes the skills advancements of youth and women (and with WU), including in CSA, digital and other future technologies, and business planning. Private and public sector are investing in digital technologies and CSAT with other projects need to step in by providing training and incentives to ensure that women and youth are targeted acquire the right skills as demanded tomorrow.

137. AMD experience has shown that CGs have continued on their own where the contract with the company produced mutual benefits. CSAT builds on CGs formed under AMD, who have developed mechanisms such as revolving funds and joint production that have enabled them to continue beyond the project closure. A similar approach will be promoted for new CGs formed by the Farmers Union. The revolving funds are self managed and appear to provide some financial resort to CGs, as AMD experiences suggest, until microfinance or banking institutions are offering the required support. GoV with stakeholders like FU are currently working on a new cooperative law which is expected to deepen the institutional framework for CGs and enhance their institutional sustainability.

138. The IFAD investments in rural infrastructure are part of the commune, district and provincial investment plans, as registered in the VCAP and SEDP. The PIM and the exit strategy describe the ownership and O&M responsibilities arrangements for each type of infrastructure. PPC will ensure funding of O&M including repair. Some infrastructure may be leased out to a private company or assigned to a specialized government agency, who will be responsible for O&M. Examples include the salinity monitoring system. The prior establishment of and capacity building to local Water User Groups (WUGs) is mandatory under Viet Nam's law for small in-field irrigation canals and embankments. The performance of WUGs need to be monitored regularly during implementation and a hand-over procedure developed during CSAT implementation.

139. The continuation of the 4P platform is critical. It is reassuring that the proposed 4P platform is not a new institutional set-up, as it builds on the Provincial Entrepreneur Association (PEA)in Ben Tre province. CSAT promotes its replication in Tra Vinh province, using the knowledge accumulated from this and other existing institutional networks. Private sector companies will be key sponsors and must be engaged at the earliest stage possible i.e. VCAP establishment, in order to ensure the relevance, ownership and sustainability of the 4P platform. Its funding will be a combination of public and private sector sponsors during and beyond CSAT's implementation.

140. A key condition for sustainability will be how producers can cope with climate change effects. CSAT builds the required institutional back up and links it with the funding resources required. Based on AMD experiences, CSAT promotes innovations, learning and implementation as a continued mechanism to be led by PPC, Can Tho university and the 4P platform. Technology (including digital) and knowledge transfers are sponsored mainly by private sector to ensure a steady flow of high quality products according to market standards. Digital technology promotes the application, tracing and monitoring of quality standards including certification. CSAT with private sector will mainstream quality standards promoting trust of markets and end consumers. It is expected that successful partnerships of public and private sectors will grow sustainably over time.

141. Besides institutions, continued funding remains key for the sustainability of results generated under CSAT. This starts with mobilising and streamlining funding resources from other public sources such as NTP-NRD&EMD, the various start-up funds such as from provincial DOIT. It is key for sustainability that provincial PPCs in the Mekong Delta rigorously coordinate these funding streams as part of the regional planning and monitoring. This is expected to be part of the regional programmes such as the ATP, co-sponsored by The Netherlands. Private and public banks are likely to invest in the agricultural transformation process, given the products are in high in demand at national markets such as HCMC and global export. Viet Nam is already a global leader in a number of agricultural and aquaculture products. CSAT investments in a mangrove clam/shrimp system or other similar productions prepares the future for ecological and climate change sensitive, sustainable agricultural value chains.

142. The exit strategy will be finalised at project start-up outlining financial resources required, institutional responsibilities, timelines and milestones. The exit strategy will be monitored during the first three years and adjusted during MTR. The 4P platform supported by the PMUs are expected to lead this process.

3. Risks

H. Project risks and mitigation measures

143. Annex 9 presents the Integrated Risk Framework. Identified risks and mitigating measures will be reviewed during project implementation. Similarly, the Log-frame indicators present the key risks / assumptions. During design, the following key country level risks were identified: (1) The COVID-19 pandemic impacts stronger than anticipated on the economy; public revenues are reduced and Government may not be able to provide sufficient funds to the provinces for development programmes such as CSAT; and (2) Climate events increase in frequency and intensity and affect CSAT target are before or during early project phase.

144. Risk mitigation measures include: The Government of Viet Nam has managed well the COVID pandemic, as reflected by just 5119 total COVID cases (May 23 2021), and sustained economic growth. Therefore, it is suggested that the mentioned COVID related risk is moderate. In addition, a covid-19 grant has been obtained with UNIDO to facilitate adoption of digital innovations which have proved crucial to mitigate some of covid impacts on value chain and extension services. CSAT integrated resilience approach shall also help address various economic and environmental shocks; CSAT is fully integrated in the Agricultural Restructuring Programme, i.e. a core government programme. CSAT provides demand driven; participatory approaches in line with directives from the highest political levels. As such, the risk of underfunding and low attention by national or local policy levels is contained. Government with support from other DPs have longstanding experience and established protocols in case adverse climate events like typhoons. In the recent past, the response to these disasters has been well managed and people were assisted in the aftermaths. CSAT complements disaster risk programmes by fostering resilience *ex ante* and enabling fast recovery *ex post* a climate disaster.

145. Key governance and operational risks include: (1) The Mekong Delta regional coordination platform is not provided with sufficient political authority, funding and technically authority. (2) Funding shortfall for CSAT in terms ODA, counterpart and other domestic funds; (3) Financial and procurement management capacities are inadequate to prevent misuse of project funds; (4) Agreed social and environmental safeguards have not been implemented; (5) the CSAT target group and especially the poor and vulnerable people are not included as intended by design; (6) Delays due to coordinating and planning process and procurement of infrastructure; and (7) challenges in terms of coordination capacities and costs considering the size of PMU (22 in each province), the number of partners including several financing partners with potential different reporting and planning requirements.

146. Mitigation measures include: (1) coordination with central and provincial decision makers and coordination with DPs for a joint Mekong Delta Plan and coordination platform. CSAT will directly contribute to these efforts; capacity building of provincial planners for efficient coordination, planning and funding. (2) Coordination with DPs and domestic partners funding should be maintained at a high level to mobilise funds for key activities and scale them out; (3) CSAT will bring capacity building, updated financial and procurement guidelines and to enhance oversight, transparency accountability of stakeholders. (4) Target strategy will be finalised in line with prevalent domestic policies and guidelines. Capacity building will assist domestic partners in the implementation and monitoring of the targeting strategy. (5) Similarly, safeguards along IFAD's SECAP and domestic policies will be established before start-up, and ratified by government in accordance with national policies. Grievance and supervision arrangements are in place by project start-up to ensure effective implementation and oversight. (6) Project suggested a project duration of 5 years instead of 4 usually prescribed for ODA funded infrastructure. In addition, project builds on previous experiences showing that Viet Nam has excellent governance structures, strong commitments and use often e-tools for procurement and that infrastructure are

small scale with limited international procurement. (7) The proposed institutional arrangements are based on the foundation provided under the previous projects in the two provinces (i.e. DBRP,IMPP, AMD). These projects have demonstrated a solid track record of delivery of even complex tasks across province, district and commune structures. AMD, for instance, delivered very successfully on the combined IFAD loan and ASAP financing as well as other funding leveraged from other government programs. The actual size of the PMU is smaller than of AMD and builds on its exit strategy, with 22 people in each province without any additional district and commune personnel. This will ensure that project activities will be properly mainstreamed in the provincial government programmes of work. The overall inherent FM risk for the project is assessed as Moderate and will be reduced to Low after mitigation measures. Based on the results of the financial management assessment, the current organizational structures of the implementing agencies are found appropriate to manage the new Project.

147. The inherent fiduciary risks of the country is substantial as the 2020 TI Corruption Perception Index (CPI) where the country's score is 37 ranked 96th out of 180 countries. Despite significant improvements, corruption remains a great concern to government. However, the FM inherent risk of the Project (CSAT) is assessed as moderate (see section Risks and annex 9- IPRM).

148. The level of risk can however be mitigated by undertaking the following actions/ measures:

149. (i) establish a control framework integrating periodic internal audits, independent external audits, and social safeguards to be adopted based on IFAD policies;

150. (ii) adopt a good governance and mutual accountability framework to strengthen accountability and transparency in line with international best practices;

151. (iii) outline the project specific financial management procedures and disbursement;

152. (iv) reinforce FM capacity through the hiring of qualified FM staff. The staff will conduct periodic trainings to build the capacity of GoV staff and strengthen the performance of the implementing agency. For Tra Vinh province, ensure business continuity and operational efficiency by having all Accountants on full-time contracts.

153. (v) As part of the implementation of a new Management Information System (MIS), customize accounting software to enable an integrated environment, and to permit computerized consolidation as well as proper segregation of duties .

I. Environment and Social category

154. The potential social and environmental impacts of CSAT will be low to moderate and hence, CSAT is classified as Category B along IFAD's Social, Environmental and Climate Assessment Procedures (SECAP). Most if not all CSAT investments aim to enhance the climate resilience of people and production and improve the environment through sustainable management and preservation of natural resources. CSAT will support better ground water management, protect cropland from saline water intrusion and open water resources from pollution. CSAT will promote better land management practices, organic farming and good agricultural practices in view of growing market demand. A good example is the proposed ecological clam/mangrove production. CSAT will increase capacities of producers and enterprises to understand and improve their ways of farming and aquaculture so that any harm to the environment will be prevented. Land and water must not be contaminated by misuse of agro-chemicals.

155. Investment in roads and village tracks is small in size. Majority of the selected roads will be rehabilitated only. Developing new roads will be approved only with explicit free, prior and informed consent of local residents. Investments in irrigation will be likely small in size and on existing schemes where land has been already allocated. Irrigation schemes, rural roads and other investments under the overall programme will only be supported if evidence of due diligence is presented for IFAD's prior review. CSAT will not invest in infrastructure that requires acquisition of private lands and / or resettlement of project affected people. An Environmental and Social Management Framework (ESMF) has been included in the design, which contains a preliminary Environmental and Social Management Plan (ESMP). The ESMF establishes procedures for the environmental and social assessment of sub-projects under CSAT, and provides guidelines in the preparation of site-specific ESMPs for these sub-projects.

J. Climate Risk classification

156. In line with the results of climate risk screening in the SECAP Review Note (see Annex 5), the climate risk classification of CSAT is identified as **High**. The proposed target areas i.e. Ben Tre and Tra Vinh provinces have been exposed to extreme climatic events, mainly drought and salinization. In the dry season of 2015-2016 and recently in 2019-2020, the Mekong Delta has experienced severe droughts. Saline water intrusion on cropland and groundwater has been occurring for more than a decade and has affected livelihoods and economy of the entire Mekong delta region. In both project provinces, which are located at the estuaries of the delta, farmers have shifted away from rice to other crops or fish farming over the past years, due to the growing saline water intrusion on their fields.

157. The proposed investments under the project, notably infrastructures, will take place in low-lying coastal areas/zones and other areas with a track record of extreme weather events (e.g. drought, tropical storms, salt water intrusion etc.). Additionally, the project will promote agricultural activities in marginal and/or highly degraded areas that have increased sensitivity to climatic events. The climate risks and vulnerabilities have been assessed and presented in detail in the Appendix 3 – In-depth Climate Risks Analysis of the SECAP Review Note (Annex 5) and informed the project design and implementation guidelines.

4. Implementation

K. Organizational Framework

a. Project management and coordination

158. The project coordination follows the proven structure of IFAD funded projects in Viet Nam, notably the lessons learnt from the precursor project AMD. It takes on board a number of additional functions in order to respond to new requirements including risk management, policy engagement, facilitating private sector linkages, and partnerships. M&E and knowledge management are addressed in chapter L. The Project Implementation Manual (PIM) in Annex 8 describes the detailed implementation arrangements.

159. **Lead Project Implementing Agency**. The Ministry of Finance (MOF) and Ministry of Development and Investment (MPI) provide oversight at national level and vis a vis IFAD. The National Government of Viet Nam appoints the Province People Committees (PPC) of Ben Tre and Tra Vinh provinces, respectively, as Lead Project Implementing Agencies who become accountable for the project execution. The PPC will establish a Project Steering Committee (PSCs) in each province, to be led by the PPC Chairperson or the Deputy Chairman. PSCs are mandated to lead the project implementation, ensure coordination and integration of the project with all the national target programmes and donor-funded projects.

160. This arrangement has a proven track record for IFAD funded projects in Viet Nam. It creates strong ownership, ensures interdisciplinarity among the various technical agencies, and ensures fast interventions when challenges occurred. All IFAD funded projects have provided capacity building for project management in order to bring line agencies to the next higher level. In addition, PPC with MOF from national level ensured the sufficient counterpart finance, and if required, pre-financed activities.

161. Each province establishes a project steering committee (PSC) to lead the project coordination. It is composed of provincial line agencies, FU, WU/WDF and YU, district level project steering committees, development partners and private sector companies which are party to the CSAT. The PSC provides the strategic direction to the implementation of CSAT, oversights project planning, financing and procurement processes, mobilises adequate and timely finance for the AWPB, reviews the progress and reporting on results. The PSC in Tra Vinh would held joint meetings for the NTP-EMD and CSAT and likewise, the PSC in Ben Tre would cover both CSAT and the NTP-NRD. This arrangement streamlines current parallel processes into one, and coordinates the various financing sources destined for a similar purpose and thus creating higher efficiencies and better impact.

162. The PSC meets quarterly to review the implementation progress, review and approve draft AWPB and procurement plans before the beginning of the year. The PSC discusses and resolves challenges related to project implementation, including grievances related to procurement, staff management, code of conduct and other allegations brought forward.

163. The PSC ensures coordination and streamlining of investments with other internationally funded projects notably the regional Agricultural Transformation Programme, in Ben Tre and Tra Vinh provinces. A key task of the PSC will be to contribute CSAT's results to regional meetings notably policy fora on the Mekong Delta Plan.

164. **Project Management Units**. Each of the two provincial PPCs establishes a dedicated Project Management Unit (PMU) for CSAT. The provincial PMUs led by a project director and composed of three technical sections: (i) Strategic Management including dedicated staff for social inclusion activities (gender, youth, EM) and environmental safeguards and climate adaptation activities, (ii) Infrastructure Management including a Climate Resilient Engineer to ensure adherence to social and environmental safeguards, M&E and KM and (iii) Financial Management. Former highly performing AMD staff will be retained as possible to foster the institutional memory and enable fast start-up of CSAT.

165. The PMU will be responsible for the day-to-day management of the CSAT implementation and functions as the secretary for the PSC meetings. The key tasks of the PMU are to: (i) ensure the coherence of the implementation strategy towards the expected outputs, outcomes and impacts; (ii) draft the AWPB and procurement plan; (iii) mobilise and manage project finance from the various sources; (iv) ensure adherence to procurement IFAD and national procedures; (v) set up of the Management Information System, baseline surveys,

M&E and reporting structures; (vii) set up a of co-ordination structure and strategy with the co-implementing agencies (DARD, DoNRE, DPI, DoLISA, DoIT and DPCs, CPCs, WU, YU, FU), district and commune level agencies; (viii) facilitate the networking with banking sector, private sector, 4P platform; (ix) set up an effective knowledge management system; (x) identify relevant policy topics and support the PSC on policy engagement activities; and (xi) (xi) ensure environmental and social safeguards requirements are met for project activities implementation based on the national regulations on environmental management and IFAD's SECAP recommendations.

166. The proposed PMU structure builds on the foundation provided under the previous projects in the two provinces (i.e. DBRP, IMPP) and the exit strategy of the AMD which suggests smaller PMU of 22 people in each province. These have demonstrated a solid track record of delivery of even complex tasks across province, district and commune structures. The compact management unit helps the province save operating cost while ensures that project activities will be properly mainstreamed in the provincial government programmes of work. The IFAD country team will continue organizing regular training and capacity development of portfolio PMUs on project management and implementation.

167. **District and commune level coordination**. The DPCs and CPCs coordinate the project implementation. The actual implementation is the responsibility of district and commune line agencies and mass organizations (i.e FU, WU, YU). The PMU staff provides technical backstopping. The project implementation integrates itself into existing institutions at the local levels to ensure ownership, direct link to higher level policy makers, sustainability, local capacity building and reduced management cost.

b. Financial Management, Procurement and Governance

168. **Risk assessment:** The inherent fiduciary risks of the country is substantial as the 2020 TI Corruption Perception Index (CPI) where the country's score is 37 ranked 96th out of 180 countries. Despite significant improvements, corruption remains a great concern to government. However, the FM inherent risk of the Project (CSAT) is assessed as moderate (see section Risks and annex 9- IPRM).

169. Based on the results of the financial management assessment, the current organizational structures of the implementing agencies are found appropriate to manage the new project. The funds flow arrangements are conducive for project implementation, especially in view of the direct fund transfer arrangement from provincial level to district level. The proposed accounting standards, policies, procedures, asset management, budgeting, audit, reporting, and accounting system are largely in place and are in general considered effective for the existing entities.

170. The project can rely on the prevailing structure and systems as regards fiduciary requirements and quality of outputs, if the required mitigation measures are implemented to address identified weaknesses as follows:

- The PMUs will recruit qualified FM staff and trainings will strengthen capacity of the FM staff of the implementing agencies. For Tra Vinh province, the project should ensure that accounting staff are contracted as full-time staff, and not subject to regular transfers to other departments;
- **Financial Management Manual**. A FMM is drafted for review by GoV, and for subsequent submission for no-objection by IFAD. The manual describes critical processes, such as preparation of the AWPB; establishment of internal control mechanisms; adherence to IPSAS cash basis accounting policies and procedures for accounting and financial reporting. The manual is to be regularly reviewed and updated as needed by the project;
- **Accounting software**. CSAT will identify and customize web-based accounting software before project start-up for all financial reports. The district and commune level project entities should provide regular reports to the PMU electronically, to ensure the information is kept up to date;
- **Control Framework**. CSAT will establish a control framework integrating periodic internal audits, independent external audits, and social safeguards based on IFAD policies;
- **Good governance.** adopts a good governance and mutual accountability framework to strengthen accountability and transparency in line with international best practices;
- **Project Management Information System (MIS)** should outline proper segregation of duties and overarching control of information and data flows. It includes all project aspects besides the key fiduciary areas i.e. financial and procurement management.

171. The IFAD financing proceeds shall not be used to pay taxes. All taxes are to be borne by the Government.

172. **Financial** The project is required to deliver unaudited project-specific financial statements annually, within four months of financial year-end, covering the duration of the implementation period, in accordance with section 9.02 of the GCs. Financial statements must contain all material and relevant information required to provide IFAD and other stakeholders with a full understanding of the project's activities and financial position.

173. The project is required to measure in-kind contributions in accordance with a predefined methodology agreed with IFAD, and to retain all related calculations/documentation for verification during the audit. The project is further required to submit semi-annual unaudited interim financial reports (IFRs) to IFAD within 45 days of period-end.

174. **Audit arrangements:** Under the IFAD General Conditions for Agricultural Development Financing, the project is required to have their accounts audited annually in accordance with standards and procedures acceptable to IFAD.

175. The Borrower is responsible for the auditor selection and appointment process. Auditors should normally be appointed in advance of the start of the period to be audited, to allow the auditor sufficient time to plan and carry out a comprehensive examination of the project financial records and accounts. The selection of auditor is further subject to IFAD no-objection.

176. **Transparency and disclosure:** In line with the standards of the International Aid Transparency Initiative, borrowers/recipients are encouraged to publish relevant financial information on their own websites, for increased accountability. Borrowers/recipients must ensure that the audit TORs explicitly mention the right of the borrower and of IFAD to publish the audit report, with no limitation-of-use clause.

177. **Foreign Debt Sustainability:** Vietnam's external debt-to-GDP ratio declined sharply to 45.6 percent in 2018 with a moderate increase foreseen to 47.2% for 2019. PPG external debt is on a downward trend at 24 percent of GDP, in line with the authorities' switch to domestic financing sources and limiting of guarantees. Under the approach of the IMF/WB to Debt Sustainability Analysis (DSA), Vietnam's overall debt sustainability has been assessed as Sustainable with significant access to international capital markets (Market-Access Countries – MACs).

178. **Procurement.** Procurement under CSAT shall be carried out in accordance with the Procurement Law No. 43/2013/QH13, Decree 63/2014/ND-CP and subsequently updated public procurement regulations as long they are consistent with IFAD Project Procurement Guidelines (2019 version). Related circulars outline the detailed instructions on procurement procedures, procurement plan, standard bidding documents/ request for proposals, bid evaluation, e-procurement, investor selection (PPP). E-procurement should be applied for at least 70% of total packages according to Circular 11/2019/TT-BKHDT. In the event the national procurement regulations do not comply with the IFAD Procurement Guidelines, the latter take precedence and should govern the procurement of the project.

179. The risk assessment for CSAT suggests a low inherent procurement risk, rated 2.62 points (*Annex on* CSAT Procurement Risk Matrix). CSAT's risk mitigation measures for procurement include:

- Use IFAD templates for the procurement plan for monitoring and reporting regularly the implementation progress on both "plan" and "actual" data;
- Alert bidders and contractors to sign a compulsory Self Certification Form on anticorruption, sexual harassment, sexual exploitation and abuse as a part of bids/ proposals and contract documents;
- Conduct prior and ex-post reviews and annual audits to strengthen enforcement of the debarment system;
- Promote coaching, on-the-job training and refresher training for project procurement staff on IFAD project procurement guidelines, NOTUS, e-procurement;
- Inform project parties on IFAD's procurement manual with detailed guidelines on different procurement methods in compliance with IFAD project procurement guidelines and the Letter to the Recipient.

180. The procurement responsibilities for the overall project would be undertaken by the provincial PMUs. Procurement of climate resilient infrastructure investments under sub-component 2.1 shall be carried out by PMUs following procurement procedures and processes specified in the Project Implementation Manual and the Project Procurement Manual. Procurement of decentralized activities under sub-components shall be taken by project implementing agencies (DARD, DONRE, DOIT, FU, WU…), District People's Committees and/or Commune People's Committees.

181. The provincial governments in both provinces should recruit a highly competent, full time procurement officer. Preference should be given to those staff who showed high performance under AMD. The Procurement Officer in collaboration with the technical and financial staff at PPMU and implementing agencies is responsible the procurement planning, implementation, training and supporting project staffs at PPMU and implementing agencies as regards to project procurement. A Procurement Committee including at least 3 representatives of PPMU staff or hired procurement consultants will be established for each procurement activity.

182. Procurement Plan. Each provincial PMU prepares a procurement plan for the first 18 months, to be updated by the end of each fiscal year for another 18 months in line the AWPB of the coming fiscal year. As per IFAD Project Procurement Guidelines, IFAD no objection to the Project Procurement Plans is compulsory. The use of the IFAD procurement plan template [42] is compulsory for the preparation and monitoring progress of project procurement plans. The procurement plan must include as a minimum:

(i) A brief description of each procurement activity to be undertaken during the period;

(ii) The estimated value of each procurement activity;
(iii) The method of procurement or selection to be adopted for each procurement activity; and
(iv) An indication as to whether IFAD shall carry out prior or post review in respect of every procurement activity.

183. Procurement methods, their thresholds as well as the threshold for IFAD prior review are presented in the project procurement manual and the PIM. IFAD may modify these thresholds during the course of Project implementation. All requests for IFAD prior review and no objection (including AWPB, Procurement Plan, procurement documents at different stages subjected to IFAD prior review, project guidelines and manuals, etc.) will be managed through No Objection Tracking Utility System (NOTUS) [43]. All procurement of goods, works and services financed from IFAD funds under the Project shall require the inclusion of the following safeguard provisions for contractors:

184. To permit IFAD to inspect their accounts, records and other documents relating to the procurement and contract performance and to have them audited.

185. Compliance with the IFAD Policy on Preventing Fraud and Corruption in its Activities and Operations [44] and with its Policy on Preventing and Responding to Sexual Harassment, Sexual Exploitation and Abuse [45].

186. Contract registers will be prepared by PMUs and frequently updated to monitor the implementation progress and to provide reporting data. The contract register should provide information on all awarded contracts for the entire project life.

187. IFAD will not finance expenditures for goods, works or consulting services that have not been procured in accordance with IFAD Project Procurement Guidelines and the Financing Agreement. In such cases, IFAD may, in addition, take other remedial action under the financing agreement, including cancellation of the amount in question from the loan account by declaring it ineligible. Even if the contract was awarded following IFAD's "no objection" statement, IFAD may still declare mis-procurement if it concludes that this statement was issued on the basis of incomplete, inaccurate or misleading information furnished by the Borrower/Recipient.

188. Governance and anti-corruption measures. IFAD's Policy on Preventing Fraud and Corruption is reflected in IFAD's legal framework (Project Procurement Guidelines [46], General Conditions for Agricultural Development Financing [47], IFAD's Code of Conduct), which applies to all recipients of IFAD financing.

189. The PMUs will ensure that all CSAT activities are implemented within a framework of transparency. This framework will include measures to ensure that procurement and project implementation are carried out in accordance with IFAD rules and project's design specifications. Other measures under the framework for transparency include:

- Publication of sourcing, tendering and contracting processes at central, district and provincial offices;
- Participation of representatives of end-users in bid assessments;
- Prompt communication to bidders of bid evaluation outcomes;
- An internal code of conduct to be signed by all Project staff;
- A code of business ethics to be included in agreements/contracts signed with partners and beneficiaries. The code of conduct and the code of business ethics will be included in the PIM after review by implementation partners;
- Annual project audits, that will include a routine assessment to companies and farmer-groups;
- IFAD's direct supervision which inter alia will address fiduciary compliance;
- Involvement of stakeholders (especially farmers and their organisations) in programming, implementation and M&E of CSAT activities;
- Evaluation and impact assessment outsourced to independent institutions.

L. Planning, M&E, Learning, KM and Communication

a. Planning, M&E, Learning, Knowledge Management and Communication

190. **Annual Work Plan and Budget (AWPB)**. The key instrument for project planning is annual work plan and budget (AWPBs). AWPBs will be developed through a participatory approach based on formulation of VCAPs, PPP investment plans, climate-smart MOP-SEDPs along with an established participatory approach, as outlined in the PIM. The AWPB includes a detailed description of the planned activities and required budget and description on how activities will be implemented. The procurement plan is derived from the AWPB.

191. In the first project year, the PMU will coordinate training workshops on the project strategy and approaches and the related AWPB and procurement plan preparation processes for relevant stakeholders. The PMUs lead preparation of the AWPB which needs to be approved by the PSCs prior to IFAD approval. Upon IFAD's approval, the PPCs will finalise and approve the AWPB for immediate implementation.

192. **Monitoring and evaluation (M&E)**. The project M&E system feeds into the government system for reporting and project governance. It will be critical for successful implementation that the PMU and the PPCs perceive M&E as a key instrument for results based, evidenced based and adaptive management. Robust project data feed knowledge management and policy dialogue. Outputs, outcomes, and impact indicators are all causally connected as set out in the Project Logical Framework. The latter applies largely IFAD's Core Indicators at the outcome and outputs levels. All people specific indicators will be disaggregated by ethnic minorities, sex and youth. Climate impact related data present the expected adaptation effects of CSAT. Output data are collected directly from the project service reports (e.g. people trained), while impact, results and outcome relevant information are strategically collected from baseline and repeater surveys and thematic studies to assess the effect of project services (e.g. women report higher returns from sale). Participatory M&E instruments will be applied across the component to strengthen the quality aspects of investments. A grievance instrument is already in place. The baseline survey will be completed within year one; the annual outcome survey will start by year three. A mid-term survey should inform the Mid-Term Review to be held during the year three. Thematic surveys could start as early as year two, in order to understand progress made against the development objectives and to allow timely adjustments as it may be required. Similarly, project completion will gather and analyse results from the end-line survey and the complete set of project data. All these surveys shall use IFAD COI surveys to inform selected IFAD COI indicators at baseline, mid-term and completion, including specific attention to indicators on empowerment. Project results will be regularly reported to IFAD ORMS and inform on the COSOP's progress.

193. The project will prepare reports on outputs achieved from commune upwards on a quarterly basis. The up to date information from the project M&E system will inform the PSC and other stakeholders on the project implementation progress and quality leading to realistic planning and budgeting for the coming years. The project M&E system is embedded in the project management information system (MIS). It integrates information regarding project management, financial management, procurement and physical progress; and thus, it allows reporting in real time. Given the large number of co-implementing agencies, the MIS will be the platform for all co-implementing agencies to provide and review progress data for planning, reporting and adjustments of the implementation plans. The PMU will be responsible for consolidated reporting under such consolidated MIS. The PMU will fine-tune progress, performance and impact indicators before project start-up, under the guidance of the IFAD country office. IFAD office will also ensure regular backstopping and training of PMU on M&E as done for all PMU across Viet Nam portfolio, as well as projects concerned with such issues of multiple reporting. M&E capacities and related training to be delivered at provincial and district levels will be discussed in the next version of the PIM.

194. **Knowledge Management and Communication**. The project knowledge management strategy is embedded in the Mekong Hub KM strategy. It is based on the following key elements: (i) a knowledge management program for purpose of supporting learning and replicating the project good practices and lessons learnt among the project stakeholders; and (ii) support for a broader program of knowledge management aimed at informing government decision-makers and influencing innovation scaling-up and policy development.

195. PMUs will identify policy issues that limit the impact of inclusive value chain development and climate change adaptation. Surely, the emphasis should be on policies that further improve economic inclusion of women, EM and youth. The project will provide relevant information, best practices and lessons learn on these topics. The project will produce communication materials summarizing some of the success stories to be distributed through conferences, workshops, learning routes, and the communication systems including radio, TVs, emails, website and social media. The project will closely cooperate with National Coordination Offices for NTPs and the ARD policy research institutions such as IPSARD under MARD and CIEM under MPI through on-going IFAD-supported grant projects to upscale the project innovations through implementation of the NTPs and formulation of the agriculture sector restructuring policies. In addition, IFAD country office will facilitate collaborations with current SSTC project on climate resilient VC development and identify other possible opportunities along SSTC program.

b. Innovation and scaling up

196. Innovations are part of the development objective - that is, to introduce, test, pilot, and demonstrate innovative models, approaches, mechanisms, that - if successful - would be scaled-up by the Agriculture Transformation Program, national policy makers and development partners. The following innovations or similar, related innovation are expected to occur: (i) application of a land-scape development approach for rural transformation; (ii) inter-provinces SEDPs with climate-smart value chain support coordination mechanism; (iii) climate smart infrastructure models; (iv) efficient water purification for high-productivity and disease-controlled aquaculture/shrimp value chains; and (v) ICT-based salinity and water management, pest control applications and e-marketing. These innovations have been identified by stakeholder consultations during design. They are currently piloted and would be ready for application at project start. Policy makers and private sector expressed keen interest in boosting the digitalization of food value chains.

M. Project Target Group Engagement and Feedback, and Grievance Redress

a. Project Target Group Engagement and Feedback.

197. [48] The targeting strategy describes how CSAT will reach out to its target groups. The participatory planning process builds the starting block for active participation of CSAT target groups and project stakeholders in the VCAP. The promotion of common interest groups is a key element to self-targeting i.e. to include as much as possible poor and vulnerable people. The Free Prior Informed Consent (FPIC) and Ethnic Minority Plan (EMP) will ensure a feedback mechanism where demands, concerns and risks are voiced and risk mitigation measures developed. Transparency is key in CSAT. All decisions under CSAT will be published to attract participation and enable expression of dissents.

b. Grievance redress.

198. The current grievance redress mechanism will be strengthened in line with relevant Viet Nam's laws and regulations. The project grievance mechanisms will be two tiered. Tier 1 is internal and targets the communities concerned and tier 2 involves third-party/external mediation. CSAT will empower Grievance Redress Committees from villages/districts to provincial levels upwards and link across departments, FU, WU and ethnic minorities representations. At the village level, the present grievance mechanisms are chaired by elder and/or spiritual/tribal leaders, which are largely accepted by local communities, particularly the ethnic minority groups.

199. The grievance redress mechanism targets individuals or groups who are directly or indirectly affected by the project, as well as those that may have interests in a project and/or have the ability to influence its outcomes, either positively or negatively. The project will strengthen existing structures and make it widely known to the communities and project parties in order to enhance awareness and to ensure an effective and efficient handling of grievances during project implementation and beyond. The provincial PMU must properly document all complaints and grievances, with copies filed at commune and district levels.

200. If the affected peoples are not satisfied with the process, compensation or mitigation measures, or any other issue, the people themselves or their representatives or village leaders can register their complaints to the PPC or to the PMU. All grievances will be addressed promptly, and in way that is culturally appropriate to the affected groups. The complainant is exempted from covering any costs associated to the complaints. PMU and independent monitoring consultants are responsible for monitoring the progress of the complaint resolution. All cases must be recorded in PMU project files, and be reviewed regularly by independent monitoring consultant.

N. Implementation plans

a. Supervision, Mid-term Review and Completion plans.

201. **Start-up and Implementation readiness.** The IFAD loan for CSAT is scheduled for approval by the IFAD executive board in September 2021. Approval of the IFAD Financing Agreement by the GoV and inclusion in the national and provincial investment plans and budget 2021-2025 are expected to be obtained during Q4 2021.

202. During the time between approval of the IFAD PDR by management and project start-up, both provincial PPCs will recruit their respective PMU. The latter will prepare a start-up plan, detailing the activities towards implementation start-up. These include the finalisation of the draft PIM, opening of the designated and project accounts, set up of M&E, financial and procurement management AWPB, procurement planned as outlined in the PDR. The PMU with stakeholders and target communities will organize the local planning exercises including the value chain action plans.

203. CSAT start up would be preceded and in fact prepared by the UN-MPTF grant project in Ben Tre and Dong Thap province. The grant project will provide very critical inputs on the preparation of the women and youth engagement, training and investments for the fruit value chains. This will be particularly useful for planning, capacity building and establishing linkages between the public and the private sector alias the fruit processing company. The first experience under this grant will provide lessons on the planning process, targeting women and youth, and private sector engagement.

204. **Supervision, Mid-term Review and Completion plans.** The Viet Nam ICO will carry out regular Supervision and Implementation Support (SIS) missions, in line with IFAD guidelines. The ICO will be supported by the regional FMD team for financial management and the regional IFAD SKD team. Predominantly national technical consultants will be recruited on a needs basis for focused technical support. A Mid Term survey and a Mid Term Review (MTR) will be executed during year 3, to ensure sufficient remaining time for any adjustments to the design. All missions will be in close partnerships with national and local authorities, national and international development partners and other relevant institutions.

205. The focus of SIS will depend on the implementation progress. It is likely that planning and the preparation of value chain activities take more space in year 1-2, whereby the peak of activities should be reached by mid term. Financial and procurement are surely key areas, but it is likely that many experienced staff from AMD would be retained to facilitate start-up. The Exit Strategy will be drafted during first phase of the project implementation and finalised no later than at Mid Term Review, outlining roles and responsibilities for each institution concerned.

206. The PMU will lead the Project Completion review and be supported by the ICO. Similarly, the PCR will be preceded by an end-line survey and be complemented with stakeholder consultations.

Footnotes

1 Data provided by the People's Committee of the each province Tra Vinh and Ben Tre.

2 According to Viet Nam's 2020 Youth law, the definition of youth are Vietnamese citizens aged between 16-30 year old; however, the United Nations, for statistical purposes, defines 'youth', as those persons between the ages of 15 and 24 years. CSAT will therefore consider the GoV definition but seek to also keep track of the segment of the 16-24 which corresponds to the UN definition of youth for the purpose of consistency.

3 The term "vulnerable" explicitly relates to the degree to which an individual/household is susceptible to, or unable to cope with adverse effects of climate change, including climate variability and extremes. Adapted from the Intergovernmental Panel on Climate Change (IPCC). 2001 - https://www.ipcc.ch/

4 Tra Vinh is home of Khmer ethnic group, while no ethnic minorities reside in Ben Tre province

5 This may appear low but due to rural out-migration, they only represent 20% of the rural population; the project will seek to engage 80% of them which is already ambitious

6 Contributions to project management

7 https://www.statista.com/statistics/1027971/Viet Nam-gdp-contribution-of-agriculture-forestry-and-fishing-sector/

8 https://www.worldbank.org/vi/country/vietnam/overview#:~:text=Kinh%20t%E1%BA%BF%20v%C4%A9%20m%C3%B4%20v%C3%A0,ho%E1%BA%A3ng%20l%C3%A0%206%2D7%25

9 According to the Decision No. 1614/QD-TTg of the GoV, promulgating the multi-dimensional poverty measure, poor household is a household whose per capita income does not exceed the policy poverty line (VND 1 million in Urban – VND 800,000 in rural) or exceeds the policy poverty line but lower than the minimum income standard and it is deprived in a third or more of ten indicators of basic services. Near poor household is a household whose per capita income exceeds the policy poverty line but does not exceed the minimum living standard (VND 1-1.3 million in urban, VND800,000 – 1 million in rural) and it is deprived in a third or more of ten indicators of basic services.

10 https://www.worldbank.org/en/country/Viet Nam/overview

11 The Agriculture Restructuring Programe (APR) for 2021-2025 in under consultation by MARD and expected to be completed by end of 2021.

12 The NTP-NRD, established Decision 800/QĐ-TTg/2010, is GoVs main ARD program for the comprehensive development of rural communes (i.e., economic, culture, environmental, social and public security). In its first phase (2011-2015), its biggest success was in infrastructure development.

13 https://www.mekongdeltaplan.com/

14 But 20% of the rural population due to outmigration

15 Germanwatch (Kreft et al, 2017)

16 United Nations Office for Disaster Risk Reduction (UNISDR) Prevention Web – https://www.preventionweb.net/countries/vnm/data/

17 Provincial People's Committees of Tra Vinh, Ben Tre – Socio Economic Development of Tra Vinh, Ben Tre in the period 2015-2020.

18 Livelihood vulnerability index is a measure of vulnerability of farmer households in disaster-prone areas with three measurement indicators, namely, exposure, sensitivity and adaptive capacity - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6676940/#:~:text=Livelihood per cent20vulnerability per cent20index per cent2FLVI per cent2DIPCC,exposure per cent2C per cent20sensitivity per cent20and per cent20adaptive per cent20capacity.

19 CSAT will measure such progress along an integrated resilience indicator and related score card which builds on AMD experience and will benefit from other ongoing work of IFAD on the topic

20 Data provided by the People's Committee of the each province Tra Vinh and Ben Tre.

21 ASAP or Adaptation for Smallholder Agriculture Programme. It is a special funding mechanism of IFAD to promote climate change adaptation for smallholders.

22 AMD total project costs: US$ 49.4 million____ ; IFAD loan US$ 22 million and ASAP grant: US$ 12 million____

23 Matching grants are no longer available as part of the IFAD financing.

24 The term "vulnerable" explicitly relates to the degree to which an individual/household is susceptible to, or unable to cope with adverse effects of climate change, including climate variability and extremes. Adapted from the Intergovernmental Panel on Climate Change (IPCC). 2001 - https://www.ipcc.ch/

25 Tra Vinh is home to the Khmer ethnic group, while no ethnic minorities reside in Ben Tre province

26 The term component and sub-component is preferred by the government but is equivalent to outcome and output consistent with the logical framework

27 In 2019, The Dutch Government agreed with the Ministry of Agriculture and Rural Development (MARD) of Viet Nam to establish the Agricultural Transformation Programme/Platform (ATP) in the Mekong Delta Region.

28 The term local value chain may also include value chains that meet certain niche markets, and that have high potential to involve vulnerable groups as beneficiaries, especially the poor and the ethnic minorities. Examples of local value chains for Tra Vinh and Ben Tre can be weaving and handicraft products (e.g. from coconut trees) that are produced by the poor and the Khmer people. The local value chain is sometimes referred to the niche value chain in this design.

29 The Provincial Entrepreneur Association (PEA) in Ben Tre is currently led by a large enterprise (BeinCO) with participation of around 100 enterprises and SMEs. PEA actively supports the enterprises and farmers by providing access to markets and financial resources, defending their rights, and contributing to assurance of the quality and standard of products. This good practice will be further strengthened and replicated to Tra Vinh province.

30 IFAD and UNIDO developed a project: "Building Forward Better: A Resilient Women and Youth Centered and Digitally Enhanced Value Chain Development in Viet Nam Project in Dong Thap and Ben Tre provinces, - US$ 850,000 with financing from the UN COVID-19 Response and Recovery Multi-Partner Trust Fund. The project focuses on empowering women and youth in digitalized value chain development. CSAT will closely work with this project in this aspect.

31 ***Climate resilient infrastructure***: The defining characteristic of climate-resilient infrastructure is that it is *planned, designed, built and operated in a way that anticipates, prepares for, and adapts to changing climate conditions*. It can also withstand, respond to, and recover rapidly from disruptions caused by these climate conditions. (Source: http://www.oecd.org/environment/cc/policy-perspectives-climate-resilient-infrastructure.pdf); ***Climate-smart infrastructure*** refers to infrastructure that is *resilient to damage caused by extreme weather and climate change…* (Source: https://www.ucsusa.org/sites/default/files/attach/gw-smart-infrastructure-pricncipals.pdf)

32 Freshwater Availability in the Mekong Delta (FAME) is a collaborative, multiphase project focusing on scoping, piloting and providing upscaling advice to national partners in Viet Nam on how and where to implement Aquifer Storage and Recovery (ASR) systems. ASR systems would provide farm scale solutions aimed at addressing water quality and availability issues being faced within the Ben Tre and Tra Vinh provinces of the Mekong Delta, Viet Nam.

33 See more details in the Project Completion Report.

34 Total project cost US$ 9 million

35 https://thedfcd.com/ - In Viet Nam, the DFCD is led by SNV and WWF. The fund solely focuses in Mekong Delta Region. IFAD already had initial discussions with both organisations (SNV and WWF) on the opportunities for cooperation that CSAT would lead the value chain selection and planning with VC potential lead enterprises identified, and DFCD will participate in planning process and work with lead enterprises to build business - financing plan. This trinity will help secure a viable and sustainable value chain development.

36 CCR Viet Nam 2018

37 Contributions to project management,

38 Cost estimates were built on the assumption that only part of the resources of these public agencies and financial institutions reached CSAT beneficiaries

39 As per the MDB Methodologies for Tracking Climate Adaptation and Mitigation Finance.

40 https://www.investing.com/rates-bonds/vietnam-government-bonds

41 These are procedures defined by the International Public Sector Accounting Standards Board (IPSASB)

42 The IFAD Procurement Plan template can be accessed at https://www.ifad.org/en/document-detail/asset/41917572

43 https://notus.ifad.org

44 https://www.ifad.org/en/document-detail/asset/40189695

45 https://www.ifad.org/en/document-detail/asset/40738506

46 https://www.ifad.org/en/web/guest/document-detail/asset/39501080

47 https://www.ifad.org/documents/38711624/39421024/general_e.pdf/47c5f14b-2903-4285-b0b0-62c67cd650b8

48 See Framework for Operational Feedback from Stakeholders https://webapps.ifad.org/members/eb/128/docs/EB-2019-128-R-13.pdf?attach=1 and Annex 5 - SECAP for further details.

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Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Project Design Report

Annex 1: Logframe

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Project No.	2000002335
Report No.	5735-VN

Asia and the Pacific Division
Programme Management Department

Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Logical Framework

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Outreach	1 Persons receiving services promoted or supported by the project				MIS	Annual	PMU	
	Males							
	Females	0	19200	48000				
	Young	0	9600	24000				
	Not Young							
	Indigenous people	0	11000	21000				
	Non-Indigenous people	0	37000	99000				
	Total number of persons receiving services	0	48000	120000				
	Poor persons receiving services promoted or supported by the project				MIS	Annual	PMU	
	Poor	0	4000	10000				
	Near poor	0	8000	20000				
	Vulnerable	0	30000	70000				
	1.a Corresponding number of households reached				MIS	Annual	PMU	
	Women-headed households	0	4000	10000				
	Non-women-headed households	0	20000	50000				
	Households	0	24000	60000				
	Corresponding number of poor households reached				MIS	Annual	PMU	
	Poor households	0	1500	3000				
	Near-poor households	0	2000	5000				
	Indigenous households	0	6000	11000				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
	Vulnerable households	0	17000	35000				
	1.b Estimated corresponding total number of households members				MIS	Annual	PMU	
	Household members	0	100000	210000				
	1.c. Groups receiving project services				MIS	Annual	PMU	
	Groups	0	2000	4000				
	# HH satisfied with project services	0	7200	45000				
Project Goal Sustainable and climate resilient rural transformation in Ben Tre and Tra Vinh province	Decrease in provincial multi-dimensional poverty incidence for BT and TV				Outcome & Impact survey, DOLISA report	Benchmark, Mid-term, Final	PMU, DOLISA	Provincial governments committed to regional integrated market-led socio-economic development planning as indicated in Resolution 120, and Decision 324 Economic and social stability in target provinces Law and policies on gender equality are strongly enforced at all levels
	Decrease	0	10	20				
	Smallholder households report increased resilience to climate, environmental and economic shocks of > 20% , by P, V, S, A, EM				Outcome survey	Benchmark, Mid-term, Final	PMU	
	Tra Vinh smallholder HH	0	10000	24500				
	Ben Tre smallholder HH	0	7000	17500				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Development Objective Sustainable income opportunities and improved rural livelihoods for poor households and their women, men, EM and youth in Tra Vinh and Ben Tre provinces	Percentage of income increase among vulnerable and poor people in BT and TV				Outcome & Impact survey, MIS	Benchmark, Mid-term, Final	PMU	Provincial governments committed to regional integrated market-led socio-economic development planning as indicated in Resolution 120, and Decision 324 Economic and social stability in target provinces Law and policies on gender equality are strongly enforced at all levels
	Income increase	0	10	15				
	IE.2.1 Individuals demonstrating an improvement in empowerment				Outcome & Impact survey with specific indicators measuring empowerment	Benchmark, Mid-term, Final	PMU	
	Indigenous people	0	40	80				
	Indigenous people		8400	16800				
	Young	0	30	80				
	Young		7200	19200				
	Total persons	0	30	80				
	Total persons		48000	96000				
	Females	0	30	80				
	Females	0	19200	38400				
	Males	0	40	80				
	Males	0	28800	57600				
Outcome 1. Effective provincial & regional coordination for sustainable and inclusive rural transformation established	SF.2.2 Households reporting they can influence decision-making of local authorities and project-supported service providers				Outcome survey	Annual at mid-term	PMU	Provincial governments committed to prov. & regional participatory integrated market-led socio-economic development planning as indicated in Resolution 120, and Decision 324 Provincial authorities maintain ARD as priority sector for Provincial investment.
	Households (%)	0	30	70				
	Policy 3 Existing/new laws, regulations, policies or strategies proposed to policy makers for approval, ratification or amendment				MIS, Outcome survey	Annual at mid-term	PMU	
	Number	0	1	2				
	2.2.3 Rural producers' organizations engaged in formal partnerships/agreements or contracts with public or private entities				MIS, Outcome survey	Annual at mid-term	PMU	
	Percentage of POs	0	40	70				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Output 1.1. Provincial and sectoral plans for the period 2021-2025 promote innovative pro-poor, gender empowerment and climate resilient VC development completed	Policy 1 Policy-relevant knowledge products completed				MIS	Annual	PPCs/PMU	Provincial governments committed to prov. & regional participatory integrated market-led socio-economic development planning as indicated in Resolution 120, and Decision 324 Provincial authorities maintain ARD as priority sector for Provincial investment.
	Number	0	8	10				
Output 1.2. Value chain action planning (VCAP) for climate resilient, inclusive, and remunerative value chain investment.	At least 8 value chain action plans (VCAP) prepared in each province.				MIS	Annual	PMU	Farm households are able to finance their part of the investment facility
	Action Plans	0	8	8				
Output 1.3. Functioning of 4P multi-stakeholder platforms in support of priority value chains & Mekong Delta Plan supported	Policy 2 Functioning multi-stakeholder platforms supported				MIS	Annual	PMU	Provincial governments committed to prov. & regional participatory integrated market-led socio-economic development planning as indicated in Resolution 120, and Decision 324 Provincial authorities maintain ARD as priority sector for Provincial investment.
	Number	0	5	10				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Output 1.4 Enhanced Capacities for building inclusive value chains	2.1.1 Rural enterprises accessing business development services				MIS	Annual	PMU	Private investors are interested in investing in business opportunities in smallholders agriculture along conditions promoted by the programme Producer groups are interested in inclusive value chain, and willing to invest in CSA Adequate skills base amongst local service providers
	Rural enterprises	0	300	600				
	2.1.3 Rural producers' organizations supported				MIS	Annual	PMU	
	Rural POs supported	0	2000	4000				
Outcome 2. Inclusive and climate resilient value chains established	2.2.6 Households reporting improved physical access to markets, processing and storage facilities				Outcome survey	Annual at Mid term	PMU	Private investors are interested in investing in business opportunities in smallholders agriculture along conditions promoted by the programme Local enterprises are able to finance their part of the investment facility Valid agricultural innovations available from research institutions and private sector
	Households reporting improved physical access to markets	0	10000	30000				
	Households reporting improved physical access to processing facilities	0	7000	18000				
	Households reporting improved physical access to storage facilities	0	10000	25000				
	2.2.1 New jobs created				Outcome survey	Annual at Mid term	PMU	
	Job owner - men	0	100	300				
	New jobs	0	500	1000				
	Job owner - women	0	400	700				
	Job owner - indigenous	0	100	200				
	Job owner - young	0	100	400				
	3.2.2 Households reporting adoption of environmentally sustainable and climate-resilient technologies and practices				MIS, Outcome survey	Annual at Mid term	PMU	

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
	Total number of household members	0	20000	42000				
	Households	0	30	70				
	Women-headed households	0	3000	7000				
	Households	0	18000	42000				
	1.2.3 Households reporting reduced water shortage vis-à-vis production needs				Outcome survey	Annual at Mid term	PMU	
	Households	0	10	20				
Output 2.1 Climate resilient infrastructure for sustainable water usage and enhanced access to markets	2.1.5 Roads constructed, rehabilitated or upgraded				MIS	Annual	PMU	Provincial governments integrate other financial resources as co-financing for infrastructure investment. No major change in financial climate, lending terms Project financing is disbursed in time to support field implementation
	Length of roads	0	100	260				
	1.1.2 Farmland under water-related infrastructure constructed/rehabilitated				MIS	Annual	PMU	
	Hectares of land	0	8000	15000				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Output 2.2 Rural producers and enterprises access RF services for VC development	1.1.5 Persons in rural areas accessing financial services				MIS	Annual	PMU	Private investors are interested in investing in business opportunities in smallholders agriculture along conditions promoted by the programme Financial service providers remain interested to invest in project targeted value chains
	Total number of accesses to financial services							
	Women in rural areas accessing financial services - savings	0	6000	12000				
	Young people in rural areas accessing financial services - savings	0	3000	7000				
	Men in rural areas accessing financial services - savings	0	2000	5000				
	Indigenous people in rural areas accessing financial services - savings	0	1500	3000				
	Total persons accessing financial services - savings	0	8000	17000				
Output 2.3 Smallholder farmers invest in climate smart agriculture (CSAT)	3.1.1 Groups supported to sustainably manage natural resources and climate-related risks				MIS	Annual	PMU	Farm households Producer groups are interested in inclusive value chain, and are able to finance their part of the investment facility
	Groups supported	0	2500	4000				
	Males	0	12500	20000				
	Females	0	12500	20000				
	Young	0	9000	16000				
	Indigenous people	0	2500	6000				

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Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Project Design Report

Annex 2: Theory of change

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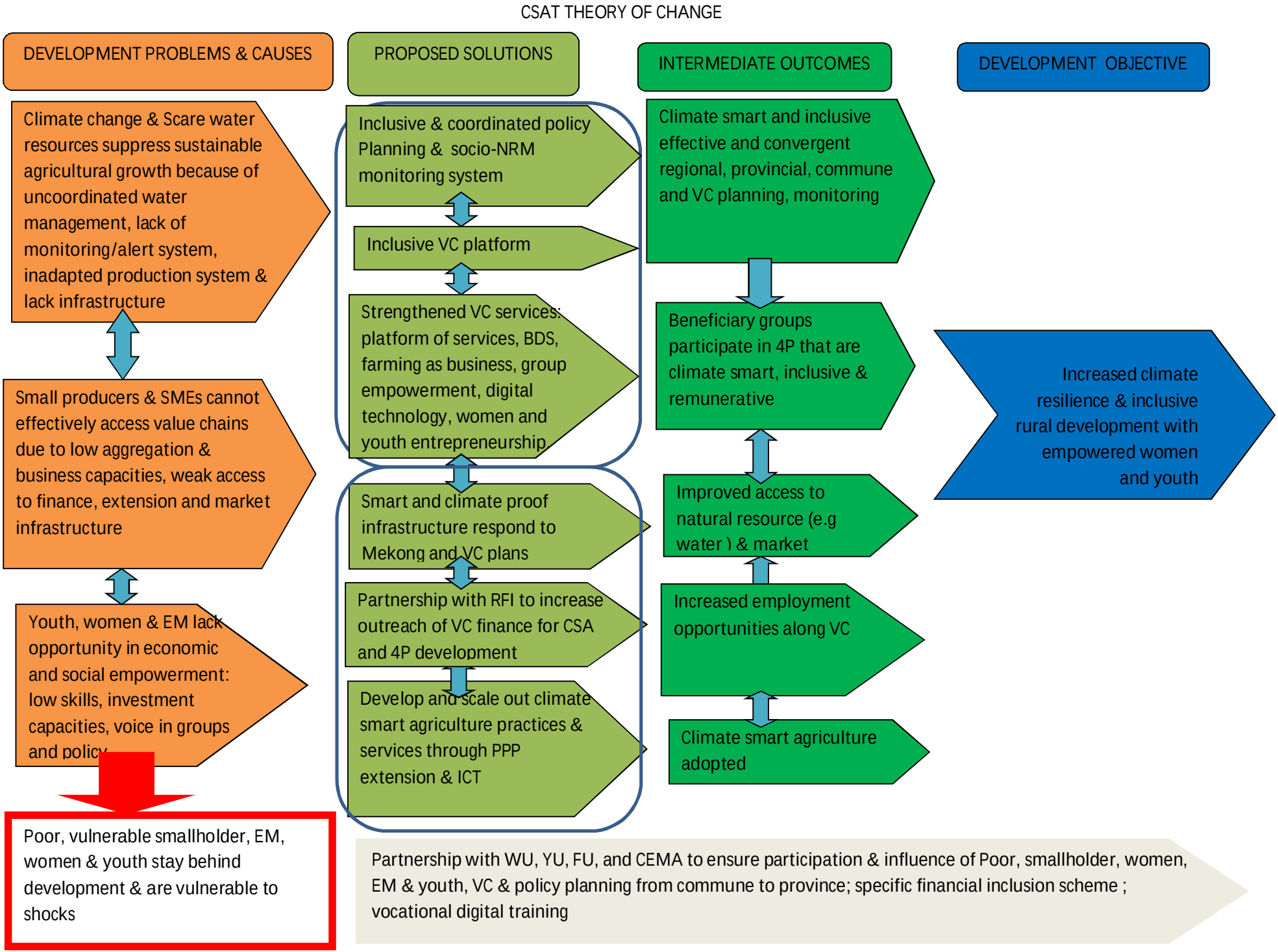
Project No.	2000002335
Report No.	5735-VN

Asia and the Pacific Division
Programme Management Department


CSAT THEORY OF CHANGE
DEVELOPMENT PROBLEMS & CAUSES
PROPOSED SOLUTIONS
INTERMEDIATE OUTCOMES
DEVELOPMENT OBJECTIVE
Climate change & Scare water resources suppress sustainable agricultural growth because of uncoordinated water management, lack of monitoring/alert system, inadapted production system & lack infrastructure
Small producers & SMEs cannot effectively access value chains due to low aggregation & business capacities, weak access to finance, extension and market infrastructure
Youth, women & EM lack opportunity in economic and social empowerment: low skills, investment capacities, voice in groups and policy
Poor, vulnerable smallholder, EM, women & youth stay behind development & are vulnerable to shocks
Inclusive & coordinated policy Planning & socio-NRM monitoring system
Inclusive VC platform
Strengthened VC services: platform of services, BDS, farming as business, group empowerment, digital technology, women and youth entrepreneurship
Smart and climate proof infrastructure respond to Mekong and VC plans
Partnership with RFI to increase outreach of VC finance for CSA and 4P development
Develop and scale out climate smart agriculture practices & services through PPP extension & ICT
Climate smart and inclusive effective and convergent regional, provincial, commune and VC planning, monitoring
Beneficiary groups participate in 4P that are climate smart, inclusive & remunerative
Improved access to natural resource (e.g water) & market
Increased employment opportunities along VC
Climate smart agriculture adopted
Increased climate resilience & inclusive rural development with empowered women and youth
Partnership with WU, YU, FU, and CEMA to ensure participation & influence of Poor, smallholder, women, EM & youth, VC & policy planning from commune to province; specific financial inclusion scheme ; vocational digital training

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Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Project Design Report

Annex 3: Project cost and financing: Detailed costs tables

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Project No.	2000002335
Report No.	5735-VN

Asia and the Pacific Division
Programme Management Department

Appendix 3. Project Cost and Financing

1. This appendix presents the methodology and results used to estimate project costs and financing for the Climate Smart Agriculture Transformation project in the Mekong River Delta Project. Project cost estimates were prepared using the software Costab, in line with IFAD guidelines for project costing.
2. The first part of the appendix presents the hypothesis regarding the project starting date, duration, prices, exchange rate, physical and price contingencies, expense categories and taxes. The second part of the appendix summarises the resulting costs and financing estimates.

Hypothesis for calculating project costs

3. Project costs include both investment costs and recurrent costs, both from in cash contributions and in kind contributions. The project costs are based on the following hypothesis.
    - The Project will be presented at the IFAD board in September 2021. It is expected that project activities will start in 2022 for a project duration of 5 years.
    - Cost estimates are based on costs from previous similar investment in Viet Nam,
    - The costs presented in the detailed tables are indicative and should be considered as envelopes per component, sub-component and activity. Even when specific quantities and unit costs are specified, the envelope for the window should be considered first and foremost. The detailed planning of project activities and budget will take place during project implementation.
    - The unit costs are inclusive of all taxes, including VAT and import duties where applicable.
    - Unit costs are based on observed market prices, including taxes which are a cost of the project.
    - The currencies used to estimate costs are the Vietnamese Dong (VND) and the United States Dollar (USD).
    - Price contingencies were added in order to account for local and foreign inflation. The price contingencies are automatically included by the software Costab on the basis of specified parameters.
        - For local prices, a price contingency rate of 4% per year was used, on the basis of International Monetary Fund (IMF) data on inflation rates in Viet Nam for 2020 (3.8%, actual data) and for 2021-2025 (4%, projections).
        - For international prices, a price contingency rate of 2% per year was used, on the basis of World Bank data on the Manufactures Unit Value Index (MUV) projecting inflation rates of 2% from 2021 onwards.
    - The exchange rate applying at the time of the design, in January 2021, was VND 23,129 VND per USD. While this exchange rate is expected to fluctuate during the implementation timeframe of the project, it is difficult to make a reliable forecast of exchange rate fluctuations. Therefore, the exchange rate of 23,129 VND per USD was used for the duration of the project.

- Expenditure categories were defined on the basis of the IFAD standard expenditure categories. Table 1 below presents the different expenditure categories, physical contingencies, and the percentage of foreign exchange, based mainly on previous project experience.

Table 1. Expenditure Categories

	Physical contingencies	Taxes	Foreign exchange
Equipment and materials	0%	10%	50%
Credit, guarantee funds	0%	0%	0%
grants and subsidies	0%	0%	0%
Works	7%	10%	0%
Consultancies			
studies	0%	10%	0%
TA	0%	0%	0%
Credit, guarantee funds	0%	0%	0%
workshops	0%	0%	0%
training	0%	0%	0%
vehicles	0%	20%	100%
operating costs	0%	10%	0%
salaries and allowances	0%	0%	0%

Project Costs

4. Total project costs. Total project costs are estimated at 136.4 million USD, corresponding to VND 3,154,408 million, over the five years implementation period. Physical contingencies amount to USD 3.2 million (corresponding to VND 74,045 million), 3% of project base costs, and price contingencies amount to USD 7.1 million (corresponding to VND 163,696 million), 6% of project base costs. Investment costs amount to USD 128.9 million (VND 2,982 billion), 95% of total project costs.
5. Project costs per component. Base costs per component are as follows (see Table 2): i) Component 1: Effective provincial and regional coordination for sustainable and inclusive rural transformation, USD 1.7 million (corresponding to VND 39,593 million), amounting to 1% of base costs; ii) Component 2: Inclusive and climate smart value chain established: USD 119.0 million (corresponding to VND 2,752,679 million), amounting to 94% of base costs; iii) Project management, USD 5.4 million (corresponding to VND 124,395 million, amounting to 4% of base costs.

Table 2. Project Base Costs per Component

Viet Nam
Climates Smart Agriculture and Transformation Project
Components Project Cost Summary

	(Local Million)			(US$ '000)			% Foreign	% Total Base
	Local	Foreign	Total	Local	Foreign	Total	Exchange	Costs
A. Effective provincial and regional coordination for sustainable and inclusive rural transformation								
1. Provincial and sectoral plans for the period 2021-2025 promote […] climate resilient VC development.	2,845	162	3,007	123	7	130	5	-
2. Value chain action planning (VCAP) for climate resilient, inclusive, and remunerative value chain investment.	1,598	104	1,702	69	5	74	6	-
3. Functioning of 4P multi-stakeholder platforms in support of priority value chains & Mekong Delta Plan	1,210	-	1,210	52	-	52	-	-
4. Enhanced Capacities for building inclusive value chains.	33,675	-	33,675	1,456	-	1,456	-	1
Subtotal	39,327	266	39,593	1,700	12	1,712	1	1
B. Inclusive and climate smart value chain established								
1. Climate resilient infrastructure for sustainable water usage and enhanced access to markets	1,111,024	-	1,111,024	48,036	-	48,036	-	38
2. Rural finance services support value chain development	1,622,990	93	1,623,082	70,171	4	70,175	-	56
3. Smallholder farmers adopt climate smart agriculture (CSA) for value chain development	18,249	324	18,573	789	14	803	2	1
Subtotal	2,752,262	416	2,752,679	118,996	18	119,014	-	94
C. Project management								
1. Project Management	122,082	2,313	124,395	5,278	100	5,378	2	4
Subtotal	122,082	2,313	124,395	5,278	100	5,378	2	4
Total BASELINE COSTS	2,913,671	2,995	2,916,667	125,975	130	126,104	-	100
Physical Contingencies	74,045	-	74,045	3,201	-	3,201	-	3
Price Contingencies	163,546	151	163,696	7,071	7	7,078	-	6
Total PROJECT COSTS	3,151,262	3,146	3,154,408	136,247	136	136,383	-	108

6. Project financing. Project financing will be as follows:

- IFAD loan, Tra Vinh: USD 26.0 million (VND 601 billion), amounting to 19.1% of project costs;
- IFAD loan, Ben Tre: USD 17.0 million (VND 393 billion), amounting to 12.5% of project costs;
- Counterpart financing Tra Vinh (cash): USD 5.8 million (VND 135 billion), amounting to 4.3% of project costs;
- Counterpart financing Ben Tre (cash) (VND 125 billion): USD 5.4 million, , amounting to 4.0% of project costs;
- Counterpart financing Tra Vinh (kind): USD 3.9 million (VND 90 billion), amounting to 2.8% of project costs;
- Counterpart financing Ben Tre (kind): USD 2.8 million (VND 64 billion), amounting to 2.0% of project costs;
- Beneficiaries, Tra Vinh: USD 2.8 million (VND 65 billion), amounting to 2.1% of project costs;
- Beneficiaries Ben Tre, USD 1.8 million (VND 41 billion), amounting to 1.3% of project costs;
- Financing institutions: USD 70.4 million (VND 1628 billion), amounting to 51.6% of project costs;
- The private sector: USD 0.5 million (VND 12 billion), amounting to 0.4% of project costs.

Table 3. Component by Financier, millions VND

(Local Million)

	IFAD loan, Tra Vinh		IFAD loan, Ben Tre		Counterpart Tra Vinh		Counterpart Ben Tre		Counterpart in kind- TV		Counterpart in kind-BT		Beneficiaries, TV		Beneficiaries, Ben Tre		Financing Institutions		Private sector		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Effective provincial and regiona																						
1. Provincial and sectoral plans for t	-	-	-	-	1,930	60.7	1,248	39.3	-	-	-	-	-	-	-	-	-	-	-	-	3,178	0.1
2. Value chain action planning (VCA	-	-	-	-	1,272	68.9	575	31.1	-	-	-	-	-	-	-	-	-	-	-	-	1,848	0.1
3. Functioning of 4P multi-stakeholde	-	-	-	-	837	63.3	486	36.7	-	-	-	-	-	-	-	-	-	-	-	-	1,324	-
4. Enhanced Capacities for building	-	-	-	-	4,054	11.7	18,650	53.6	-	-	-	-	-	-	-	-	-	-	12,060	34.7	34,764	1.1
Subtotal	-	-	-	-	8,094	19.7	20,959	51.0	-	-	-	-	-	-	-	-	-	-	12,060	29.3	41,112	1.3
B. Inclusive and climate smart valu																						
1. Climate resilient infrastructure for	601,135	45.1	393,197	29.5	66,793	5.0	43,689	3.3	73,627	5.5	47,952	3.6	64,956	4.9	41,342	3.1	-	-	-	-	1,332,691	42.2
2. Rural finance services support va	-	-	-	-	1,168	0.1	1,168	0.1	-	-	-	-	-	-	-	-	1,620,957	99.9	-	-	1,623,293	51.5
3. Smallholder farmers adopt climate	-	-	-	-	2,370	11.8	2,745	13.6	3,757	18.7	3,757	18.7	-	-	-	-	7,514	37.3	-	-	20,142	0.6
Subtotal	601,135	20.2	393,197	13.2	70,330	2.4	47,602	1.6	77,384	2.6	51,709	1.7	64,956	2.2	41,342	1.4	1,628,471	54.7	-	-	2,976,126	94.3
C. Project management																						
1. Project Management	-	-	-	-	56,430	41.1	56,430	41.1	12,154	8.9	12,154	8.9	-	-	-	-	-	-	-	-	137,169	4.3
Total PROJECT COSTS	601,135	19.1	393,197	12.5	134,855	4.3	124,991	4.0	89,538	2.8	63,863	2.0	64,956	2.1	41,342	1.3	1,628,471	51.6	12,060	0.4	3,154,408	100.0

Table 4. Component by Financier, thousands USD

(US$ '000)

	IFAD loan, Tra Vinh		IFAD loan, Ben Tre		Counterpart Tra Vinh		Counterpart Ben Tre		Counterpart in kind- TV		Counterpart in kind-BT		Beneficiaries, TV		Beneficiaries, Ben Tre		Financing Institutions		Private sector		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Effective provincial and regiona																						
1. Provincial and sectoral plans for t	-	-	-	-	83	60.7	54	39.3	-	-	-	-	-	-	-	-	-	-	-	-	137	0.1
2. Value chain action planning (VCA	-	-	-	-	55	68.9	25	31.1	-	-	-	-	-	-	-	-	-	-	-	-	80	0.1
3. Functioning of 4P multi-stakeholde	-	-	-	-	36	63.3	21	36.7	-	-	-	-	-	-	-	-	-	-	-	-	57	-
4. Enhanced Capacities for building	-	-	-	-	175	11.7	806	53.6	-	-	-	-	-	-	-	-	-	-	521	34.7	1,503	1.1
Subtotal	-	-	-	-	350	19.7	906	51.0	-	-	-	-	-	-	-	-	-	-	521	29.3	1,778	1.3
B. Inclusive and climate smart valu																						
1. Climate resilient infrastructure for	25,991	45.1	17,000	29.5	2,888	5.0	1,889	3.3	3,183	5.5	2,073	3.6	2,808	4.9	1,787	3.1	-	-	-	-	57,620	42.2
2. Rural finance services support va	-	-	-	-	50	0.1	50	0.1	-	-	-	-	-	-	-	-	70,083	99.9	-	-	70,184	51.5
3. Smallholder farmers adopt climate	-	-	-	-	102	11.8	119	13.6	162	18.7	162	18.7	-	-	-	-	325	37.3	-	-	871	0.6
Subtotal	25,991	20.2	17,000	13.2	3,041	2.4	2,058	1.6	3,346	2.6	2,236	1.7	2,808	2.2	1,787	1.4	70,408	54.7	-	-	128,675	94.3
C. Project management																						
1. Project Management	-	-	-	-	2,440	41.1	2,440	41.1	525	8.9	525	8.9	-	-	-	-	-	-	-	-	5,931	4.3
Total PROJECT COSTS	25,991	19.1	17,000	12.5	5,831	4.3	5,404	4.0	3,871	2.8	2,761	2.0	2,808	2.1	1,787	1.3	70,408	51.6	521	0.4	136,383	100.0

Table 5. Components by Year

Viet Nam
Climates Smart Agriculture and Transformation Project
Project Components by Year -- Totals Including Contingencies

	Totals Including Contingencies (Local Million)						Totals Including Contingencies (US$ '000)					
	2022	2023	2024	2025	2026	Total	2022	2023	2024	2025	2026	Total
A. Effective provincial and regional coordination for sustainable and inclusive rural transformation												
1. Provincial and sectoral plans for the period 2021-2025 promote [...] VC development.	1,880	269	419	326	283	3,178	81	12	18	14	12	137
2. Value chain action planning (VCAP) for climate resilient, inclusive, and remunerative value chain investment.	514	311	491	272	260	1,848	22	13	21	12	11	80
3. Functioning of 4P multi-stakeholder platforms in support of priority value chains & Mekong Delta Plan	366	233	232	241	251	1,324	16	10	10	10	11	57
4. Enhanced Capacities for building inclusive value chains.	9,595	9,038	8,367	7,059	704	34,764	415	391	362	305	30	1,503
Subtotal	12,355	9,851	9,510	7,899	1,498	41,112	534	426	411	341	65	1,778
B. Inclusive and climate smart value chain established												
1. Climate resilient infrastructure for sustainable w ater usage and enhanced access to markets	18,039	305,809	323,915	342,980	341,949	1,332,691	780	13,222	14,005	14,829	14,784	57,620
2. Rural finance services support value chain development	232,212	405,878	405,912	405,548	173,743	1,623,293	10,040	17,548	17,550	17,534	7,512	70,184
3. Smallholder farmers adopt climate smart agriculture (CSA) for value chain development	4,729	4,818	4,958	4,803	833	20,142	204	208	214	208	36	871
Subtotal	254,980	716,506	734,785	753,331	516,524	2,976,126	11,024	30,979	31,769	32,571	22,332	128,675
C. Project management												
1. Project Management	26,056	26,474	28,160	27,286	29,194	137,169	1,127	1,145	1,218	1,180	1,262	5,931
Subtotal	26,056	26,474	28,160	27,286	29,194	137,169	1,127	1,145	1,218	1,180	1,262	5,931
Total PROJECT COSTS	293,390	752,831	772,455	788,515	547,217	3,154,408	12,685	32,549	33,398	34,092	23,659	136,383

Table 6. Expenditure Category by Financier, thousands USD

(US$ '000)

	For. Exch.	Local (Excl. Taxes)	Duties & Taxes	IFAD loan, Tra Vinh		IFAD loan, Ben Tre		Counterpart Tra Vinh		Counterpart Ben Tre		Counterpart in kind- TV		Counterpart in kind-BT		Beneficiaries, TV		Beneficiaries, Ben Tre		Financing Institutions		Private sector		Total	
				Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs																									
A. Equipment and materials	3,146	2,643	643	-	-	-	-	143	51.4	135	48.6	-	-	-	-	-	-	-	-	-	-	-	-	278	0.2
B. Credit, Guarantee Funds	-	1,586,640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68,600	100.0	-	-	68,600	50.3
C. Grants and subsidies	-	33,491	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,448	100.0	-	-	1,448	1.1
D. Works	-	1,144,405	127,156	25,991	47.3	17,000	30.9	2,888	5.3	1,889	3.4	2,061	3.7	1,345	2.4	2,328	4.2	1,475	2.7	-	-	-	-	54,977	40.3
E. Consultancies																									
Studies	-	12,625	1,403	-	-	-	-	281	46.4	289	47.7	-	-	-	-	-	-	-	-	36	5.9	-	-	606	0.4
Technical assistance	-	30,117	-	-	-	-	-	295	22.7	339	26.0	162	12.5	162	12.5	-	-	-	-	325	24.9	18	1.4	1,302	1.0
Subtotal	-	42,741	1,403	-	-	-	-	576	30.2	628	32.9	162	8.5	162	8.5	-	-	-	-	361	18.9	18	1.0	1,909	1.4
F. w orkshops	-	7,194	799	-	-	-	-	117	33.9	149	43.1	-	-	-	-	-	-	-	-	0	-	80	23.1	346	0.3
G. Training	-	31,508	-	-	-	-	-	221	16.2	718	52.7	-	-	-	-	-	-	-	-	-	-	423	31.1	1,362	1.0
H. Vehicles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Investment Costs	3,146	2,848,623	130,001	25,991	20.2	17,000	13.2	3,945	3.1	3,519	2.7	2,224	1.7	1,508	1.2	2,328	1.8	1,475	1.1	70,408	54.6	521	0.4	128,919	94.5
II. Recurrent Costs																									
A. Operating costs	-	68,740	7,638	-	-	-	-	330	10.0	330	10.0	1,122	34.0	728	22.0	481	14.6	312	9.4	-	-	-	-	3,302	2.4
B. Salaries	-	96,260	-	-	-	-	-	1,555	37.4	1,555	37.4	525	12.6	525	12.6	-	-	-	-	-	-	-	-	4,162	3.1
Total Recurrent Costs	-	165,000	7,638	-	-	-	-	1,885	25.3	1,885	25.3	1,648	22.1	1,254	16.8	481	6.4	312	4.2	-	-	-	-	7,464	5.5
Total PROJECT COSTS	3,146	3,013,623	137,639	25,991	19.1	17,000	12.5	5,831	4.3	5,404	4.0	3,871	2.8	2,761	2.0	2,808	2.1	1,787	1.3	70,408	51.6	521	0.4	136,383	100.0

Table 7. Expenditure Category by Financier, million VND

(Local Million)

	IFAD loan, Tra Vinh		IFAD loan, Ben Tre		Counterpart Tra Vinh		Counterpart Ben Tre		Counterpart in kind- TV		Counterpart in kind-BT		Beneficiaries, TV		Beneficiaries, Ben Tre		Financing Institutions		Private sector		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs																						
A. Equipment and materials	-	-	-	-	3,303	51.4	3,129	48.6	-	-	-	-	-	-	-	-	-	-	-	-	6,432	0.2
B. Credit, Guarantee Funds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,586,640	100.0	-	-	1,586,640	50.3
C. Grants and subsidies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33,491	100.0	-	-	33,491	1.1
D. Works	601,135	47.3	393,197	30.9	66,793	5.3	43,689	3.4	47,676	3.7	31,113	2.4	53,834	4.2	34,125	2.7	-	-	-	-	1,271,561	40.3
E. Consultancies																						
Studies	-	-	-	-	6,510	46.4	6,691	47.7	-	-	-	-	-	-	-	-	826	5.9	-	-	14,028	0.4
Technical assistance	-	-	-	-	6,822	22.7	7,844	26.0	3,757	12.5	3,757	12.5	-	-	-	-	7,514	24.9	423	1.4	30,117	1.0
Subtotal	-	-	-	-	13,332	30.2	14,536	32.9	3,757	8.5	3,757	8.5	-	-	-	-	8,340	18.9	423	1.0	44,144	1.4
F. w orkshops	-	-	-	-	2,708	33.9	3,443	43.1	-	-	-	-	-	-	-	-	0	-	1,843	23.1	7,993	0.3
G. Training	-	-	-	-	5,118	16.2	16,595	52.7	-	-	-	-	-	-	-	-	-	-	9,794	31.1	31,508	1.0
H. Vehicles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Investment Costs	601,135	20.2	393,197	13.2	91,255	3.1	81,391	2.7	51,433	1.7	34,869	1.2	53,834	1.8	34,125	1.1	1,628,471	54.6	12,060	0.4	2,981,770	94.5
II. Recurrent Costs																						
A. Operating costs	-	-	-	-	7,624	10.0	7,624	10.0	25,951	34.0	16,840	22.0	11,122	14.6	7,217	9.4	-	-	-	-	76,378	2.4
B. Salaries	-	-	-	-	35,976	37.4	35,976	37.4	12,154	12.6	12,154	12.6	-	-	-	-	-	-	-	-	96,260	3.1
Total Recurrent Costs	-	-	-	-	43,600	25.3	43,600	25.3	38,105	22.1	28,994	16.8	11,122	6.4	7,217	4.2	-	-	-	-	172,638	5.5
Total PROJECT COSTS	601,135	19.1	393,197	12.5	134,855	4.3	124,991	4.0	89,538	2.8	63,863	2.0	64,956	2.1	41,342	1.3	1,628,471	51.6	12,060	0.4	3,154,408	100.0

Viet Nam
Climates Smart Agriculture and Transformation Project
Table 1.1. Provincial and sectoral plans for the period 2021-2025 promote [....] VC development.

Detailed Costs	Unit	Quantities						Unit Cost (Local)	Unit Cost (US$)	Totals Including Contingencies (US$)					
		2022	2023	2024	2025	2026	Total			2022	2023	2024	2025	2026	Total
I. Investment Costs															
A. Tra Vinh															
1. Review and update the provincial Socio Economic Development Plans (SEDP) in the medi															
Assessment of Climate Change and Disasters Risk Management and development of plan for 2021-2	lumpsum	1	-	-	-	-	1	69,387,000	3,000	3,060	-	-	-	-	3,060
Assessment of agricultural situation and development of plan	lumpsum	1	-	-	-	-	1	69,387,000	3,000	3,060	-	-	-	-	3,060
Assessment of industry and trade and development of plan	lumpsum	1	-	-	-	-	1	69,387,000	3,000	3,060	-	-	-	-	3,060
Assessment and development of district SEDP	District	8	-	-	-	-	8	34,693,500	1,500	12,240	-	-	-	-	12,240
Development of integrated provincial SEDP	lumpsum	1	-	-	-	-	1	92,516,000	4,000	4,080	-	-	-	-	4,080
Key stakeholder progress review & evaluation w orkshops	Each	1	1	1	1	1	5	11,564,500	500	510	530	552	574	597	2,762
Training needs assessment and subsequent capacity building	Lumpsum	1	-	-	-	-	1	69,387,000	3,000	3,060	-	-	-	-	3,060
Study tour of advanced SEDP or climate change planning provinces & lead CCA technical institutions	Each	1	-	1	-	-	2	34,693,500	1,500	1,530	-	1,655	-	-	3,185
Cross-visits, district & commune staff	Each	8	8	8	8	8	40	4,625,800	200	1,632	1,697	1,765	1,836	1,909	8,839
Technical assistance contract w ith national, lead CCA/SEDP/planning technical institution to support p	Lumpsum	1	-	-	-	-	1	117,957,900	5,100	5,202	-	-	-	-	5,202
Dissemination Provincial SEDP - publications, brochures, new spaper, radio programmes, etc.	lumpsum per year	1	1	1	1	1	5	46,258,000	2,000	2,029	2,088	2,148	2,211	2,275	10,751
Participation in national/regional dialogues, w orshops, events regarding planning and development	Each	5	5	5	5	5	25	13,877,400	600	3,060	3,182	3,310	3,442	3,580	16,574
Other assessments, studies on planning and development	each	3	-	2	2	-	7	23,129,000	1,000	3,060	-	2,206	2,295	-	7,561
Subtotal										45,583	7,498	11,636	10,357	8,361	83,435
B. Ben Tre															
1. Review and update the provincial Socio Economic Development Plans (SEDP) in the medi															
Assessment of climate change and Disasters Risk Management and development of plan for 2021-2	lumpsum	1	-	-	-	-	1	85,577,300	3,700	3,774	-	-	-	-	3,774
Assessment of agricultural situation and development of plan	lumpsum	1	-	-	-	-	1	69,387,000	3,000	3,060	-	-	-	-	3,060
Assessment of industry and trade and development of plan	lumpsum	1	-	-	-	-	1	69,387,000	3,000	3,060	-	-	-	-	3,060
Assesment and development of district SEDP	District	8	-	-	-	-	8	23,129,000	1,000	8,160	-	-	-	-	8,160
Development of integrated provincial SEDP	lumpsum	1	-	-	-	-	1	92,516,000	4,000	4,080	-	-	-	-	4,080
Key stakeholder progress review & evaluation w orkshops	Each	1	1	1	1	1	5	9,251,600	400	408	424	441	459	477	2,210
Training needs assessment and subsequent capacity building	Lumpsum	1	-	-	-	-	1	69,387,000	3,000	3,060	-	-	-	-	3,060
Study tour of advanced SEDP or Climate change planning provinces & lead CCA technical institutions	Each	1	-	1	-	-	2	23,129,000	1,000	1,020	-	1,103	-	-	2,123
Cross-visits, district & commune staff	Each	8	6	6	6	6	32	4,625,800	200	1,632	1,273	1,324	1,377	1,432	7,038
Technical assistance contract w ith national, lead CCA/SEDP/planning technical institution to support p	Lumpsum	1	-	-	-	-	1	92,516,000	4,000	4,080	-	-	-	-	4,080
Dissemination Provincial SEDP - publications, brochures, new spaper, radio programmes, etc.	lumpsum per year	1	1	1	1	1	5	18,503,200	800	812	835	859	884	910	4,300
Participation in national/regional dialogues, w orshops, events regarding planning and development	Each	5	5	5	3	3	21	6,938,700	300	1,530	1,591	1,655	1,033	1,074	6,883
Other assessments, studies on planning and development	each	1	-	1	-	-	2	23,129,000	1,000	1,020	-	1,103	-	-	2,123
Subtotal										35,696	4,124	6,486	3,753	3,893	53,951
Total										81,278	11,621	18,122	14,110	12,254	137,385

Viet Nam

Climates Smart Agriculture and Transformation Project

Table 1.2. Value chain action planning (VCAP) for climate resilient, inclusive, and remunerative value chain inv

Detailed Costs	Unit	Quantities						Unit Cost (Local)	Unit Cost (US$)	Totals Including Contingencies (US$)					
		2022	2023	2024	2025	2026	Total			2022	2023	2024	2025	2026	Total
I. Investment Costs															
A. Tra Vinh															
1. Value Chain Action Planning (VCAP)															
Technical assistance contract with national lead value chain technical institution to support process	Lumpsum	1	-	1	-	-	2	115,645,000	5,000	5,100	-	5,516	-	-	10,616
Capacity building for value chain planning and development	Lumpsum	1	1	-	-	-	2	23,129,000	1,000	1,020	1,061	-	-	-	2,081
Technical workshops, meetings for VCAP	Workshop	3	3	4	4	4	18	6,938,700	300	918	955	1,324	1,377	1,432	6,005
Study tour of advanced VC development provinces/institutions	Unit	4	4	4	4	4	20	23,129,000	1,000	4,080	4,243	4,413	4,589	4,773	22,099
Dissemination VCAP - publications, brochures, newspaper, radio programmes, etc.	Lumpsum	1	1	1	1	1	5	23,129,000	1,000	1,014	1,044	1,074	1,105	1,138	5,375
Cross-visits, district and communes staff	Visit	8	8	8	8	8	40	4,625,800	200	1,632	1,697	1,765	1,836	1,909	8,839
Subtotal										13,764	9,000	14,092	8,907	9,252	55,016
B. Ben Tre															
1. Value Chain Action Planning (VCAP)															
Technical assistance contract with national, lead value chain technical institution to support process	Lumpsum	1	-	1	-	-	2	76,325,700	3,300	3,366	-	3,641	-	-	7,007
Capacity building for value chain planning and development	Lumpsum	1	1	-	-	-	2	23,129,000	1,000	1,020	1,061	-	-	-	2,081
Technical workshops, meetings for VCAP	Workshop	2	2	2	1	1	8	6,938,700	300	612	636	662	344	358	2,613
Study tour of advanced VC development provinces/institutions	Unit	2	1	1	1	-	5	18,503,200	800	1,632	849	883	918	-	4,281
Dissemination VCAP - publications, brochures, newspaper, radio programmes, etc.	Lumpsum	1	1	1	1	1	5	18,503,200	800	812	835	859	884	910	4,300
Cross-visits, 4P members, district and communes staff	Visit	5	5	5	3	3	21	4,625,800	200	1,020	1,061	1,103	688	716	4,588
Subtotal										8,462	4,442	7,148	2,835	1,984	24,870
Total										22,226	13,442	21,240	11,742	11,236	79,886

Viet Nam
Climates Smart Agriculture and Transformation Project
Table 1.3. Functioning of 4P multi-stakeholder platforms in support of priority value cha

Detailed Costs	Unit	Quantities						Unit Cost (Local)	Unit Cost (US$)	Totals Including Contingencies (US$)					
		2022	2023	2024	2025	2026	Total			2022	2023	2024	2025	2026	Total
I. Investment Costs															
A. Tra Vinh															
1. Public Private Producer Partnerships (4P) platform established															
Formation of 4P plattform (guideline, manual, etc)	Lumpsum	1	-	-	-	-	1	69,387,000	3,000	3,060	-	-	-	-	3,060
Workshops, meetings for 4P members and partners	Lumpsum	10	10	10	10	10	50	6,938,700	300	3,060	3,182	3,310	3,442	3,580	16,574
Development and dissemination of training and other documents	Lumpsum	1	1	1	1	1	5	23,129,000	1,000	1,020	1,061	1,103	1,147	1,193	5,525
Cross-visits, 4P members, province, district, commune staff, & other partners	Visit	10	10	10	10	10	50	4,625,800	200	2,040	2,122	2,206	2,295	2,387	11,049
Subtotal										9,180	6,365	6,619	6,884	7,160	36,208
B. Ben Tre															
1. Public Private Producer Partnerships (4P) platform established															
Formation of 4P plattform (guideline, manual, etc)	Lumpsum	1	-	-	-	-	1	69,387,000	3,000	3,060	-	-	-	-	3,060
Workshops, meetings for 4P members and partners	Lumpsum	5	5	5	5	5	25	6,938,700	300	1,530	1,591	1,655	1,721	1,790	8,287
Development and disseminiation of training and other documents	Lumpsum	1	1	1	1	1	5	23,129,000	1,000	1,020	1,061	1,103	1,147	1,193	5,525
Cross-visits, 4P members, province, district, commune staff, & other partners	Visit	5	5	3	3	3	19	4,625,800	200	1,020	1,061	662	688	716	4,147
Subtotal										6,630	3,713	3,420	3,557	3,699	21,019
Total										15,810	10,078	10,039	10,441	10,859	57,227

Viet Nam
Climates Smart Agriculture and Transformation Project
Table 1.4. Enhanced capacities for building inclusive value chains

Detailed Costs	Unit	Quantities						Unit Cost (Local)	Unit Cost (US$)	Totals Including Contingencies (US$)					
		2022	2023	2024	2025	2026	Total			2022	2023	2024	2025	2026	Total
I. Investment Costs															
A. Tra Vinh															
1. Improve business linkages among value chain actors															
Policy dialogues for strengthening public policy environment	each	5	5	3	2	-	15	6,938,700	300	1,530	1,591	993	688	-	4,803
Value chain fairs/business matching events	Unit	3	3	3	3	-	12	13,877,400	600	1,836	1,909	1,986	2,065	-	7,797
Subtotal										3,366	3,501	2,979	2,754	-	12,599
2. Strengthening Business Development Services (BDS) and "farming as business"															
TA for capacity needs asessment and other studies	lumpsum	0.5	0.25	0.25	-	-	1	231,290,000	10,000	5,100	2,652	2,758	-	-	10,510
BDS coaching /a	session	30	30	30	12	10	112	9,251,600	400	12,240	12,730	13,239	5,507	4,773	48,489
Technical assistance and studies for BDS	lumpsum	3	3	2	-	-	8	34,693,500	1,500	4,590	4,774	3,310	-	-	12,673
Meetings/workshops for farming as business capacity building	workshop	40	40	40	-	-	120	9,251,600	400	16,320	16,973	17,652	-	-	50,945
Curriculum development and training for CGs/SCGs	unit	6	4	2	-	-	12	6,938,700	300	1,836	1,273	662	-	-	3,771
Subtotal										40,086	38,401	37,620	5,507	4,773	126,388
3. Empower, youth, women and ethnic minorities to engage in value chains															
Consultations for development of Gender Transformative Action Plan, Youth Sensitive Action Plan, a	Meeting	9	-	-	-	-	9	11,564,500	500	4,590	-	-	-	-	4,590
Tailored capacity building for women, youth and ethnic minorities	lumpsum	6	6	6	8	-	26	9,251,600	400	2,448	2,546	2,648	3,672	-	11,313
Meetings/workshops for women, youth, ethnic minority engagement	meeting	5	5	5	5	-	20	4,625,800	200	1,020	1,061	1,103	1,147	-	4,331
TA and other studies	lumpsum	3	-	-	-	-	3	23,129,000	1,000	3,060	-	-	-	-	3,060
Subtotal										11,118	3,607	3,751	4,819	-	23,295
4. Capacity building for value proposition and differentiation															
Meetings/workshops for value proposition and differentiation	meeting	25	20	10	5	5	65	6,938,700	300	7,650	6,365	3,310	1,721	1,790	20,835
Specific training for value proposition and differentiation	Training	10	10	10	5	-	35	9,251,600	400	4,080	4,243	4,413	2,295	-	15,031
TA and other studies	lumpsum	3	3	3	3	-	12	13,877,400	600	1,836	1,909	1,986	2,065	-	7,797
Subtotal										13,566	12,517	9,708	6,081	1,790	43,663
5. Develop local capacities for value chain infrastructure															
TA and studies on related climate smart infrastructure	lumpsum	10	10	5	5	5	35	5,782,250	250	2,550	2,652	1,379	1,434	1,492	9,507
Capacity building on the design and operations and maintenance of infrastructure	lumpsum	0.5	0.25	0.25	-	-	1	259,044,800	11,200	5,712	2,970	3,089	-	-	11,771
Subtotal										8,262	5,622	4,468	1,434	1,492	21,278
6. Develop a pool of inclusive value chain expertise															
Meetings/workshops/events for identification and development of pool of experts	meeting	20	10	10	5	5	50	2,312,900	100	2,040	1,061	1,103	574	597	5,374
Mobilisation of experts to value chain activities	lumpsum	15	20	20	20	20	95	3,469,350	150	2,295	3,182	3,310	3,442	3,580	15,809
Subtotal										4,335	4,243	4,413	4,016	4,176	21,183
Subtotal										80,733	67,891	62,939	24,611	12,231	248,405

B. Ben Tre															
1. Improve business linkages among value chain actors															
Policy dialogues for strengthening public policy environment	each	8	8	5	2	-	23	6,938,700	300	2,448	2,546	1,655	688	-	7,337
Value chain fairs/business matching events	Unit	5	3	3	5	5	21	13,877,400	600	3,060	1,909	1,986	3,442	3,580	13,977
Subtotal										5,508	4,455	3,641	4,131	3,580	21,314
2. Strengthening Business Development Services (BDS) and "farming as business"															
Business Development Services and Capacity Needs Assessment	Lumpsum	0.5	0.5	-	-	-	1	370,064,000	16,000	8,160	8,486	-	-	-	16,646
BDS coaching	session	40	40	40	42	-	162	9,251,600	400	16,320	16,973	17,652	19,276	-	70,220
Technical assistance and studies for BDS	lumpsum	5	5	5	-	-	15	34,693,500	1,500	7,650	7,956	8,274	-	-	23,880
Meetings/workshops for farming as business capacity building	unit	50	50	50	50	-	200	9,251,600	400	20,400	21,216	22,065	22,947	-	86,628
Curriculum development and training for CGs/SCGs	unit	14	12	2	-	-	28	6,938,700	300	4,284	3,819	662	-	-	8,765
Subtotal										56,814	58,450	48,653	42,223	-	206,140
3. Empower, youth, women and ethnic minorities to engage in value chains															
Consultations for development of Gender Transformative Action Plan, Youth Sensitive Action Plan, a	Meeting	9	-	-	-	-	9	11,564,500	500	4,590	-	-	-	-	4,590
Tailored capacity building for women, youth and ethnic minorities	lumpsum	20	20	14	14	-	68	9,251,600	400	8,160	8,486	6,178	6,425	-	29,250
Meetings/workshops for women, youth, ethnic minorityengagement	meeting	11	11	11	11	-	44	4,625,800	200	2,244	2,334	2,427	2,524	-	9,529
TA and other studies	lumpsum	8	6	4	-	-	18	23,129,000	1,000	8,160	6,365	4,413	-	-	18,938
Subtotal										23,154	17,185	13,018	8,949	-	62,307
4. Capacity building for value proposition and differentiation															
Meetings/workshops for value proposition and differentiation	meeting	20	20	10	10	-	60	6,938,700	300	6,120	6,365	3,310	3,442	-	19,237
Specific training for value proposition and differentiation	Training	10	10	10	5	-	35	9,251,600	400	4,080	4,243	4,413	2,295	-	15,031
TA and other studies	lumpsum	3	3	3	3	-	12	23,129,000	1,000	3,060	3,182	3,310	3,442	-	12,994
Subtotal										13,260	13,790	11,032	9,179	-	47,262
5. Develop local capacities for value chain infrastructure															
TA and studies on related climate smart infrastructure	lumpsum	10	10	5	5	5	35	5,782,250	250	2,550	2,652	1,379	1,434	1,492	9,507
Capacity building on the design, operations and maintenance of infrastructure	Lumpsum	0.5	0.25	0.25	-	-	1	568,973,400	24,600	12,546	6,524	6,785	-	-	25,855
Subtotal										15,096	9,176	8,164	1,434	1,492	35,362
6. Develop a pool of inclusive value chain expertise															
Meetings/workshops/events for identification and development of pool of experts	meeting	40	30	20	20	20	130	2,312,900	100	4,080	3,182	2,206	2,295	2,387	14,150
Mobilisation of experts to value chain activities	lumpsum	35	35	20	20	30	140	6,938,700	300	10,710	11,138	6,619	6,884	10,739	46,091
Subtotal										14,790	14,321	8,826	9,179	13,126	60,241
7. Other															
Lumpsum for additional training and capacity building	Lumpsum	0.25	0.25	0.25	0.25	-	1	19,012,038,000	822,000	205,500	205,500	205,500	205,500	-	822,000
Subtotal										334,122	322,878	298,833	280,595	18,197	1,254,625
Total										414,855	390,769	361,773	305,206	30,428	1,503,030

\a TOT and/or direct trainings

Viet Nam
Climates Smart Agriculture and Transformation Project
Table 2.1. Climate resilient infrastructure for sustainable water usage and enhancec

Detailed Costs	Unit	Quantities						Unit Cost (Local)	Unit Cost (US$)	Totals Including Contingencies (US$)					
		2022	2023	2024	2025	2026	Total			2022	2023	2024	2025	2026	Total
I. Investment Costs															
A. Tra Vinh															
1. Roads															
Design, supervision and other	km	40	40	40	40	-	160	93,900,000	4,060	177,236	184,326	191,699	199,367	-	752,628
Environmental and social assessment	km	40	40	40	40	-	160	37,560,000	1,624	70,895	73,730	76,680	79,747	-	301,051
Construction	km	-	40	40	40	40	160	1,878,000,000	81,197	-	3,686,515	3,833,976	3,987,335	4,146,828	15,654,653
Formation of user groups	km	-	40	40	40	40	160	93,900,000	4,060	-	184,326	191,699	199,367	207,341	782,733
Subtotal										248,131	4,128,897	4,294,053	4,465,815	4,354,169	17,491,065
2. Water infrastructure															
Design, supervision and other	Hectare	2,300	2,300	2,300	2,300	-	9,200	795,000	34	86,282	89,734	93,323	97,056	-	366,395
Environmental and social assessment	Hectare	2,300	2,300	2,300	2,300	-	9,200	318,000	14	34,513	35,893	37,329	38,822	-	146,558
Construction	Hectare	-	2,300	2,300	2,300	2,300	9,200	15,900,000	687	-	1,794,673	1,866,460	1,941,119	2,018,763	7,621,015
Formation of user groups	Hectare	-	2,300	2,300	2,300	2,300	9,200	795,000	34	-	89,734	93,323	97,056	100,938	381,051
Subtotal										120,795	2,010,034	2,090,435	2,174,053	2,119,702	8,515,019
3. Other															
Design, supervision and other	Lumpsum	0.25	0.25	0.25	0.25	-	1	6,237,000,000	269,661	73,577	76,520	79,581	82,764	-	312,443
Environmental and social assessment	Lumpsum	0.25	0.25	0.25	0.25	-	1	2,494,800,000	107,865	29,431	30,608	31,832	33,106	-	124,977
Construction	Lumpsum	-	0.25	0.25	0.25	0.25	1	124,740,000,000	5,393,229	-	1,530,404	1,591,620	1,655,285	1,721,497	6,498,807
Formation of user groups, where applicable	Lumpsum	-	0.25	0.25	0.25	0.25	1	6,237,000,000	269,661	-	76,520	79,581	82,764	86,075	324,940
Subtotal										103,008	1,714,053	1,782,615	1,853,920	1,807,572	7,261,167
Subtotal										471,934	7,852,984	8,167,103	8,493,787	8,281,443	33,267,251
B. Ben Tre															
1. Roads															
Design, supervision and other	km	25	25	25	25	-	100	93,900,000	4,060	110,773	115,204	119,812	124,604	-	470,392
Environmental and social assessment	km	25	25	25	25	-	100	37,560,000	1,624	44,309	46,081	47,925	49,842	-	188,157
Construction	km	-	25	25	25	25	100	1,878,000,000	81,197	-	2,304,072	2,396,235	2,492,084	2,591,768	9,784,158
Formation of user groups	km	-	25	25	25	25	100	93,900,000	4,060	-	115,204	119,812	124,604	129,588	489,208
Subtotal										155,082	2,580,561	2,683,783	2,791,134	2,721,356	10,931,915
2. Water infrastructure															
Design, supervision and other	Hectare	1,500	1,500	1,500	1,500	-	6,000	795,000	34	56,271	58,522	60,863	63,297	-	238,953
Environmental and social assessment	Hectare	1,500	1,500	1,500	1,500	-	6,000	318,000	14	22,508	23,409	24,345	25,319	-	95,581
Construction	Hectare	-	1,500	1,500	1,500	1,500	6,000	15,900,000	687	-	1,170,439	1,217,257	1,265,947	1,316,585	4,970,227
Formation of user groups	Hectare	-	1,500	1,500	1,500	1,500	6,000	795,000	34	-	58,522	60,863	63,297	65,829	248,511
Subtotal										78,780	1,310,892	1,363,327	1,417,861	1,382,414	5,553,273
3. Other															
Design, supervision and other	Lumpsum	0.25	0.25	0.25	0.25	-	1	4,487,590,774	194,024	52,940	55,057	57,259	59,550	-	224,806
Environmental and social assessment	Lumpsum	0.25	0.25	0.25	0.25	-	1	1,795,031,638	77,610	21,176	22,023	22,904	23,820	-	89,922
Construction	Lumpsum	-	0.25	0.25	0.25	0.25	1	89,751,862,200	3,880,490	-	1,101,143	1,145,189	1,190,997	1,238,637	4,675,966
Formation of user groups, where applicable	Lumpsum	-	0.25	0.25	0.25	0.25	1	4,487,590,774	194,024	-	55,057	57,259	59,550	61,932	233,798
Subtotal										74,115	1,233,281	1,282,612	1,333,916	1,300,568	5,224,492
Subtotal										307,977	5,124,733	5,329,722	5,542,911	5,404,338	21,709,681
Total Investment Costs										779,911	12,977,717	13,496,825	14,036,698	13,685,781	54,976,932
II. Recurrent Costs															
A. Tra Vinh, operations and maintenance of infrastructure															
1. Roads /a	km	-	40	80	120	160	400	46,950,000	2,030	-	86,134	179,158	279,486	387,554	932,331
2. Water infrastructures /b	Hectare	-	2,300	4,600	6,900	9,200	23,000	318,000	14	-	33,545	69,774	108,848	150,936	363,103
3. Other infrastructures /c	lumpsum	-	0.25	0.5	0.75	1	2.5	2,477,100,000	107,099	-	28,403	59,078	92,161	127,797	307,439
Subtotal										-	148,082	308,010	480,495	666,286	1,602,873
B. Ben Tre, operations and maintenance of infrastructure															
1. Roads /d	km	-	25	50	75	100	250	46,950,000	2,030	-	53,833	111,974	174,679	242,221	582,707
2. Water infrastructures /e	Hectare	-	1,500	3,000	4,500	6,000	15,000	318,000	14	-	21,877	45,505	70,988	98,436	236,806
3. Other infrastructures /f	lumpsum	-	0.25	0.5	0.75	1	2.5	1,777,400,000	76,847	-	20,380	42,390	66,129	91,698	220,597
Total Recurrent Costs										-	244,172	507,878	792,290	1,098,642	2,642,983
Total										779,911	13,221,889	14,004,704	14,828,988	14,784,423	57,619,915

\a 2.5% of construction costs per year
\b 2% of construction costs per year
\c 2% of construction costs per year
\d 2.5% of construction costs per year
\e 2% of construction costs per year
\f 2% of construction costs per year

Viet Nam
Climates Smart Agriculture and Transformation Project
Table 2.2. Rural finance services support value chain development.

Detailed Costs	Unit	Quantities						Unit Cost (Local)	Unit Cost (US$)	Totals Including Contingencies (US$)					
		2022	2023	2024	2025	2026	Total			2022	2023	2024	2025	2026	Total
I. Investment Costs															
A. Tra Vinh															
1. Enhance access to finance for producers and SMEs															
Outreach activities	Lumpsum	0.5	0.5	-	-	-	1	20,000	1	0	0	-	-	-	1
TA and support for business plan development /a	Lumpsum	0.25	0.25	0.25	0.25	-	1	763,257,000	33,000	8,415	8,752	9,102	9,466	-	35,734
Support to establishment, consolidation, and strengthenning of SCGs/CIGs	lumpsum	1	1	1	-	-	3	173,467,500	7,500	7,650	7,956	8,274	-	-	23,880
Women Development Fund, individual loans through SCG /b	Loan	-	1,077	1,077	1,077	1,077	4,308	30,067,700	1,300	-	1,400,100	1,400,100	1,400,100	1,400,100	5,600,400
Women Development Fund, SME loans /c	Loan	-	50	50	50	50	200	161,903,000	7,000	-	350,000	350,000	350,000	350,000	1,400,000
Farmer Support Fund /d	Loan	-	500	500	500	500	2,000	20,816,100	900	-	450,000	450,000	450,000	450,000	1,800,000
Collaborative credit groups /e	loan	-	150	150	150	150	600	80,951,500	3,500	-	525,000	525,000	525,000	525,000	2,100,000
SME support fund /f	Grant	-	13	13	13	13	52	323,806,000	14,000	-	182,000	182,000	182,000	182,000	728,000
Subtotal										16,065	2,923,808	2,924,476	2,916,566	2,907,100	11,688,015
2. Mobilise VC finance for enterprises															
Meetings,workshops at provincial, district, commune levels /g	Lumpsum	1	1	1	1	-	4	11,564,500	500	510	530	552	574	-	2,166
Study tours and cross visits	Lumpsum	1	-	-	-	-	1	46,258,000	2,000	2,040	-	-	-	-	2,040
Technical assistance and studies /h	Unit	1	-	-	-	-	1	6,938,700	300	306	-	-	-	-	306
Publications, brochures, newspapers, radio programme	Lumpsum	1	1	1	1	-	4	23,129,000	1,000	1,014	1,044	1,074	1,105	-	4,238
Enterprise loans from the Dutch Fund for Climate Change and Development /i	Loan	1	1	1	1	-	4	115,645,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	-	20,000,000
Subtotal										5,003,870	5,001,574	5,001,626	5,001,679	-	20,008,749
Subtotal										5,019,936	7,925,382	7,926,102	7,918,245	2,907,100	31,696,765
B. Ben Tre															
1. Enhance access to finance for producers and SMEs															
Outreach activities	Lumpsum	0.5	0.5	-	-	-	1	20,000	1	0	0	-	-	-	1
TA and support for business plan development /j	Lumpsum	0.25	0.25	0.25	0.25	-	1	763,257,000	33,000	8,415	8,752	9,102	9,466	-	35,734
Support to establishment, consolidation, and strengthenning of SCGs/CIGs	lumpsum	1	1	1	-	-	3	173,467,500	7,500	7,650	7,956	8,274	-	-	23,880
Women Development Fund, individual loans through SCG /k	Loan	-	1,846	1,846	1,846	1,846	7,384	30,067,700	1,300	-	2,399,800	2,399,800	2,399,800	2,399,800	9,599,200
Women Development Fund, SME loans /l	Loan	-	150	150	150	150	600	161,903,000	7,000	-	1,050,000	1,050,000	1,050,000	1,050,000	4,200,000
Farmer Support Fund /m	Loan	-	500	500	500	500	2,000	20,816,100	900	-	450,000	450,000	450,000	450,000	1,800,000
Collaborative credit groups /n	loan	-	150	150	150	150	600	80,951,500	3,500	-	525,000	525,000	525,000	525,000	2,100,000
Start-up Support Fund /o	Grant	-	40	40	40	40	160	104,080,500	4,500	-	180,000	180,000	180,000	180,000	720,000
Subtotal										16,065	4,621,508	4,622,176	4,614,266	4,604,800	18,478,815
2. Mobilise VC finance for enterprises															
Meetings,workshops at provincial, district, commune levels /p	Lumpsum	1	1	1	1	-	4	11,564,500	500	510	530	552	574	-	2,166
Study tours and cross visits	Lumpsum	1	-	-	-	-	1	46,258,000	2,000	2,040	-	-	-	-	2,040
Technical assistance and studies /q	Unit	1	-	-	-	-	1	6,938,700	300	306	-	-	-	-	306
Publications, brochures, newspapers, radio programme	Lumpsum	1	1	1	1	-	4	23,129,000	1,000	1,014	1,044	1,074	1,105	-	4,238
Enterprise loan from the Dutch Fund for Climate Change and Development /r	Loan	1	1	1	1	-	4	115,645,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	-	20,000,000
Subtotal										5,003,870	5,001,574	5,001,626	5,001,679	-	20,008,749
Subtotal										5,019,936	9,623,082	9,623,802	9,615,945	4,604,800	38,487,565
Total										10,039,872	17,548,465	17,549,903	17,534,190	7,511,900	70,184,329

\a for effective fund mobilisation and utilisation
\b WDF in TV hasa capital of 3.5 million USD. We assume 50% of this goes to CSAT beneficiaries/VCs. We further assume that 50% of these loans are for producers
\c WDF in TV has a capital of 3.5 million USD. We assume 50% of this goes to CSAT beneficiaries/VCs. We further assume that 50% of these loans are for SMEs
\d 900,000 USD available for capital in Tra Vinh, we assume only 50% go to CSAT beneficiaries
\e Loans to SMEs promoting Climate Smart Technology, by the Department of Industry and Trade. Capital of USD 350,000, and we assume that 50% go to CSAT beneficiaries
\f Loans to SMEs promoting Climate Smart Technology, by the Department of Industry and Trade. Capital of USD 350,000, and we assume that 50% go to CSAT beneficiaries
\g for fund mobilisation, dissemination, & marketing
\h for effective fund mobilisation and utilisation
\i The loans are for 5 million USD minimum
\j for effective fund mobilisation and utilisation
\k WDF in BT has a capital of 6 million USD. We assume 50% of this goes to CSAT beneficiaries/VCs. We further assume that 50% of these loans are for producers
\l WDF in BT has a capital of 6 million USD. We assume 50% of this goes to CSAT beneficiaries/VCs. We further assume that 50% of these loans are for SMEs
\m 900,000 USD available for capital in Ben Tre, we assume only 50% go to CSAT beneficiaries
\n Loans to SMEs promoting Climate Smart Technology, by the Department of Industry and Trade. Capital of USD 350,000, and we assume that 50% go to CSAT beneficiaries
\o by the Department of Planning and Investment. Capital of USD 360,000 available, and we assume that 50% goes to CSAT beneficiaries
\p for fund mobilisation, dissemination, & marketing
\q for effective fund mobilisation and utilisation
\r The loans are for 5 million USD minimum

Viet Nam
Climates Smart Agriculture and Transformation Project
Table 2.3. Smallholder farmers adopt climate smart agriculture (CSA) for value chain development

Detailed Costs	Unit	Quantities						Unit Cost (Local)	Unit Cost (US$)	Totals Including Contingencies (US$)					
		2022	2023	2024	2025	2026	Total			2022	2023	2024	2025	2026	Total
I. Investment Costs															
A. Tra Vinh															
1. Support to CSA identification and selection processes															
Support to CSA identification and selection processes	Lumpsum	1	1	-	-	-	2	69,387,000	3,000	3,060	3,182	-	-	-	6,242
Study tours and cross visits	Unit	1	-	1	-	-	2	46,258,000	2,000	2,040	-	2,206	-	-	4,246
CSA packaging /a	lumpsum	1	1	1	-	1	4	80,951,500	3,500	3,551	3,653	3,759	-	3,982	14,945
Subtotal										8,651	6,836	5,966	-	3,982	25,434
2. CSA dissemination															
Meetings,w orkshops at provincial, district, commune levels for CSA dissemination	Lumpsum	8	8	8	3	3	30	11,564,500	500	4,080	4,243	4,413	1,721	1,790	16,247
3. CSA investments															
Technical support to CSA investments (CIG administration, techniques for CSA, CSA replication, access to finance, etc)	Lumpsum	1	1	1	1	1	5	254,419,000	11,000	11,220	11,669	12,136	12,621	13,126	60,771
Training and extension for CSA investments	Lumpsum	0.25	0.25	0.25	0.25	-	1	13,877,400,000	600,000	153,000	159,120	165,485	172,104	-	649,709
Subtotal										164,220	170,789	177,620	184,725	13,126	710,480
Subtotal										176,951	181,868	187,999	186,446	18,898	752,161
B. Ben Tre															
1. Support to CSA identification and selection processes															
Support to CSA identification and selection processes	Lumpsum	1	1	-	-	-	2	69,387,000	3,000	3,060	3,182	-	-	-	6,242
Study tours and cross visits	Unit	1	-	1	-	-	2	46,258,000	2,000	2,040	-	2,206	-	-	4,246
CSA packaging /b	lumpsum	1	1	1	-	1	4	80,951,500	3,500	3,551	3,653	3,759	-	3,982	14,945
Subtotal										8,651	6,836	5,966	-	3,982	25,434
2. CSA dissemination															
Meetings,w orkshops at provincial, district, commune levels for CSA dissemination	Lumpsum	15	15	15	15	-	60	11,564,500	500	7,650	7,956	8,274	8,605	-	32,485
3. CSA investments															
Technical support to CSA investments (CIG administration, techniques for CSA, CSA replication, access to finance, etc)	Lumpsum	1	1	1	1	1	5	254,419,000	11,000	11,220	11,669	12,136	12,621	13,126	60,771
Training and extension for CSA investments	Lumpsum	0.25	0.25	0.25	0.25	-	1	13,877,400,000	600,000	153,000	159,120	165,485	172,104	-	649,709
Subtotal										164,220	170,789	177,620	184,725	13,126	710,480
Subtotal										180,521	185,581	191,860	193,330	17,108	768,400
Total										357,471	367,448	379,860	379,777	36,005	1,520,561

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\a publications, manuals, brochures, new spaper, radio programmes, etc
\b publications, manuals, brochures, new spaper, radio programmes, etc

Viet Nam
Climates Smart Agriculture and Transformation Project
Table 3. Coordination and management

Detailed Costs	Unit	Quantities						Unit Cost (Local)	Unit Cost (US$)	Totals Including Contingencies (US$)					
		2022	2023	2024	2025	2026	Total			2022	2023	2024	2025	2026	Total
I. Investment Costs															
A. Equipment and management support															
1. Monitoring and Evaluation															
Project baseline survey	Unit	1	-	-	-	-	1	578,225,000	25,000	25,500	-	-	-	-	25,500
Mid-term review survey	Unit	-	-	1	-	-	1	578,225,000	25,000	-	-	27,581	-	-	27,581
Impact survey	Unit	-	-	-	-	1	1	925,160,000	40,000	-	-	-	-	47,730	47,730
other thematic studies	Lumpsum	2	2	2	2	-	8	115,645,000	5,000	10,200	10,608	11,032	11,474	-	43,314
Subtotal										35,700	10,608	38,613	11,474	47,730	144,125
2. Office equipment															
Office equipment, various	Lumpsum	0.2	0.2	0.2	0.2	0.2	1	4,625,800,000	200,000	40,578	41,752	42,964	44,216	45,508	215,018
3. Audit															
Audit	Units	2	2	2	2	2	10	346,935,000	15,000	30,600	31,824	33,097	34,421	35,798	165,739
4. Technical Assistance															
National TA	Lumpsum	1	1	1	1	1	5	925,160,000	40,000	40,800	42,432	44,129	45,894	47,730	220,986
5. Trainings															
Training for PMU staff	lumpsum	1	1	1	-	-	3	462,580,000	20,000	20,400	21,216	22,065	-	-	63,681
Training for district staff	Lumpsum	1	1	1	-	-	3	693,870,000	30,000	30,600	31,824	33,097	-	-	95,521
Subtotal										51,000	53,040	55,162	-	-	159,202
6. Knowledge management															
Lumpsum for KM products or outreach	Lumpsum for KM products or outreach	8	8	8	8	8	40	69,387,000	3,000	24,480	25,459	26,478	27,537	28,638	132,592
Thematic workshops for cross-provincial KM	workshop	1	1	1	1	1	5	69,387,000	3,000	3,060	3,182	3,310	3,442	3,580	16,574
Subtotal										27,540	28,642	29,787	30,979	32,218	149,166
7. Policy development															
Policy development engagement	lumpsum	1	1	1	1	1	5	231,290,000	10,000	10,200	10,608	11,032	11,474	11,933	55,246
Total Investment Costs										236,418	218,906	254,785	178,457	220,917	1,109,482
II. Recurrent Costs															
A. Tra Vinh															
1. Salaries and allowance															
a. Full time officers at provincial level /a															
Director	Per month	12	12	12	12	12	60	22,400,000	968	11,854	12,328	12,822	13,334	13,868	64,206
Vice directors	Per month	24	24	24	24	24	120	22,400,000	968	23,708	24,657	25,643	26,669	27,735	128,412
Administrative staff	Per month	24	24	24	24	24	120	17,600,000	761	18,628	19,373	20,148	20,954	21,792	100,895
Chief accountant	Per month	12	12	12	12	12	60	22,400,000	968	11,854	12,328	12,822	13,334	13,868	64,206
Accountants	Per month	36	36	36	36	36	180	16,000,000	692	25,402	26,418	27,475	28,574	29,717	137,585
Cashier	Per month	12	12	12	12	12	60	16,000,000	692	8,467	8,806	9,158	9,525	9,906	45,862
M&E staff	Per month	36	36	36	36	36	180	16,000,000	692	25,402	26,418	27,475	28,574	29,717	137,585
Strategic management staff	Per month	156	156	156	156	156	780	16,000,000	692	110,075	114,478	119,057	123,819	128,772	596,201
Subtotal										235,391	244,806	254,599	264,783	275,374	1,274,952
b. Social contributions															
Director	Per month	12	12	12	12	12	60	4,928,000	213	2,608	2,712	2,821	2,934	3,051	14,125
Vice directors	Per month	24	24	24	24	24	120	4,928,000	213	5,216	5,424	5,641	5,867	6,102	28,251
Administrative staff	Per month	24	24	24	24	24	120	3,872,000	167	4,098	4,262	4,433	4,610	4,794	22,197
Chief accountant	Per month	12	12	12	12	12	60	4,928,000	213	2,608	2,712	2,821	2,934	3,051	14,125
Accountants	Per month	36	36	36	36	36	180	3,520,000	152	5,588	5,812	6,044	6,286	6,538	30,269
Cashier	Per month	12	12	12	12	12	60	3,520,000	152	1,863	1,937	2,015	2,095	2,179	10,090
M&E staff	Per month	36	36	36	36	36	180	3,520,000	152	5,588	5,812	6,044	6,286	6,538	30,269
Strategic management staff	Per month	156	156	156	156	156	780	3,520,000	152	24,216	25,185	26,193	27,240	28,330	131,164
Subtotal										51,786	53,857	56,012	58,252	60,582	280,489
c. Contributions to project management from existing district government offices /b															
Contributions to project management from existing government offices	Per month	110	110	110	110	110	550	20,000,000	865	97,021	100,902	104,938	109,135	113,501	525,497
Subtotal										384,198	399,566	415,548	432,170	449,457	2,080,939
2. Utilities and fuel (6500)															
Utilities	Lumpsum per month	12	12	12	12	12	60	6,000,000	259	3,175	3,302	3,434	3,572	3,715	17,198
Fuel	Lumpsum per month	12	12	12	12	12	60	3,000,000	130	1,588	1,651	1,717	1,786	1,857	8,599
Others	Lumpsum per year	1	1	1	1	1	5	9,000,000	389	397	413	429	446	464	2,150
Subtotal										5,160	5,366	5,581	5,804	6,036	27,947
3. Communications (6600)															
Communications	lumpsum per month	12	12	12	12	12	60	10,000,000	432	5,292	5,504	5,724	5,953	6,191	28,663
4. Meetings (6650)															
Meetings	lumpsum	1	1	1	1	1	5	23,000,000	994	1,014	1,055	1,097	1,141	1,187	5,494
5. Travel (6700)															
Travel	Lumpsum	1	1	1	1	1	5	400,000,000	17,294	17,640	18,346	19,080	19,843	20,637	95,545
6. Rental costs, 6750															
Office rental	Lumpsum	1	1	1	1	1	5	100,000,000	4,324	4,410	4,586	4,770	4,961	5,159	23,886
7. Asset maintainance (6900)															
Car maintenance	Lumpsum per year	4	4	4	4	4	20	30,000,000	1,297	5,292	5,504	5,724	5,953	6,191	28,663
Other	Lumpsum per year	1	1	1	1	1	5	150,000,000	6,485	6,615	6,880	7,155	7,441	7,739	35,829
Subtotal										11,907	12,383	12,879	13,394	13,930	64,493
8. Others, 7750															
Others	Lumpsum	1	1	1	1	1	5	350,000,000	15,133	15,435	16,053	16,695	17,362	18,057	83,602
Subtotal										445,056	462,859	481,373	500,628	520,653	2,410,569

B. Ben Tre															
1. Salaries and allowance															
a. Full time officers at provincial level /c															
Director	Per month	12	12	12	12	12	60	22,400,000	968	11,854	12,328	12,822	13,334	13,868	64,206
Vice directors	Per month	24	24	24	24	24	120	22,400,000	968	23,708	24,657	25,643	26,669	27,735	128,412
Administrative staff	Per month	24	24	24	24	24	120	17,600,000	761	18,628	19,373	20,148	20,954	21,792	100,895
Chief accountant	Per month	12	12	12	12	12	60	22,400,000	968	11,854	12,328	12,822	13,334	13,868	64,206
Accountants	Per month	36	36	36	36	36	180	16,000,000	692	25,402	26,418	27,475	28,574	29,717	137,585
Cashier	Per month	12	12	12	12	12	60	16,000,000	692	8,467	8,806	9,158	9,525	9,906	45,862
M&E staff	Per month	36	36	36	36	36	180	16,000,000	692	25,402	26,418	27,475	28,574	29,717	137,585
Strategic management staff	Per month	156	156	156	156	156	780	16,000,000	692	110,075	114,478	119,057	123,819	128,772	596,201
Subtotal										235,391	244,806	254,599	264,783	275,374	1,274,952
b. Social contributions															
Director	Per month	12	12	12	12	12	60	4,928,000	213	2,608	2,712	2,821	2,934	3,051	14,125
Vice directors	Per month	24	24	24	24	24	120	4,928,000	213	5,216	5,424	5,641	5,867	6,102	28,251
Administrative staff	Per month	24	24	24	24	24	120	3,872,000	167	4,098	4,262	4,433	4,610	4,794	22,197
Chief accountant	Per month	12	12	12	12	12	60	4,928,000	213	2,608	2,712	2,821	2,934	3,051	14,125
Accountants	Per month	36	36	36	36	36	180	3,520,000	152	5,588	5,812	6,044	6,286	6,538	30,269
Cashier	Per month	12	12	12	12	12	60	3,520,000	152	1,863	1,937	2,015	2,095	2,179	10,090
M&E staff	Per month	36	36	36	36	36	180	3,520,000	152	5,588	5,812	6,044	6,286	6,538	30,269
Strategic management staff	Per month	156	156	156	156	156	780	3,520,000	152	24,216	25,185	26,193	27,240	28,330	131,164
Subtotal										51,786	53,857	56,012	58,252	60,582	280,489
c. Contributions to project management from existing government offices /d															
Contributions to project management from existing government teams	Per month	110	110	110	110	110	550	20,000,000	865	97,021	100,902	104,938	109,135	113,501	525,497
Subtotal										384,198	399,566	415,548	432,170	449,457	2,080,939
2. Utilities and fuel (6500)															
Utilities	Lumpsum per month	12	12	12	12	12	60	6,000,000	259	3,175	3,302	3,434	3,572	3,715	17,198
Fuel	Lumpsum per month	12	12	12	12	12	60	3,000,000	130	1,588	1,651	1,717	1,786	1,857	8,599
Others	Lumpsum per year	1	1	1	1	1	5	9,000,000	389	397	413	429	446	464	2,150
Subtotal										5,160	5,366	5,581	5,804	6,036	27,947
3. Communications (6600)															
Communications	lumpsum per month	12	12	12	12	12	60	10,000,000	432	5,292	5,504	5,724	5,953	6,191	28,663
4. Meetings (6650)															
Meetings	lumpsum	1	1	1	1	1	5	23,000,000	994	1,014	1,055	1,097	1,141	1,187	5,494
5. Travel (6700)															
Travel	Lumpsum	1	1	1	1	1	5	400,000,000	17,294	17,640	18,346	19,080	19,843	20,637	95,545
6. Rental costs, 6750															
Office rental	Lumpsum	1	1	1	1	1	5	100,000,000	4,324	4,410	4,586	4,770	4,961	5,159	23,886
7. Asset maintainance (6900)															
Car maintenance	Lumpsum per year	4	4	4	4	4	20	30,000,000	1,297	5,292	5,504	5,724	5,953	6,191	28,663
Other	Lumpsum per year	1	1	1	1	1	5	150,000,000	6,485	6,615	6,880	7,155	7,441	7,739	35,829
Subtotal										11,907	12,383	12,879	13,394	13,930	64,493
8. Others, 7750															
Others	Lumpsum	1	1	1	1	1	5	350,000,000	15,133	15,435	16,053	16,695	17,362	18,057	83,602
Subtotal										445,056	462,859	481,373	500,628	520,653	2,410,569
Total Recurrent Costs										890,113	925,717	962,746	1,001,256	1,041,306	4,821,138
Total										1,126,531	1,144,623	1,217,531	1,179,713	1,262,223	5,930,620

\a Allowance amounts to 100% of salary, included in unit costs
\b assuming about 5 people per district, at 20%
\c Allowance amounts to 100% of salary, included in unit cost
\d assuming about 5 people per district, at 20%

IFAD
Investing in rural people

Viet Nam

Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Project Design Report

Annex 4: Economic and Financial Analysis

Document Date:	26/07/2021
Project No.	2000002335
Report No.	5735-VN

Asia and the Pacific Division
Programme Management Department

CSAT Economic and Financial Analysis

Introduction

This appendix summarises the methodology and results of the Economic and Financial Analysis prepared for the design of the Project Climate Smart Agriculture Transformation in the Mekong River Delta, Viet Nam. This project will be financed by an IFAD loan of USD 43 million over a period of 5 years. Total project costs, including in kind co-financing, amount to USD 136.4 million.

The appendix is structured as follows. First, the different models representing the costs and benefits of project investments and activities are described. Second, the appendix goes on to describe the methodology and results of the financial analysis, followed by the methodology and results of the economic analysis. Third, the appendix presents some of the limitations of the analysis and some sensitivity analyses. At the end of the appendix, the assumptions behind each model are presented more systematically in tables.

To quantify the benefits of the project, activity models were prepared to represent the main investments enabled by the project and their associated benefits. For each model, a without-project (WOP) situation is compared to a with-project (WP) situation. In the WOP situation, we consider the situation of beneficiaries without the project intervention while in the WP situation we model the benefits of the project investments for the beneficiaries. A model is considered profitable if the beneficiaries can derive more profits following the project investments.

The models here are structured around the infrastructure investments in Component 2.1. A total of 13 infrastructure investments were modelled, and each is associated to a specific value chain and province. Each model only focuses on one value chain, but some infrastructures are modelled for several value chains to estimate how returns on investment differ from one value chain to another. For instance, water management infrastructures are particularly profitable for crops that are more vulnerable to salinity intrusion, and roads are more profitable for crops that are more prone to losses during transportation or crops grown in more isolated areas, such as coconut, because there is more room to reduce transport costs. In practice, one infrastructure is likely to serve a mix of value chains.

The infrastructures can be classified in three main categories, rural roads, water infrastructures and other infrastructures. A few models were prepared for each category, with a focus on the more significant investments. The expected benefits of the roads are mostly reduced transportation costs, which leads to reduced production costs and an increase in market prices and in some cases an increase in production area. The second category of infrastructure are water infrastructures, which seek to improve water management and in particular manage the risks of salinity intrusion caused by the lack of fresh water. The salinity intrusion episodes are a consequence of droughts, which become more frequent and severe with climate change. However, uses of the Mekong River upstream also result in reduced volumes of water downstream, which further exacerbates potential salinity intrusion. The models on water infrastructure focus on improved resilience, reduced losses associated to the risks of salinity intrusion caused by drought, but they do not capture the long-term decrease in yields from upstream activities. The third category of infrastructures are a mix of other infrastructures for production and processing. Some of these have indirect benefits (for example, centres for seed testing, salinity and water monitoring points), while others will

have more direct benefits (for instance, cold storage rooms, medium-low voltage electricity lines).

Expected benefits from the other components include supporting the adequate planning of infrastructure investments, in particular in terms of maximising its economic impact but also adequate targeting of certain beneficiary groups, improved capacity along the value chain for climate smart agriculture practices, improved capacity for infrastructure operations and maintenance, improved access to finance and job creation resulting from all project investments. These components will reach the beneficiaries of Component 2.1 as well as 20,000 additional beneficiary households who will benefit from access to finance and climate smart dissemination (SCs 2.2 and 2.3) and job creation along the value chains. These benefits were not modelled due to the difficulty of reliably estimating these more indirect benefits. The Excel EFA file nonetheless presents the assumptions used to estimate the logframe targets pertaining to these components.

A lot of the models are based on the findings of the Project for Adaption to Climate Change in the Mekong Delta in Ben Tre and Tra Vinh Provinces (AMD), which was completed in 2020[1]. All models based on the AMD Project Completion Report (PCR) models are likely to underestimate the impact of interventions, because data in 2019-2020 were affected by the drought and saline intrusion of 2019-2020. In particular, evidence on infrastructure leading to productivity decreases in a few models (e.g. shrimp for the road model in Tra Vinh) reflect the salinity episode more than the impact of the infrastructure. The AMD models were also from the point of view of producers, so they do not include benefits from other agents in the value chain. Where possible and available, the data from the AMD findings were complemented by data provided by the project design team and information available online. The excel file provides more information on the sources of different data point and assumptions.

Figure 1 below presents the EFA models and parameters on the catchment area in the WP situation and households per model. At the end of the appendix, tables summarise the benefits and assumptions behind each model. Each infrastructure is assumed to have a specific catchment area and the number of beneficiaries per model is estimated based on the typical plot size for the specific value chain.

[1] As part of the AMD project, data were collected before infrastructure projects were built and about a year after the infrastructure projects were handed over to communities. The AMD Project Completion Report Economist used the different data sets to construct infrastructure models. In some cases, the data allowed for isolating the impact of a specific infrastructure (e.g. rice areas that only received road investments), while in other cases, the model might reflect several investments.

Figure 1. Modelled infrastructures

Infrastructure	VC	Province	Catchment Area	Hectare per HH	HH per model
Road	Black tiger shrimp	Tra Vinh	94	1.0	94
Road	Rice	Tra Vinh	90	1.0	90
Road and embankment	Rice	Tra Vinh	50	1.0	50
Sluice gate	Rice	Tra Vinh	50	1.0	50
Sluice gate	shift from rice to shift production	Tra Vinh	50	1.0	50
Road	Black tiger shrimp	Ben Tre	87	1.0	87
Road	Fruits, durian	Ben Tre	87	0.5	174
Road	Coconut	Ben Tre	89	1.0	89
Road and embankment	Seedlings	Ben Tre	50	0.5	100
Road and embankment	Fruits, durian	Ben Tre	50	0.5	100
Road and embankment	Coconut	Ben Tre	50	1.0	50
Sluice Gate	Coconut	Ben Tre	50	1.0	50
Sluice gate	shift from rice to shift production	Ben Tre	50	1.0	50

Financial Analysis

Methodology

For the financial analysis, each model compares the costs and benefits of the beneficiaries' activity with project and without project. In the financial analysis, models include all the costs, valued at market prices, whether they are borne by the project beneficiaries or the project. Hence, the costs of construction of infrastructures is included in the financial model, even if it are not borne by producers and/or the community. In the case of rice, which is a staple crop in addition to being a cash crop, the value of production consumed by households is presented in the crop budget but is valued at market price.

Figure 2 summarise the cost per unit of production and productivity for the models, in the situation with project. It is important to note however that the benefits of models are not systematically productivity increases, and that most investments result in different small incremental benefits, detailed for each model at the end of this appendix.

Figure 2. Production parameters of models, with-project

Production parameters, with project					
Model			Unit, notes	Cost of prod. Per unit	Gross yield/ha/year
Road	Black tiger shrimp	Tra Vinh	Kg	76,756	1,500
Road	Rice	Tra Vinh	Kg, 2 crops/year	4,231	11,360
Road and embankment	Rice	Tra Vinh	Kg, 2 crops/year	4,231	11,166
Sluice gate	Rice	Tra Vinh	Kg, 2 crops/year	4,295	11,166
Sluice gate	Rice => rice and. shrimp	Tra Vinh	Kg, only one cycle	76,756	350
Road	Black tiger shrimp	Ben Tre	Kg	82,298	1,478
Road	Fruits, durian	Ben Tre	Kg	7,764	15,500
Road	Coconut	Ben Tre	Coconut	1,414	9,474
Road and embankment	Seedlings	Ben Tre	Seedling	1,097	140,000
Road and embankment	Fruits, durian	Ben Tre	Kg	9,776	17,000
Road and embankment	Coconut	Ben Tre	Coconut	1,541	9,600
Sluice Gate	Coconut	Ben Tre	Coconut	1,541	9,600
Sluice gate	Rice => rice and b.t. shri	Ben Tre	Kg, only one cycle	74,069	350

Family labour requirements are presented in the crop budgets and added in the models whenever an incremental change is expected as a result of the project. Hence, they are added and valued in all the models where the cropped area changes or there is a change in the type

of crop. The opportunity cost of labour is valued at 120,000 VND per day, while hired labour is valued at 150,000 VND per day.

For all the models, the investment is expected to take place in year 1 of the model, and benefits only start accruing from year 2 onwards. The financial models are carried out over a period of 20 year, although some infrastructures are expected to have longer term benefits[2]. A discount rate of 10% was used for discounting the stream of incremental benefits.

Results

The financial analysis shows that, with a few exceptions discussed below, the project proposed investments are very profitable (see Figure 3). The Net Present Value (NPV) per investment is highest for the road and embankment infrastructure for seedlings production, with a Net Present Value (NPV) of 408,117 USD and an Internal Rate of Return (IRR) of 133%. While this result in surprisingly high, it is based on evidence from the AMD project (see table at the end of the appendix for the benefits). The models for water management with tree crops are also very profitable. Once the plantation/orchard has reached maturity and the investment costs for orchards are sunk, which will be true in several production areas in the two provinces, it is extremely profitable to invest in infrastructure to protect the plantations and future production from salinity[3]. In fact, these models do not capture the fact that salinity intrusion might damage crops over the long term, so they under-estimate the benefits of the water management.

Two models have negative results. Both models are models for water management for the rice value chain in Tra Vinh, the sluice gate and the embankment. Water management investments for rice are less profitable because rice production is characterised by a rather low margin per kilo, and costs further increase when the costs of salinity protection (through infrastructure) are added. Hence, the sales value is too low to cover the infrastructure costs and the costs of production.

Figure 3. Financial Results

Financial results

Model			NPV@10%, million VND	NPV, USD	NPV, USD, per hectare	NPV, USD, per HH	IRR
Road	Black tiger shrimp	Tra Vinh	7,546	326,793	3,482	3,482	57%
Road	Rice	Tra Vinh	131	5,692	63	63	11%
Road and embankment	Rice	Tra Vinh	- 953	- 41,276	- 826	- 826	#NUM!
Sluice gate	Rice	Tra Vinh	- 1,003	- 43,436	- 869	- 869	#NUM!
Sluice gate	Rice => rice and. shrimp	Tra Vinh	1,072	46,432	929	929	24%
Road	Black tiger shrimp	Ben Tre	5,814	251,787	2,889	2,889	47%
Road	Fruits, durian	Ben Tre	3,430	148,540	1,705	852	32%
Road	Coconut	Ben Tre	3,383	146,518	1,648	1,648	32%
Road and embankment	Seedlings	Ben Tre	9,423	408,117	8,162	4,081	133%
Road and embankment	Fruits, durian	Ben Tre	2,453	106,260	2,125	1,063	43%
Road and embankment	Coconut	Ben Tre	3,914	169,532	3,391	3,391	62%
Sluice Gate	Coconut	Ben Tre	1,816	78,667	1,573	1,573	43%
Sluice gate	Rice => rice and b.t. shri	Ben Tre	1,968	85,219	1,704	1,704	40%

[2] For instance, 50 years for sluice sand sluice gates and for the Centre for environment and natural resource monitoring and testing

[3] In the models, the plantation costs are assumed to be spread over the production years, through depreciation costs. This is equivalent to assuming an average age for the plantations/orchards. In practice, the profitability of the model would differ significantly based on the age of the orchard/plantation. It would be very profitable in areas where plantations and orchards have just reached maturity, and less profitable in areas with older plantations/orchards that require replacement or in areas where new plantations/orchards are planned.

In almost all the models, the margins per household increase with project compared to the without project situation. The increase in the margin per household is most important for the road and embankment with seedling model, due to the high profitability of the model overall (reduced losses and improved access to market for a high value crop). The road models with shrimp are also very profitable, because producers obtain better prices on the shrimps and increase their sales while production costs remain constant. Shrimps are also high value crops so decreasing losses and increasing access to market is particularly profitable. The margins per household decrease for the road and embankment model for rice production and the sluice gate for rice production, because of the negative margin on rice production[4]

Figure 4. Financial models, household perspective

Financial results							
Model			HH per model	Margin per HH, WOP, USD	Margin per HH, WP, USD	Additional margin per HH, USD	% increase in margin per HH
Road	Black tiger shrimp	Tra Vinh	94	2,635	3,200	566	21%
Road	Rice	Tra Vinh	90	31	160	129	420%
Road and embankment	Rice	Tra Vinh	50	- 101	- 106	- 5	5%
Sluice gate	Rice	Tra Vinh	50	- 120	- 156	- 36	30%
Sluice gate	Rice => rice and. shrimp	Tra Vinh	50	- 187	61	248	-133%
Road	Black tiger shrimp	Ben Tre	87	3,681	4,179	498	14%
Road	Fruits, durian	Ben Tre	174	3,114.16	3,287	172	6%
Road	Coconut	Ben Tre	89	1,855	2,128	273	15%
Road and embankment	Seedlings	Ben Tre	100	4,276	4,854	578	14%
Road and embankment	Fruits, durian	Ben Tre	100	3,086	3,274	188	6%
Road and embankment	Coconut	Ben Tre	50	1,669	2,209	540	32%
Sluice Gate	Coconut	Ben Tre	50	1,616	1,895	280	17%
Sluice gate	Rice => rice and b.t. shri	Ben Tre	50	- 184	139	323	-175%

Economic Analysis

The economic analysis compares the situation with-project to the situation without-project, similarly to the financial analysis. The additional benefits are the benefits attributed to the project. The analysis is done using a discount rate of 7%, which is higher than the long-term Vietnamese bonds[5].

Methodology

Economic prices were computed by removing taxes, subsidies and other transfers. A shadow exchange rate was computed using the formula below. All the economic models are based on economic prices, which were computed using the conversion factors presented in Figure 6. All the costs are included in the economic models, including family labour costs.

Figure 5 - Computation of the Shadow Exchange Rate

$$SER = OER \cdot \frac{\left[(M + Tm) + (X - Tx)\right]}{(M + X)}$$

[4] This negative margin is consistent with the fact that producers are abandoning rice production for other crops. It should however be noted that margin is positive if labour costs are excluded.

[5] https://www.investing.com/rates-bonds/vietnam-government-bonds

Figure 6 - Conversion Factors

	Financial price/index	Economic price/index	Conversion factor
Import substitute or import, VAT free	1.0	1.0	1.0
Import substitute or import, with VAT	1.0	0.9	0.9
Export good	1.0	1.0	1.0
Non-tradable, VAT free	1.0	1.0	1.0
Tradable, with VAT	1.0	0.9	0.9
Infrastructure	1.0	0.9	0.9
Labour	1.0	0.9	0.9
Labour opportunity cost	1.0	1.0	1.0
FX	23,090	23,463	1.0

The aggregation of benefits was phased based on the project Costab (see Figure 7). Because the allocation of infrastructure among specific infrastructures and value chain is likely to vary, with one area covering several value chains, each infrastructure was allocated equally across all the modelled value chain. The investments in water infrastructure for rice were excluded, since the financial analysis showed that these investments are not profitable. Furthermore, there were no models for fruit and coconut in the case of Tra Vinh due to lack of sufficient data specific to the province, so these value chains were represented through the models based on Ben Tre data.

Figure 7. Phasing of investments

Infrastructure	VC	Province	Unit	2022	2023	2024	2025	2026	Total
Phasing, Tra Vinh									
Total road			km		40	40	40	40	160
Road	Black tiger shrimp	Tra Vinh	km	-	10	10	10	10	40
Road	Rice	Tra Vinh	km	-	10	10	10	10	40
Road	Fruits, durian	Ben Tre	km	-	10	10	10	10	40
Road	Coconut	Ben Tre	km	-	10	10	10	10	40
Total water infrastructure			km		2300	2300	2300	2300	9200
Road and embankment	Rice	Tra Vinh	ha	-	-	-	-	-	-
Road and embankment	Fruits, durian	Ben Tre	ha	-	575	575	575	575	2,300
Road and embankment	Coconut	Ben Tre	ha	-	575	575	575	575	2,300
Sluice gate	Rice	Tra Vinh	ha	-	-	-	-	-	-
Sluice Gate	Coconut	Ben Tre	ha	-	575	575	575	575	2,300
Sluice gate	Rice => rice and. shrimp	Tra Vinh	ha	-	575	575	575	575	2,300
Phasing, Ben Tre									
Total road			km		25	25	25	25	100
Road	Black tiger shrimp	Ben Tre	km	-	8	8	8	8	33
Road	Fruits, durian	Ben Tre	km	-	8	8	8	8	33
Road	Coconut	Ben Tre	km	-	8	8	8	8	33
Total water infrastructure			km		1500	1500	1500	1500	6000
Road and embankment	Seedlings	Ben Tre	ha	-	250	250	250	250	1,000
Road and embankment	Fruits, durian	Ben Tre	ha	-	250	250	250	250	1,000
Road and embankment	Coconut	Ben Tre	ha	-	250	250	250	250	1,000
Sluice Gate	Coconut	Ben Tre	ha	-	375	375	375	375	1,500
Sluice gate	Rice => rice and b.t. shri	Ben Tre	ha	-	375	375	375	375	1,500

The phasing for the aggregation of models is based on the catchment area per model, using an adoption rate of 80% for most models (see Figure 8). This is a rather high adoption rate, but it was deemed adequate given that the models' main additional cost is the infrastructure, which is not borne by beneficiaries. The sustainability of investments is also expected to be high, as the project will provide sufficient support to ensure adequate operations and maintenance of infrastructure, and the assumptions on the lifespan of the different infrastructures were rather conservative on average, as noted above. For the model modelling a shift from rice to shrimp production, a lower adoption rate of 70% was assumed, because

the with-project situation is rather labour intensive and the shift to shrimp production requires technical training[6].

Figure 8. Phasing of models with adoption rate

Phasing, Tra Vinh			adoption rate		Phasing of activity models				
Road	Black tiger shrimp	Tra Vinh	80%	-	8	8	8	8	32
Road	Rice	Tra Vinh	80%	-	8	8	8	8	32
Road	Fruits, durian	Ben Tre	80%	-	8	8	8	8	32
Road	Coconut	Ben Tre	80%	-	8	8	8	8	32
Road and embankment	Rice	Tra Vinh	80%	-	-	-	-	-	-
Road and embankment	Fruits, durian	Ben Tre	80%	-	10	10	10	10	40
Road and embankment	Coconut	Ben Tre	80%	-	10	10	10	10	40
Sluice gate	Rice	Tra Vinh	80%	-	-	-	-	-	-
Sluice Gate	Coconut	Ben Tre	80%	-	10	10	10	10	40
Sluice gate	Rice => rice and. shrimp	Tra Vinh	70%	-	8	8	8	8	32
Phasing, Ben Tre									
Road	Black tiger shrimp	Ben Tre	80%	-	6	6	6	6	24
Road	Fruits, durian	Ben Tre	80%	-	6	6	6	6	24
Road	Coconut	Ben Tre	80%	-	6	6	6	6	24
Road and embankment	Seedlings	Ben Tre	80%	-	4	4	4	4	16
Road and embankment	Fruits, durian	Ben Tre	80%	-	4	4	4	4	16
Road and embankment	Coconut	Ben Tre	80%	-	4	4	4	4	16
Sluice Gate	Coconut	Ben Tre	80%	-	6	6	6	6	24
Sluice gate	Rice => rice and b.t. shri	Ben Tre	70%	-	6	6	6	6	24

Following the aggregation of benefits, incremental costs not otherwise included in the models were added to the final flow of additional benefits, using a standard conversion factor of 0.9. In addition, it was assumed that there were additional costs of about USD 300,000 per year from 2027 onwards, to carry on some of the CSAT activities beyond the project closure.

The economic analysis is carried over a period of 23 years, to capture each investment's benefits over its 20-years lifespan. The lifespan of each infrastructure remains 20 years.

From an outreach perspective, it is important to note that the beneficiaries might overlap from one value chain to another. The plot sizes are estimated per value chain in the model, while in practice producers would have larger plot sizes and grow a few different crops. For the outreach assumptions, it was assumed that one household would be reached for 1.2 hectares of infrastructure.

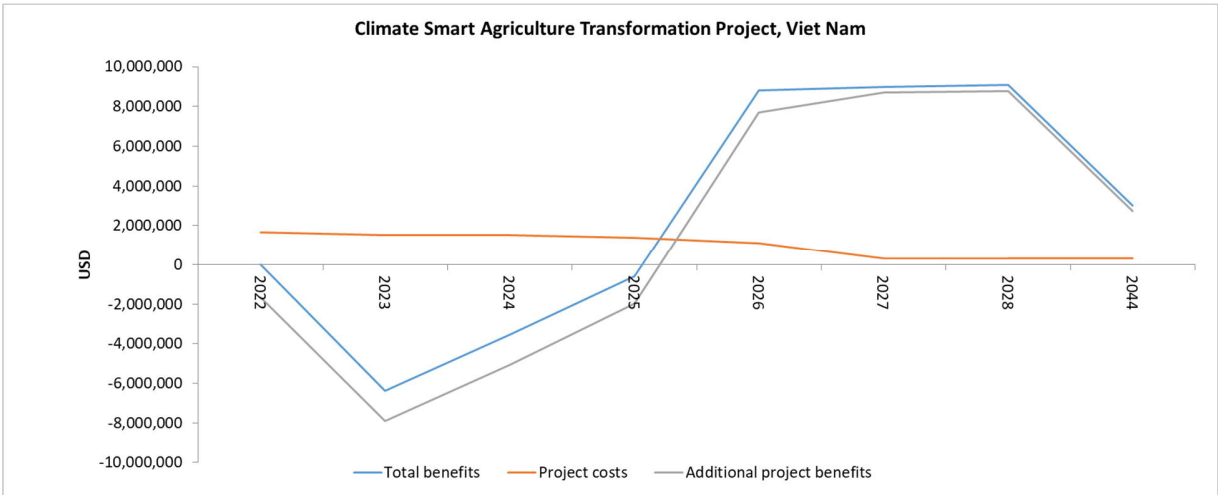
Results

Based on the methodology above, the returns on investment for CSAT are very substantial, with an NPV of USD 52 million, corresponding to VND 1,208 billion. The Economic Internal Rate of Return is 32.1%.

The results per province are aligned with the costs of investment per province. The flow of benefits from the investments in Tra Vinh amount to 56% of benefits, while the flow of benefits from the investments in Ben Tre amount to 44% of benefits. The results are comparatively lower for Tra Vinh because the roads were allocated to the rice value chain among other value chains and, while the returns are profitable for the road investments with rice, they are not as profitable as for other crops.

[6] In addition, the model assumes that only 80% of producers shift to shrimp production in the model

Figure 9. Project costs, benefits and incremental benefits



Limitations and Sensitivity Analysis

Limitations of the analysis

The methodology for the economic and financial analysis comprises several limitations including:

- The EFA is very much focused on the beneficiaries of infrastructure in Component 2.1 The models also depend on beneficiaries having access to project services provided in other components, such as the training in Component 1.2 and 2.3 and, in some cases, access to finance supported in Component 2.2. However, the EFA does not model beneficiaries that will benefit exclusively from the other components. This methodological choice is argued on the basis that the IFAD loan is focused on Component 2.1, and that the benefits of other components are more indirect and difficult to model on their own. Component 2.1 beneficiaries represent 75% of the project outreach, the beneficiaries who receive the most substantial investments and 100% of beneficiaries from the IFAD loan.
- For component 2.1, insufficient data were available to model all project investments, and in particular some of the infrastructures with more indirect impact, such as the centres for monitoring salinity.
- With one exception (shift from rice to shrimp cultivation), the models do not assume a change in crops, which might happen in some cases as a response to climate change.
- As noted above, each infrastructure model is assumed to only target one value chain, and the value chain mix is only done at the level of the economic analysis. This allows the financial analysis to draw conclusions on the differences in profitability across different value chains, but catchment areas in practice might mix several crops/value chains.
- The profitability of water management models is highly dependent on the catchment area of the model. Hence, the profitability of models in practice will depend on good planning regarding the geolocation of investments and the landscaping approach.
- The models on water management are based on an average scenario whereby 25% of production is impacted on average, on the basis of a drought every 4 years. This does

not capture the wide range of potential drought scenarios, although a scenario approach is used in some models through some sensitivity analysis below.

Finally, it is important to note that this EFA focuses on the financial and economic benefits of the investment. It does not mean that investments should be chosen on the sole basis of maximising returns.

Financial analysis

For the financial analysis, a sensitivity analysis was conducted on some models. Firstly, as a point of comparison, for models in which some of the AMD assumptions were modified for the CSAT investments, the same model is presented using AMD assumptions to provide a basis for comparison. This is the case for the Ben Tre models for road and coconut and for road and embankment for fruits and coconut.

For the coconut models on road and road and embankment, using the AMD PCR findings results in the models not being profitable. These negative results stem from data showing that the sales prices for coconut increased by less than 1% in both models, despite the investment in the road and the embankment. This small price increase is likely to reflect the effect of the drought and salinity intrusion episode of 2019, which led to smaller coconuts with lower sales price. In contrast, the value chain analysis conducted prior to the design notes that high transport costs are a problem for coconuts, with a difference between the farm gate price and the factory door price of VND 2500 per fruit. Hence, the main CSAT models assumes an increase in coconut sales prices of 8% as a result of the road, which corresponds to about VND 500 per coconut (a bit less for lower quality coconuts).

For the AMD model on road and embankment for fruit in Ben Tre, the results for the AMD model are higher than for the CSAT model, with an IRR of 102%. The main reason for the higher IRR in the AMD model is that losses with-project were lower than those assumed in the CSAT model. Hence, the CSAT model is more conservative.

Figure 10. Financial results of additional models

Financial results

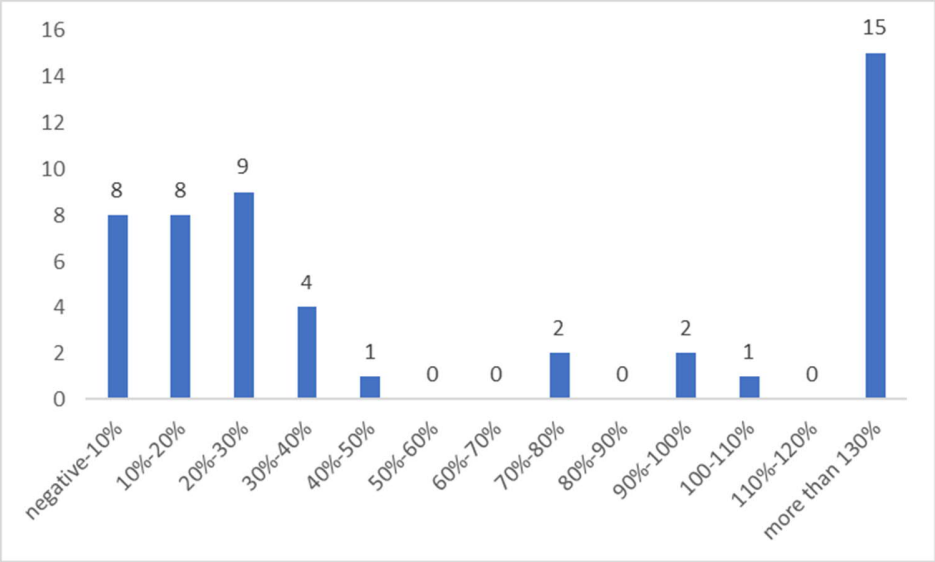
Model				NPV@10%, million VND	NPV, USD	NPV, USD, per hectare	NPV, USD, per HH	IRR
Road and embankment	Rice	Tra Vinh	prob. Model	- 608	- 26,311	- 526	- 526	-3%
Road	Coconut	Ben Tre	AMD	- 412	- 17,863	- 201	NA	7%
Road and embankment	Fruits, durian	Ben Tre	prob. Model	3,954	171,228	3,425	1,712	53%
Road and embankment	Fruits, durian	Ben Tre	AMD	6,947	300,857	6,017	NA	102%
Road and embankment	Coconut	Ben Tre	prob. Model	9,675	418,998	8,380	8,380	252%
Road and embankment	Coconut	Ben Tre	AMD	- 1,148	- 49,723	- 357	NA	3%

In addition to the comparison with the AMD, sensitivity analyses were conducted for some water management models to observe how the results differ based on the different possible scenarios for the occurrence of droughts. For the main models, it is assumed that there is a drought and salinity intrusion every 4 years, but the impact of the drought are distributed equally across all project years with a weight of 25%. In the sensitivity analyses, the models generate different benefits for each year based on whether it is a drought year or not, with a 25% probability of drought each year.

The results vary significantly with the distribution of droughts for some models. For the model on embankment and road for fruits in Ben Tre, the IRRs range from negative to 292% for 50 different scenarios of drought patterns based on a yearly probability of drought of 25%. In most cases, as in the average scenario used for the main CSAT analysis, the model is

profitable. In fact, as Figure 11 shows, there were only 8 instances out of the 50 simulations where the IRR was below 10%, the discount rate for the financial analysis. In the 43 other scenarios, the IRR were above the discount rate. As a general rule, the investments are more profitable in scenarios where there are more droughts and in scenarios where droughts occur early on in the project life, when benefits are less discounted.

Figure 11. Distribution of IRRs for a simulation of 50 embankment and road models, fruits, Ben Tre



For the model on embankment and road for rice, Tra Vinh, across 25 different scenarios of drought patterns, the IRRs vary significantly less, ranging from -12.7% to 8.8%. The results are however all below the discount rate of 10%.

Nonetheless, it is important to note that the model has positive results with different assumptions on how much of the catchment area is affected by salinity, and how much of the affected areas sees a loss of production. Hence, the profitability of the investment would depend on factors such as the location of the catchment area (the more areas are affected by salinity the more profitable the investment), but also the uptake of alternative and/or complementary solutions such as salinity resistant seeds.

Economic analysis

For the economic analysis, the sensitivity analysis reveals that the project remains positive in all scenarios envisaged, including a reduction of project benefits of 25%, an increase in project costs of 25% and a delay of project benefits of 2 years.

Figure 12. Sensitivity Analysis

	Δ%		NPV, million USD	IRR
Baseline scenario			52.3	32.1%
Costs increase of	10%	Delayed implementation of activities, unexpected inflation	51.5	31.1%
Cost increase of	25%		50.3	29.7%
Decrease in benefits of	10%	Stronger than expected exreme weather events, fluctuation in commodity prices	46.3	31.0%
Decrease in benefits of	25%		37.2	29.0%
Delay of 1 year in benefits		Delay in project start or VC planning, delay in counterpart funds,	47.8	29.4%
Delay of 2 years in benefits			42.1	25.9%

Summary of Assumptions per Model

Road, rice, Tra Vinh	% change	Explanation
Change in production areas	3.3%	Reduced transport costs/increased access
Change in production costs	-2%	Reduced transport costs
Change in productivity	0.4%	
Change in sales price	2%	Increased access to markets
Change in losses	-60%, from 2% to 5%	Improved road quality
Non-modelled benefits		
Sources of data	AMD PCR EFA	

Road, shrimp, Tra Vinh	% change	Explanation
Change in production areas	8%	Reduced transport costs/increased access
Change in production costs		
Change in productivity	-4%	AMD data specificity
Change in sales price	3%	Increased access to markets
Change in losses	-25%, from 10% to 8%[7]	Improved road quality
Non-modelled benefits		
Sources of data	AMD PCR EFA	

Road and embankment, rice, Tra Vinh	% change	Explanation
Change in production areas		
Change in production costs	-1%	Reduced transport costs, but no evidence
Change in productivity		AMD data specificity
Change in sales price	2%	Increased access to markets
Change in losses	-50%	Reduced losses from salinity intrusion
Non-modelled benefits	Producers sometimes invest more in crops due to reduced salinity intrusion risks, which increases yields	
Sources of data	AMD PCR EFA	

[7] AMD data reported that losses fell from 15% to 5%, but a more conservative reduction was assumed here, using the data from Ben Tre.

Sluice gate, rice, Tra Vinh	% change	Explanation
Change in production areas	167%.	30% of producers growing a second rice crop with salinity intrusion risks, increases to 80% once the risk is managed
Change in production costs		
Change in productivity		
Change in sales price		
Change in losses	-38%	Overall decrease in rice losses of 38%, due to reduced losses during salinity episodes every 4 years (from 50% to 20% on 50% of areas)
Non-modelled benefits	Producers sometimes invest more in crops due to reduced salinity intrusion risks, which increases yields	
Sources of data	Assumptions for the losses and increases in production area, AMD PCR for decreased production costs	

Sluice gate, rice => shrimps, Tra Vinh	% change	Explanation
Change in production areas	-20%	Reduced production area to accommodate for shrimp production
Change in production costs	-42% for rice 12% increase overall[8]	Decrease cost of rice production because producers reduce pesticide and fertilizer use, but shrimp production is labour and input intensive so overall increase in costs
Change in productivity	NA	
Change in sales price	NA	
Change in losses	-38%	Overall decrease in rice losses of 38%, due to reduced losses during salinity episodes every 4 years (from 50% to 20% on 50% of areas)
Non-modelled benefits	Environmental positive and negative externalities	
Sources of data	Various (AMD PCR for production costs of shrimp, literature)	

[8] Including the opportunity cost of family labour

Road, black tiger shrimp, Ben Tre	% change	Explanation
Change in production areas		
Change in production costs		
Change in productivity		
Change in sales price	3%	Road leads to increased price due to reduced transportation costs
Change in losses	-25%, from 10% to 8%	Road reduces losses during transportation
Non-modelled benefits		
Sources of data	Evidence from the AMD PCR	

Road, fruits (durian), Ben Tre	% change	Explanation
Change in production areas		
Change in production costs	-1%	Due to reduced transport costs
Change in productivity		
Change in sales price	2%	Road leads to increased price due to reduced transportation costs
Change in losses	-2%, from 24% to 23.5%	Road reduces losses during transportation
Non-modelled benefits		
Sources of data	Evidence from the AMD PCR	

Road, coconuts, Ben Tre	% change	Explanation
Change in production areas	2%	Easier access
Change in production costs		
Change in productivity	1%	
Change in sales price	8%	Road leads to increased price due to reduced transportation costs
Change in losses		
Other	Road also allows for the sale of coconut leaves	
Non-modelled benefits		
Sources of data	Evidence from the AMD PCR and the pre-design value chain report	

Road and embankment, seedlings, Ben Tre	% change	Explanation
Change in production areas		
Change in production costs	-3%	From the AMD PCR, due to lower transportation costs
Change in productivity	3%	Improved water management
Change in sales price	5%	Due to lower transportation costs
Change in losses		
Non-modelled benefits		
Sources of data	AMD PCR	

Road and embankment, fruits, Ben Tre	% change	Explanation
Change in production areas		
Change in production costs	25%	From the AMD data. It might be because producers invest more in their orchard due to reduced risks of losses.
Change in productivity	10%	
Change in sales price	2%	Reduced transportation costs
Change in losses, drought years	-60%	Assumption that 75% of fruits are lost when salinity hits (in 50% of catchment area). This decreases to 30% of fruits with the infrastructure.
Change in losses, other losses	-0%	
Non-modelled benefits	The fruit trees are assumed to survive and recover from the salinity intrusion episodes, while in practice many fruit trees would die or effects of salinity might last several years	
Sources of data	AMD PCR and articles on salinity intrusion	

Road and embankment, coconut, Ben Tre	% change	Explanation
Change in production areas		
Change in production costs	9%	From AMD PCR, evidence that producers invested more in production (so had higher production costs) due to reduced risks
Change in productivity	2%	See above
Change in sales price	8%	Reduced transportation costs
Change in losses, drought years	-75%	Assumption that 40% of fruits are lost when salinity hits (in 80% of catchment area[9]). This decreases to 10% of fruits with the infrastructure.
Change in losses, other losses	0%	Remain at 2%, as per AMD PCR road model
Other	During salinity intrusion episode, 80% of coconuts are smaller and have a lower sales price in the without project situation. With the infrastructure, only 20% of coconuts are smaller and fetch the lower price. Road also allows for the sale of coconut leaves	
Non-modelled benefits	The trees are assumed to recover from salinity episodes the next year, while in practice effects might last longer term	
Sources of data	AMD PCR, articles on salinity intrusion and discussions with experts	

[9] Coconut plantations are more likely to be in salinity-prone areas compared to fruit orchards, because they are more resistant to salinity. This is why the share of area affected is greater than for fruits, but losses are lesser.

Sluice gate, coconut, Ben Tre	% change	Explanation
Change in production areas		
Change in production costs	9%	From AMD PCR, evidence that producers invested more in production (so had higher production costs) due to reduced risks
Change in productivity	2%	See above
Change in sales price		
Change in losses, drought years	-75%	Assumption that 40% of fruits are lost when salinity hits (in 80% of catchment area[10]). This decreases to 10% of fruits with the infrastructure.
Change in losses, other losses	0%	Remain at 2%
Non-modelled benefits	The trees are assumed to recover from salinity episodes the next year, while in practice effects might last longer term	
Other	During salinity intrusion episode, 80% of coconuts are smaller and have a lower sales price (80% lower) in the without project situation. With the infrastructure, only 20% of coconuts are smaller and fetch the lower price.	
Sources of data	AMD PCR, articles on salinity intrusion and discussions with experts	

Sluice gate, rice => shrimps, Ben Tre	% change	Explanation
Change in production areas	-20%	Reduced production area to accommodate for shrimp production
Change in production costs	-42% for rice 20% increase overall	Decrease cost of rice production because producers reduce pesticide and fertilizer use, but shrimp production is labour and input intensive so overall increase in costs
Change in productivity	NA	
Change in sales price	NA	
Change in losses	-40%	Overall decrease in rice losses of 40%, due to reduced losses during salinity episodes every 4 years (from 50% to 20% on 60% of areas)
Non-modelled benefits	Environmental positive and negative externalities	
Sources of data	Various (AMD PCR for production costs of shrimp, literature)	

[10] Coconut plantations are more likely to be in salinity-prone areas compared to fruit orchards, because they are more resistant to salinity. This is why the share of area affected is greater than for fruits, but losses are lesser.

IFAD
Investing in rural people

Viet Nam

Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Project Design Report

Annex 5: Social Environment and Climate Assessment (SECAP) Review Note

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Asia and the Pacific Division
Programme Management Department

Viet Nam

Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

SECAP Review Note

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June 2021

Abbreviations

1M5R	One Must, Five Reductions
AMD	Adaptation to Climate Change in the Mekong Delta in Ben Tre and Tra Vinh Project
AWD	Alternate Wetting and Drying technique
CC	Climate change
CCA	Climate change adaptation
CCAF	Climate Change Adaptation Fund
CEDAW	Convention On The Elimination Of All Forms Of Discrimination Against Women
CEMP	Contract Environmental Management Plan
CIG	Common Interest Group
CG	Collaborative Groups
CPC	Commune People's Committee
CSA	Climate-smart agriculture
CSAT	Climate Smart Agriculture Transformation Project in the Mekong Delta
DARD	Department of Agriculture and Rural Development
DEM	Digital Elevation Model
DOIT	Department of Infrastructure and Trade
DONRE	Department of Natural Resources and Environment
DPC	District People's Committee
DPI	Departments of Planning and Investment
E2F	Enterprise-to-farmer extension
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ENSO	El Niño Southern Oscillation
F2F	Farmer-to-farmer extension
FU	Farmer's Union
GAP	Good agricultural practice
GPCB	Garden-Pond-Cage-Biogas systems
GIZ	German Society for International Cooperation
GMS	Greater Mekong System
GoV	Government of Viet Nam
IFAD	International Fund for Agricultural Development
IPCC	Intergovernmental Panel on Climate Change
JICA	Japan International Cooperation Agency
LEP	Law on Environmental Protection
MARD	Ministry of Agriculture and Rural Development
MDIRP	Mekong Delta Integrated Regional Plan
MDCC	Mekong Delta Sustainable Development Programme 2020 -2025
MOF	Ministry of Finance
MoNRE	Ministry of Natural Resources and Environment
MOP-SEDP	Market-oriented, participatory socio-economic development planning
MPI	Ministry of Planning and Investment
MRD	Mekong River Delta
NGO	Non-governmental organization
PPC	Provincial People's Committee
PPMU	Provincial Project Management Unit
PPP	Public-Private Partnerships
PPSC	Provincial Project Steering Committee
ONI	Oceanic Niño Index
RAS	Recirculating Aquaculture System
RSLR	Relative Sea-Level Rise
SCG	Savings and Credit Groups

SDG	Sustainable Development Goals
SEDP	Socio-economic development planning
SLR	Sea-Level Rise
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention for Climate Change
VBSP	Viet Nam Bank for Social Policy
VCAP	Value Chain Action Plan
VET	Vocational Education and Training
VMD	Viet Nam's Mekong Delta
WDF	Women's Development Fund
WU	Women's Union
WUG	Water Users Group
YU	Youth Union

Table of Contents

Social, Environmental and Climate Assessment Procedures (SECAP) Review Notes

Climate Smart Agriculture Transformation (CSAT) Project in Tra Vinh and Ben Tre Provinces, Mekong River Delta of Viet Nam

1. Major landscape characteristics and issues (Social, natural resources, and climate)

1.1. Socio-cultural context:

1. Livelihoods. Agriculture is the main source of livelihood for rural peoples in Ben Tre, which accounted for 34.6% of total Gross Regional Domestic Product (GRDP) in 2019 (DARD/Ben Tre, 2020), and accounted for 32% of Tra Vinh's GRDP during the period from 2015 to 2019 (DARD/Tra Vinh, 2020). The main crops cultivated are rice, coconut, fruit trees (mango, longan, durian, banana, others), sugarcane, vegetables and, more recently, cacao. Extensive shrimp farming is prevalent in the brackish-water coastal areas while catfish aquaculture is practiced in upstream fresh water areas. Livestock production is primarily cattle, chickens and other poultry, with significant room for expansion. The off-farm income generating activities for the poor are tied to employment in garment and footwear manufacturing, small-scale food processing (e.g. fish drying, tailoring, broom manufacture and basket weaving enterprises, tree seedling and production of ornamental plants/bonsai, cashew nut shelling, and salt production).

2. In the past, Mekong delta farmers, including Trà Vinh and Ben Tre famers, grew a single paddy crop in flood overflow areas, but this evolved into double or triple paddy cropping following the introduction of short-duration rice varieties and expansion of the system of irrigation canals. In coastal areas, the combination of sea level rise, subsidence, and the impacts of drought in the Mekong Basin on freshwater flows (exacerbated by upstream dam building) have caused a worsening of saline intrusion, such that paddy cultivation has become limited to the rainy season when freshwater is available. Adaptive behavior by farming households in a number of the Mekong River Delta's (MRD) affected coastal zones has consisted of diversifying their production systems by engaging in aquaculture (fish or shrimp) in the dry season, following the rainy season paddy. While this has proven to be a successful adaptation in many locations across the MRD, it is still uncommon in Tra Vinh and Ben Tre.

3. Population and Poverty. In 2015, the Government of Vietnam adopted a multi-dimensional poverty index that incorporates 12 indicators including: adult education, child education, health care, health insurance, house, safe drinking water, sanitation facilities, shelter, information, accessing to services, social insurance and social assistance, and income[1]. The multidimensional poverty line in Vietnam is determined as follows: (i) a household would be considered as a seriously multi-dimensionally poor household when it lacks more than ½ the total basic human needs; (ii) a household would be considered to be multi-dimensionally poor when lacking from 1/3 - 1/2 of the total number of basic human needs; households will be considered as being near multi-dimensional poor households if they lack between 1/5 - 1/3 of the total basic human needs (MPPN, no date).

4. Tra Vinh province consists of one city (Tra Vinh city) and seven districts. Tra Vinh population is 1,009,168 people, of which Kinh is the majority group (GSO, 2020). According to a provincial poverty review in 2016, the Tra Vinh's poverty rate was the highest amongst the 13 provinces of the Mekong River Delta (23.2%). More recent data, from 2019, shows that in the ensuing three year period, the rates of poverty and near-poverty in the province significantly decreased to 3.2% and 6.8%, respectively. The lowest poverty rates are found in Tra Vinh city (2.2%) and Duyen Hai town (4.5%), and the highest rates in the districts of

[1] Among others, an individual is defined as poor or near poor if his/her income is less than VND 700,000 in rural or VND 900,000 in urban; and VND 900,000 and VND 1,300,000 respectively

Duyen Hai and Cau Ngang, with rates of 16.7% and 16.4%, respectively. The province's other districts – Chau Thanh, Cau Ke, Tieu Can, Tra Cu and Cang Long – have poverty rates that range from 5.9% to 15.3% (Tra Vinh, 2019).

5. Ben Tre province has a total population of 1,288,463 people (GSO, 2020). Ben Tre consists of a city (Ben Tre city) and eight districts. According to findings from a 2019 provincial poverty review, 4.6% of households are poor and 4.1% are near poor. The lowest poverty rate was found in Ben Tre City (2.3%), and the highest rates in the four coastal districts of Binh Dai, Thanh Phu, Ba Tri and Mo Cay Nam, which ranged from 9.5% to 13.0%. Poverty rates in the other districts – Cho Lach, Giong Trom, and Mo Cay Bac – ranged from 7.9% to 9.1%. Over the four year implementation period of the National Target Program on sustainable poverty reduction (2016-2020, overall poverty in Ben Tre province declined by an average of more than 1.6% annually.[2]

Table 1. Number of poor and near poor households in Tra Vinh and Ben Tre based on multi-dimensional poverty index

Tra Vinh Districts	Households			Ben Tre Districts	Households		
	Total	Poor	Near Poor		Total	Poor	Near Poor
1. Tra Vinh	33,880	178	560	1. Ben Tre	34,532	444	362
2. Tieu Can	29,572	457	1,288	2. Chau Thanh	57,378	1,587	1,698
3. Chau Thanh	40,569	1,651	3,256	3. Binh Dai	42,488	2,376	1,718
4. Cau Ngang	35,671	2,072	3,766	4. Ba Tri	54,542	3,700	3,401
5. Cau Ke	30,273	654	1,779	5. Giong Tom	54,013	3,062	1,804
6. Cang Long	40,972	710	2,011	6. Mo Cay Nam	45,247	2,176	2,108
7. Tra Cu	40,644	1,870	4,328	7. Mo Cay Bac	35,340	1,234	1,971
8. Duyen Hai	20,809	1,471	2,008	8. Thanh Phu	37,719	2,530	1,633
9. Duyen Hai Town	13,858	151	478	9. Cho Lach	34,973	1,076	1,672
Total	286,248	9,214	19,474	Total	396,232	18,185	16,367

Sources: DOLISA, 2020 of Tra Vinh and Ben Tre Provinces.

6. Data and information collected from Tra Vinh and Ben Tre demonstrated a number of different factors contributing to the poverty status of households, including:

- Productive infrastructure deficits – lack of, or poor quality/inappropriately infrastructure, especially access roads for production areas, potable water systems, and inefficient/inflexible irrigation systems;
- Lack of land – some 30% of poor households lacked productive land, limiting their ability to participate in diverse livelihood opportunities, such as shrimp farming or raising high value specialty crops;
- Natural disasters – damages and losses caused by natural disasters, especially drought and saline intrusion) have caused many households to fall into poverty and debt;

[2] Ben Tre statistical data, 2019. https://www.bentre.gov.vn/Lists/GioiThieu/DispForm.aspx?ID=1&InitialTabId=Ribbon.Read

- Knowledge and capacity issues – among poor and near-poor, there tends to be limited knowledge and experience with market-oriented production, and thus more limited incentives and opportunities for collective action around economic activities. There are also capacity issues as regards engaging in more technically sophisticated and complex production and/or business systems, which are increasingly important to being both competitive and sustaining income improvements; and
- Underinvestment – a number of potentially profitable agricultural value chains (VCs) that would be accessible to the poor/near-poor have lacked necessary investment to develop and come to scale. That such VCs with proven, significant pro-poor potential exist was demonstrated at pilot-scales, with the assistance of IFAD's prior AMD project[3].

7. While very good progress has been made in alleviating poverty in the project provinces, as demonstrated by the falling rates of poverty in recent years, these numbers do not tell the whole story. Challenges for achieving inclusive economic development and erasing persistent poverty yet exist, and are manifested by:

- Poverty still predominates in rural areas. Poverty remains a rural phenomenon in both provinces, with more than 90% of the poor and near poor living in rural areas (DOLISAs, 2019). In the 1990s, poverty was widespread in the region, but fell throughout the region between 1998 and 2010 as the more rapidly growing towns and districts benefitted from industrialization and improvements in access to markets. The spatial distribution of the improvements/benefits was, and continues to be, unevenly distributed. In result, today the remaining poor have become more concentrated in the rural areas (IFAD, 2019; DOLISAs, 2019).
- Poverty tends to be highly correlated with agricultural employment. Most of the poor in the two provinces are highly reliant upon agriculture for their livelihood. According to DOLISA (2019), around 40% of agricultural households live below the poverty line and agricultural households make up 70% of the poor and near poor. Agricultural households also contribute disproportionately to the poverty gap and poverty severity. Poor households derive roughly half their income from agricultural activities, including agricultural wages. This underscores the importance of agricultural (to high value specialty crops) and income diversification, improved market access, and value addition as important approaches to poverty reduction.
- Poverty persists among members of the Khmer ethnic minority. Khmer ethnic group make up 31.1% of the Tra Vinh's total population, yet they account for some 48% of the total poor and near poor (DOLISA, 2019). Also, the poverty conditions experienced by ethnic minority poor are more severe than that experienced by the poor, majority Kinh households. Significant differences exist in the livelihood strategies and employment patterns of poor Kinh and poor ethnic minority households. Poor Khmer households earn on average about three-quarters of their total income from agriculture and allied activities, including wage employment in agriculture. In contrast, poor Kinh households earn only 48% from agriculture and allied activities and a much higher share from off-farm activities, both salaried non-farm employment and family enterprises. Thus, there are significant structural disadvantages for poor Khmer households as compared to the majority Kinh. This is discussed in greater detail, below, in the Ethnic Minority section.
- Low educational attainment is a contributing factor to poverty. There exists a wide gap in educational attainment between ethnic minorities and Kinh majorities (IFAD, 2019). Although the rate of enrollment of children in primary school in Viet Nam is equally high between the majorities and the minorities, the dropout rate among ethnic minorities is much higher than amongst the Kinh majorities, with the

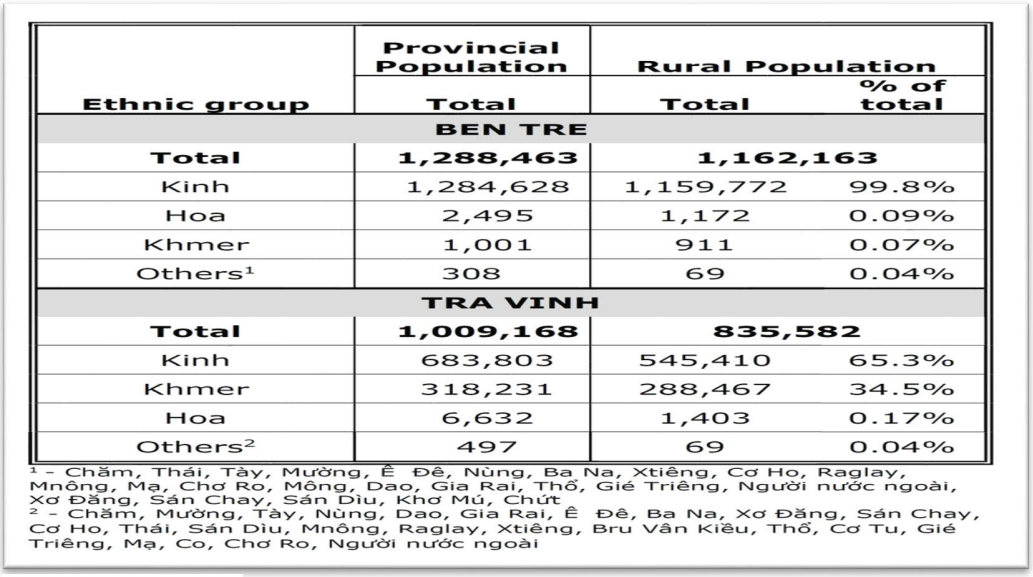
[3] Information from pre-design field mission 2020.

former often ending their education after completing only primary school, while the latter go on to secondary school (DOLISAs, 2019). These general findings have also been confirmed as regards Khmer households in Tra Vinh province, amongst whom educational attainment is highly correlated with poverty status (Ha Hong Nguyen, 2018)

- Exposure and vulnerability to climate change / weather shocks. Located in one of the earth's five typhoon centers, Viet Nam, and particularly the Mekong River Delta (MRD) is prone to natural disasters, including frequent tropical storms and flooding (IFAD, 2019). This is due to its relatively flat and low terrain, which on average is only around 1m above mean sea level, and its 700 km of shoreline; characteristics that have ensured both a long history of being affected by natural disasters related to water and climate, but that it also faces a difficult future as one of the world's areas considered to be most vulnerable to climate change (Royal HaskoningDHV and GIZ, 2020). As such, households in rural areas of the MRD face a high probability of experiencing weather shocks; more so than their urban counterparts, and poor rural households are more exposed than non-poor. This latter, the nexus between climate risk and poverty, is a central concern. The most socially vulnerable groups amongst the poor and near-poor – women, ethnic minorities, the disabled – are and will be disproportionally less able to adapt to climate change and weather shocks. This enhanced exposure and greater risk stems from, among others, their reliance on agriculture and natural resources for their livelihoods, and the lack of assets and capital to recover or to shift to alternative livelihoods.

8. Ethnic Minorities. The main ethnic minority found in the project area are the Khmer in Tra Vinh province, who comprise 32% of the provincial population. Khmer are the largest ethnic minority group in Mekong River Delta, with more than 1.14 million people, accounting for 6.6% of the delta's population. Khmer communities are found primarily in the provinces of Soc Trang, Tra Vinh and Kien Giang with considerably smaller populations in An Giang, Bac Lieu, Can Tho, Hau Giang and Vinh Long. In Tra Vinh province, there are more than 318,000 Khmer, in some 89,143 households (GSO, 2020). The province of Ben Tre has a very small population of ethnic minorities, and so in government's view "ethnicity is not an issue" in Ben Tre (MARD, 2016). According to the 2019 census, only about 1,000 Khmer reside in Ben Tre (GSO, 2020); however, that estimate may not be correct as Ben Tre's Provincial People's Committee (PPC) believes that there may be as many as 5,000 Khmer living in the province. Even that higher figure would have the Khmer representing only about one-third of one percent of the provincial population.

Figure 1. 2019 Population Census Data.



Ethnic group	Provincial Population	Rural Population	
	Total	Total	% of total
BEN TRE			
Total	**1,288,463**	**1,162,163**	
Kinh	1,284,628	1,159,772	99.8%
Hoa	2,495	1,172	0.09%
Khmer	1,001	911	0.07%
Others[1]	308	69	0.04%
TRA VINH			
Total	**1,009,168**	**835,582**	
Kinh	683,803	545,410	65.3%
Khmer	318,231	288,467	34.5%
Hoa	6,632	1,403	0.17%
Others[2]	497	69	0.04%

[1] - Chăm, Thái, Tày, Mường, Ê Đê, Nùng, Ba Na, Xtiêng, Cơ Ho, Raglay, Mnông, Mạ, Chơ Ro, Mông, Dao, Gia Rai, Thổ, Giẻ Triêng, Người nước ngoài, Xơ Đăng, Sán Chay, Sán Dìu, Khơ Mú, Chứt
[2] - Chăm, Mường, Tày, Nùng, Dao, Gia Rai, Ê Đê, Ba Na, Xơ Đăng, Sán Chay, Cơ Ho, Thái, Sán Dìu, Mnông, Raglay, Xtiêng, Bru Vân Kiều, Thổ, Cơ Tu, Giẻ Triêng, Mạ, Co, Chơ Ro, Người nước ngoài

Source: GSO, 2020

A significant number of other ethnicities are present in the two provinces but their numbers are quite small. They represent less than one-half of one percent of the rural population in each[4].

9. The majority of the Khmer live in rural areas; making up more than one-third of Tra Vinh's rural population (GSO, 2020). Their main occupations are agriculture, aquaculture and handicrafts and trading services. The great majority of Khmer people follow Buddhism, traditional festival activities, customs and practices are preserved and promoted. Focus groups, held by MARD (2016), reported that the ethnic Khmer have largely integrated into the Kinh community and have inter-married with them. However, as a group they still make up a large proportion of the poor and landless who rely upon wage labor in aquaculture and agriculture, as well as the harvesting of aquatic resources to sell as feed stock to shrimp farms. Language reported not to be an issue due to the Khmer having largely integrated into the Kinh community and able to communicate in Vietnamese.

10. A recent study (World Bank, 2019) on the drivers of socio-economic development among ethnic minority groups in Viet Nam had a number of relevant findings as regards drivers of poverty and the challenges of poverty reduction among the Khmer people in the project area. Specifically:

- Poor Khmer households, especially those owning no land, indicated in interviews that their only source of income comes from work as hired farm hands in neighboring areas, which earns them about 150,000 VND/day (~USD6.50), and that trends in farm mechanization is seriously impacting their livelihoods. In particular, the introduction of mechanical harvesters has wiped out a significant source of seasonal income for Khmer women in Trà Vinh, who are often hired at the harvesting stage.
- In general, the poorest amongst the Khmer are those lacking adequate fertile lands to cultivate, a lack which is seen among their communities as the main cause of intergenerational poverty. It was referred to as "sustainable poverty" (nghèo bền vững) or "inherited poverty" (nghèo di truyền) by some Khmer informants. The lack

[4] The Hoa, or the Chinese, as an ethnic minority are consistently top-performers in both HDI and MPI rankings. The majority of the Hoa resides in urban areas, and their socio-economic context is considered to be considerably different from that of the other ethnic minority groups in Viet Nam (World Bank, 2019)

of arable land in its turn limits opportunity for livelihood diversification. Those with sufficient land are able to invest in other sources of revenue like shrimp farming or raising specialty crops.

- Opportunity to produce cash crops is viewed as one of the main routes out of poverty. For the Khmer in the District of Trà Cú in Trà Vinh, taro in particular was identified as a good option. Amongst better-off households, in general there appeared to be a reasonable capacity to diversify into profitable cash crops.
- Market price fluctuations represented a major, exogenous shock factor amongst ethnic minorities. Specific to the Khmer communities in Trà Cú, most recently it has been the decrease in the price of their local variety of sweet potatoes that has been most keenly felt. As to livestock, the report found that across the country ethnic minority groups, pig raising was no longer attractive due to sharp reductions in prices in recent years. This included even specialty pigs, with niche markets.
- Even for those that were amongst the best off (top performers), participation in the key agriculture value chains was limited. In the case of the Khmer in Trà Vinh, it is the aquaculture (catfish, prawn) value chains in which their participation is rare. Being surrounded by arguably some of the areas with the greatest aquaculture potential in the province, the Khmer most usually are laborers in commercial catfish and prawn commercial farms owned by Kinh investors.
- Having good market access (by road or river) appears likely to provide potential for price improvements to Khmer farmers in Trà Vinh by making them less dependent on local retailers or shop owners, who are mainly Kinh or Hoa. At the same time, Khmer farmers that indicated that they kept track of market prices through television or the internet could command similar prices from local retailers as those paid by traders elsewhere. Access to private funding from relatives also appeared to be a factor for achieving price equalization, i.e., not having to take loans from suppliers, especially when those loans came with obligations to sell to the supplier/lender, gave farmers greater opportunity to negotiate prices.

Figure 2. Khmer households – general situation viz. some key factors affecting development opportunities (relative to other EM groups).

Basic household livelihood assets	Better endowed; more experience with farm diversification; land ownership varies significantly, from well-endowed to landless; moderate capacity to cope with shocks; less risk averse to adapt changes.
Market linkages	Better access; less available informal credit from family & friends, thus more reliant on local money lenders (who often charge high interest), especially for emergency loans; able to keep track with market prices via television & internet
Labor market mobility	Better access, actively engaging in migration & cross-border trading activities (with Khmer fellows in Cambodia); incomes from remittances plays a vital role in village improvements (housing, communal infrastructure)
Educational aspects	A vernacular education system teaching Khmer language in Buddhist Wat; lower rate of secondary school dropout; higher attendance in college; a sense of disillusion about the benefits of pursuing higher education
Health care service aspects	Better use; low fertility rate; low homebirths; child marriage less common
Traditional institutions & local governance	Community cohesion is built on religious faith, with the pivotal role of the Wat, abbot & achar in both spiritual & social and cultural activities; no influence of kinship in the process of assessing household poverty and gaining access to resources at grassroots level; nonexistence of labor exchange practice; significant representation in the state apparatus; active participation in mass organizations

Source: World Bank 2019

11. Effectiveness of poverty reduction for ethnic minorities. As noted in the Mekong Delta Integrated Regional Plan or MDRIP (Royal HaskoningDHV and GIZ, 2020), ethnic minorities in the Mekong Delta have received great attention from government and enjoyed many supportive policies and programs. However, the gap between rich and poor, and between ethnic minorities and the majority Kinh remains high; infrastructure and production

facilities are inadequate and weak; vocational training and job creation for ethnic minorities, especially non-agricultural occupations, are ineffective; and switching jobs is still very limited. Climate change, extreme weather and market mechanism weaknesses have seriously affected production and people's lives in many ways, especially poor farmers (mostly Khmer). Under the impact of climate change, erosion in the Mekong Delta is very complicated; households living in remote and coastal areas are at risk of losing residential and productive land; many poor households' residences are degraded or severely damaged, greatly affecting their lives and properties, especially the risk of roof leakage and house collapse, flooding caused by natural disasters. The proportion of households and people using potable water remains low.

12. Some insight into inter-ethnic welfare differentials in rural Viet Nam was provided by the Department for International Development (DFID) and the Economic and Social Research Council (Baulch et al. 2009), which findings remain relevant as confirmed in IFAD's Viet Nam most recent COSOP for 2019-2025. Despite the array of government rural poverty programs, the gap in ethnic living standards has been increasing over time. The living standards of Kinh-headed households grew sharply relative to the rural average since the Doi Moi reforms of the early 1990s. This has been true across all Kinh-headed households, irrespective of their socio-economic status. Sizeable and persistent inter-ethnic gaps in household welfare exist between the better off Kinh and Hoa households and all the other major EM groups. This remained the case, even when controlling for household endowments, commune characteristics, and geographic area.

13. Approximately 40% of the mean gap was attributed to differences in household endowments and community characteristics, with differences between majority and minority households' demographic structure being more important than differences in education levels and commune characteristics. At least 50% of gap was due to differences in returns to household endowments. Why this was the case was not clear to the authors. They noted other studies attributing such differences to "unequal treatment" but theorized that they may also be due to other unobserved differences, e.g., if EM households live further from commune centers, then they will benefit less from the construction of roads, schools and markets.

14. Relevant to the question of barriers that restrict EMs' participation in broader economic growth, the COSOP 2019-2025 Gender and Ethnic working paper identified a number of areas where EMs are at a disadvantage. Of relevance to the current proposed project are:

- Bilingual education lacking;
- Lesser mobility, with Kinh migrant households enjoying better benefits from government programs and their social networks;
- Less access to formal financial services.
- Lower productivity land and farming systems and, less off-farm employment.
- Lower market access, poorer returns from markets and, lower engagement in trading activities; and;
- Being subject to stereotyping and misconceptions, not just among the Kinh majority but also among themselves, which can much hinder their participation in their own development.

15. A review of current GoV policies and programs for ethnic minority poverty reduction (World Bank, 2019) concluded that the main focus remains on aspects such as physical connectivity, access to public services, and access to credit; whereas only a moderate focus is placed on aspects of production support and strengthening local governance. Other important factors receive only partial attention, with weak or limited focus. These include support to labor market participation, access to productive land, traditional institutions, market linkages, vulnerability and shocks, and other direct support to the poor such as housing, water and sanitation. Gender roles and power are partly addressed by adaptation of participatory socio-economic development planning. Notable gaps in existing policy for EM development were also noted. Factors such as "culture, spiritual belief, religion" and

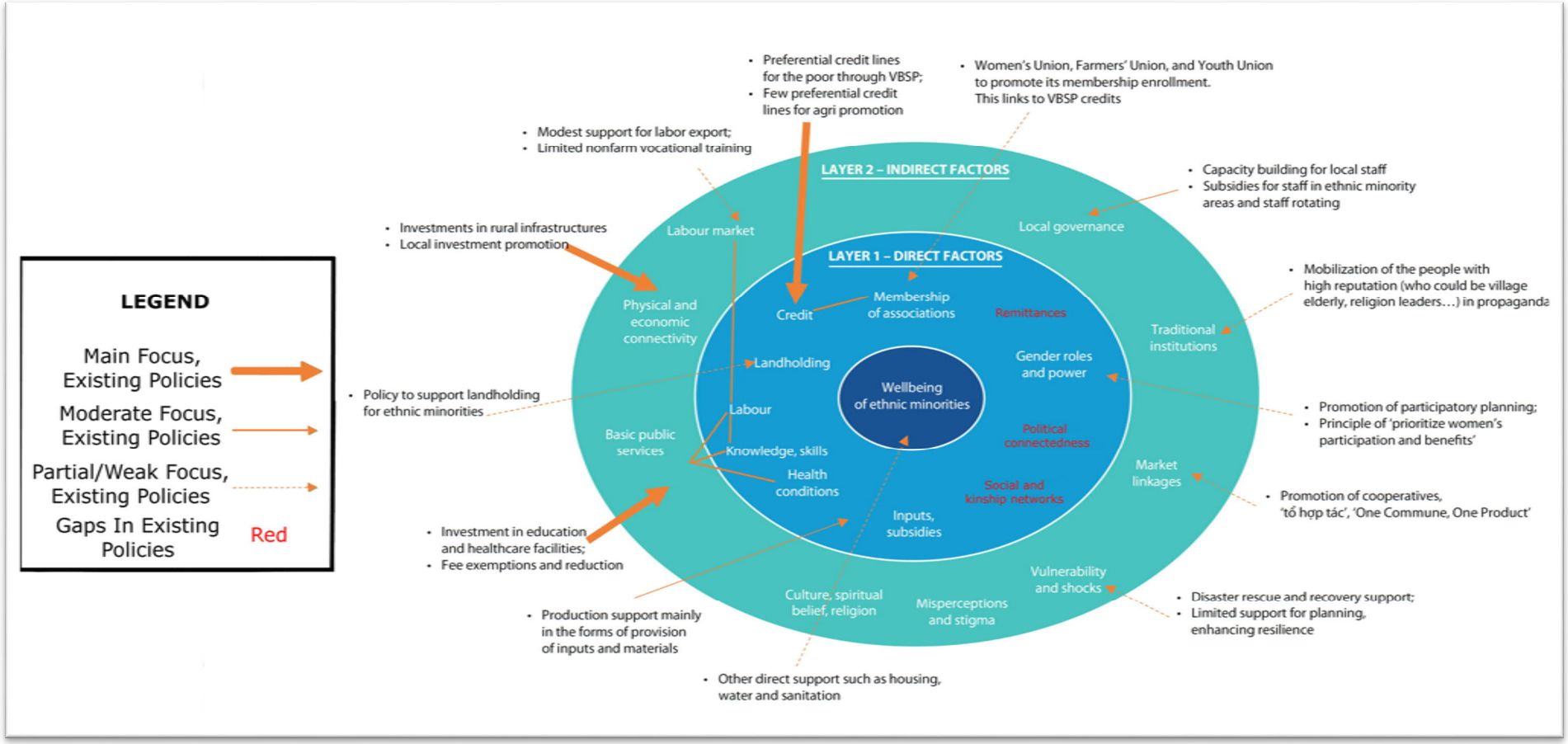
“misperception and stigma” are generally not addressed by existing policies. In addition, social network and kinship, political connectedness, and remittances are not subject to existing policies for poverty reduction. See Figure 3.

16. The review suggests a number of improvements to the current approach for EM poverty reduction, of which the ones of greatest relevance to the proposed project include:

- Infrastructure investments should also be focused on maintenance of existing infrastructure, both in physical terms and in increasing operations and maintenance capacity.
- Soft investment, especially in production support, capacity development, and effective participation in local decision-making processes.
- Women’s economic empowerment should be strengthened in response to the many disadvantages faced by ethnic minority women. Ethnic minority women face not only “conventional” gender inequality, but also inequality just by being from an ethnic minority.
- The best off groups and poorest groups respond differently to factors that contribute to their socio-economic development. External interventions that work for the majority of ethnic minorities might not work for the poorest groups. Understanding and addressing the disadvantages encountered by the poorest groups warrant attention.
- Market access, including efforts to address informal credit, should be improved. More than improving physical connectivity, supporting market institutions and actors that support doing business in ethnic minority areas is important. Advanced approaches such as blockchain and information and communications technology could ease many of the constraints encountered by ethnic minorities to be part of the local, national, or even international value chains.
- Local governance and traditional institutions should be strengthened.

17. Over the years, the Party Secretariat has issued a number of Directives and Resolutions that still remain relevant: Directive No. 68-CT/TW (1991), on working in Khmer ethnic minority regions; Resolution No. 24-NQ/TW (2003, Session IX) on national ethnic affairs; Directive No. 19-CT/TW (2018) on strengthening support to Khmer inhabited regions, in the context of Resolution No.120/NQ-CP (2017) on sustainable development of the Mekong

Figure 3. A mapping of existing GoVN policy framework for reduction of ethnic minority poverty – strengths, weaknesses, and gaps.



Source: World Bank, 2019

Delta in response to climate change. Under these, government has been implementing programs, policies and projects in ethnic minority areas that broadly support economic, educational, health care, cultural, and social needs. Included in these are priorities to, at least partially, address urgent infrastructure deficits in poorer/"difficult" communes, as wells as development of production options and raising community awareness.

18. Gender issues. Viet Nam has made great strides in promoting gender equality, largely driven by strong Government commitment. It is signatory to numerous international instruments addressing gender equality, women's rights, and women's empowerment, including the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), the Beijing Platform for Action, as well as the Sustainable Development Goals (SDGs). Gender equality is enshrined in the Constitution, and Viet Nam has successfully enacted policies and laws for the protection and promotion of women's rights.

19. Despite a favorable policy environment, a critical gap remains between policy and implementation. Discrimination against women and girls still persists across the country. Vietnamese society continues to face significant challenges such as violence against women and girls and a sex ratio imbalance at birth. While much progress has been made in eliminating gender-based discrimination via legislation, gaps remain. Though the ratio of women in the labor force is high, they are more engaged in the informal economy and in unpaid family labor and own-account work, which places them in a vulnerable position.

20. Women have limited power in many spheres of life, both private and public including economic, social, civil and political. Women's wages are still lower than that of men, even with the same level of qualifications, and more women are engaged in informal and vulnerable work with little social protection. Women's representation in leadership and management remains low. Gender inequalities in agriculture, food and nutrition security are visible in labor and in access to resources (land, finance, technology, training and markets) and agricultural extension services.

21. Women constitute a critical workforce in agricultural production, especially in rural areas, where 63.4% of working women are in agriculture compared to 57.5% of working men. Traditionally, women are more involved in agriculture as they are burdened with unpaid care work and women's knowledge and skills remain limited when it comes to new technologies. Furthermore, although women are more involved in agriculture, they are also more likely to work on smaller farms and to cultivate subsistence crops. Also, they suffer from violence in different forms.

22. In terms of leadership, women's representation in government bodies is low. Social inequalities are becoming more visible, especially for ethnic minorities and other marginalized and disadvantaged groups, such as the rural poor. Women's vulnerability to climate change in rural Viet Nam is heightened by their greater concentration in the agricultural sector, particularly in subsistence production, and in the informal economy.

23. Over half (51%) of the population in Tra Vinh and Ben Tre provinces is female. Information from Tra Vinh shows strong asymmetries as regards poverty among female-headed households, especially those headed by ethnic minority females, and rural households at-large. Over one-third of poor and near-poor households are headed by women, and some 52% of these are headed by ethnic minority women. There are 6,879 female-headed households in Tra Vinh and 11,269 in Ben Tre. Poor women and female-headed households face significant difficulties in escaping from poverty. Specific constraints that restrict their ability and opportunities to engage in productive and remunerative activities include limited access to production factors, time constraints imposed by intrinsic cultural factors (e.g., child rearing, housekeeping, etc.), a lack of knowledge, skill, and experience in farm management and/or business enterprise development, as well as a lack of access to technical assistance and training opportunities to overcome these knowledge and skills gaps.

24. According to the Women's Unions in the two project provinces, women bear the burden for 80% of household tasks; men's contributions to household and family chores and children's education represent only 10% to 20% of the needed efforts. Male farmers participate only minimally in child rearing/child care tasks, while non-farmer males (in trade or business, or employed) seldom share these tasks with their mates. Still, in recent years there is a clear trend where more and more women engage outside the home in community work, social activities, and political participation. The participation by women in community meetings is a form of empowerment, increasing their knowledge and access to information on issues that affect their daily lives and that of their family.

25. Women play active roles in farming activities in both provinces. Many female farmers are forced to take the lead in farming, as well as family and community work, because their husbands work far from home. Due to the shortage of employment, many young females in search of wage labor are also forced to leave their local area and travel away from home in order to obtain work. Age discrimination is common towards female job seekers. Women over 35 years of age are no longer given work, nor can they apply for jobs in factories. Their only income-earning options are back in the localities they came from, working either as farmers or in low-paid, local jobs.

26. In those communities where rice, peanut and coconut cultivation are important, women play major roles in their production. Women are mainly responsible for the selection of varieties, preparation of the field, harvest and post-harvest activities. That this specific work is reserved for women is an artifact of social assumptions. It is believed that women are particularly suited for, efficient, and good at this kind of time-consuming work. Men, on the other hand, are responsible for work involving machinery (tractors and harvesting machines), and most (60–70%) of the pesticide application work; but only 30% of the work related to transport and drying of rice. In addition to rice, peanut, and coconut farming, women also perform the majority of tasks related to animal husbandry, which is a secondary income source for the household. On smallholder farms, women carry out 80-90% of the work related to pig raising. Men tend to take the lead in cattle raising and shrimp cultivation, with assistance from women in planting and cutting fodder for cattle and caring for shrimp, including post-harvest activities. On larger farms, with more animals, men take on the major role in all animal husbandry, including animal health (monitoring for disease, arranging treatment); this latter includes shrimp raising, as well. Men tend to have the specialized knowledge that woman a function of learning opportunity) for managing animal health. In result, woman tend to be dependent on men for maintenance of animal health, which may result in greater risk to animal maintenance and production systems.

27. While agricultural employment has been declining as a share of total employment, in rural areas it remains the primary source of livelihoods and employment. As of 2017, about 40% of employed persons were employed in agriculture; down from over 55% as recently as 2005. In the rural areas, about 68% of women and 58% of men work in agriculture. Most women work as unpaid family labor on family farms, and their free labor is often assumed in planning agricultural development projects and programs - 53% of all employed women work as unpaid family laborers compared with 32% of men (IFAD, 2019; DOLISAs, 2019). Regulations governing minimum wages for women are widely ignored or circumvented by contract and piece-work, and by offering "part-time" menial, low-paid tasks which sometimes add up to more hours for less remuneration than full-time work. In addition, women are responsible for most of the unpaid household and community work which is usually invisible, unrecognized and carries low status.

28. Female farmers remain, officially, invisible. When they are not seen, they are not addressed by policy, and their needs are routinely overlooked. Too commonly "farmers" are considered male, that "household heads" are men, and that households are homogeneous. As men tend to also dominate in the processes that allocate official support to agriculture,

such support is then directed by men to men. The need for a gender-informed approach to farming has barely been recognized as a policy issue in Viet Nam. As such, little strategic planning has been done around this important aspect. In result, the dominant approaches tend to be ad hoc, and channel the occasional input to women, who are perceived as passive recipients of welfare rather than as economic partners in a vital and dynamic production sector. In response, women tend to ignore official offerings, and go about their long and ever-lengthening work day.

29. In Viet Nam, as elsewhere, those policies and plans that are not explicit about the role of women in rural development effectively exclude them; thereby retarding development, and greatly reducing its impact potential. Most policies are silent on gender and on broader issues of equity; plan objectives are gender blind; data are unavailable, inadequate or misleading; resource allocations are extremely limited; women remain invisible and strategies by-pass them; mandates and accountability for gender mainstreaming are absent; and gender awareness and commitment to equity are weak. Job descriptions rarely mention gender, and management is not held accountable for meeting either gender or social objectives. This situation generally pertains at all levels and in most development projects.

30. The trend for men to migrate out of agriculture into more attractive employment (or any employment) in other sectors will continue to place an increasing burden on women farmers. Women left behind will be expected to shoulder more of the agricultural and rural development work in the future, leading inexorably to a longer working day on a natural resource base which may be depleted or degraded due to over-exploitation and misuse. Labor bottlenecks could limit growth, delay or extend critical periods such as harvesting, and increase the unattractiveness of agriculture as a career for the brightest and best among youth. Low female productivity in agriculture will increase food insecurity, decrease rural household incomes and thereby increase rural poverty.

31. Although equality of women's access to land and other capital is enshrined in law, the reality is other. Women's access to land and other capital is less than that of men, and men control most productive inputs in the farming sector. If women are to take increasing responsibility for primary production and processing, barriers around their access to, and control over, relevant resources must be removed. These include direct access to credit, land, water and other agricultural inputs; access to extension information and services, education and training; and their active participation in organizations, decision-making bodies at all levels, and, in decision-making and management.

32. Credit from the formal banking sector is an input which is relatively less accessible to women for a number of reasons, including systemic discrimination[5] to gender differences in needs and expectations regarding customer service in credit and lending[6] (IFC, 2017). Women have proven themselves, particularly through Women's Union (WU) managed Savings and Credit Groups (SCGs), to be bankable clients with rates of return often exceeding those of men. It is extremely cost-effective to make special provisions to accommodate women as users of credit in their own right, and this may include changes in rules and regulations especially for collateral, direct extension support to women, special education and training, and the provision of financial packages which complement the provision of credit.

33. Youth. There is no universally agreed definition of youth. The UN defines a young person as aged 15-24, while the Viet Nam Youth Law (2005) defines youth as aged 16-30. Viet Nam has entered a period of "golden population structure"'. According to UN-WIDER

[5] Loan applications from qualified women are rejected at a significantly higher rate than those of equally qualified men, and where loans are provided they tend to be smaller than those provided to males.

[6] Women tend to find the complexities and bureaucracy of the formal lending institutions harder to navigate, and perceive a need for stronger customer service and support than do their male counterparts. The study estimated that women's access to credit could be doubled with gender responsive customer service policies.

(IFAD, 2019), in Viet Nam, youth accounts for one-quarter of the total population. This is the highest ever percentage of young people in the country, providing Viet Nam with a unique socio-economic development opportunity. This potential can only be tapped if young people have access to proper education, health care, employment and participation in public life. This situation calls for an urgent look at how Vietnamese young people are faring in different dimensions of well-being such as education, employment, health and civic participation in order to identify gaps in policies aimed at youth.

34. The total number of young people in the two provinces under the age of 30 was estimated to be 902,831 in the 2019 census (GSO, 2020). They account for 42% of the total population of Tra Vinh and 37% of Ben Tre's total population. Youth in rural areas represent 87% of the total under-30 population. Opportunities for young people to join the labor market are essential to poverty reduction in the provinces. For rural youth, living in poor households, in both provinces the reliance on agricultural employment is high, it being the only main source of income.

35. In Tra Vinh province, Khmer youth who complete lower secondary school or higher levels can find employment in nearby factories and plants, or if not, seek similar employment in neighboring Binh Duong or Long An provinces. For youth that remain in their villages, wages tend to be lower than those paid elsewhere, especially as compared to opportunities outside the province.

36. In Ben Tre province in particular, in recent years, industrial zones have been established and attracted a large number of laborers in the 18-35 age group; with more than 40,000 local youth having found employment in these zones. The PM Decree No. 74/2019/ND-CP sets policies to support job creation and provides incentives for hiring of ethnic minorities and disabled persons. It also provides for loans to allow contract workers to work abroad. Over 600 young people in Tra Vinh and over 1,500 in Ben Tre, who have the technical and foreign language skills needed to seek and obtain work, have gone abroad to work in Korea and Japan. Remittances are an important source of income and finance, especially amongst the poor, making such opportunities highly desirable.

37. The percentage of young people engaged in agricultural activities accounts for 25% of the total rural labor force in the provinces as per the 2019 census (GSO, 2020). This segment of the workforce is relatively better educated, having education attainments from lower secondary to upper high schools, as well as significant numbers who have graduated from college or university. Currently, due to job losses caused by the COVID–19 pandemic, more young people are returning to their homes and villages[7], where agriculture offers the major employment/livelihood opportunities; yet they generally lack practical farming skills. These more educated young people might bring a very positive dynamism into value chain and e-commerce development, given the opportunities to learn and apply new, and more sophisticated technologies. However, they would also be likely encounter difficulties/challenges in accessing financing formal credit services, should they be so motivated.

Table 2. Status of youth – literacy and employment

Indicator Name	Average of 2017	Average of 2018
Literacy rate, youth (ages 15-24), gender parity index (GPI)		0.999
Literacy rate, youth female (% of females ages 15-24)		98.35
Literacy rate, youth male (% of males ages 15-24)		98.46

[7] As yet there are no official statistics on this trend, but anecdotal evidence suggests that it may be a somewhat common phenomena.

Indicator Name	Average of 2017	Average of 2018
Literacy rate, youth total (% of people ages 15-24)		98.41
Share of youth not in education, employment or training, female (% of female youth population)	12.01	10.63
Share of youth not in education, employment or training, male (% of male youth population)	7.51	6.00
Share of youth not in education, employment or training, total (% of youth population)	9.70	8.31
Unemployment, youth female (% of female labor force ages 15-24) (modeled ILO estimate)	7.27	7.34
Unemployment, youth female (% of female labor force ages 15-24) (national estimate)	7.64	7.89
Unemployment, youth male (% of male labor force ages 15-24) (modeled ILO estimate)	7.20	7.18
Unemployment, youth male (% of male labor force ages 15-24) (national estimate)	7.46	6.05
Unemployment, youth total (% of total labor force ages 15-24) (modeled ILO estimate)	7.23	7.26
Unemployment, youth total (% of total labor force ages 15-24) (national estimate)	7.54	6.92

Source: DOLISAs, 2019

38. The transition to a market economy in Viet Nam has brought drastic changes to the labor and job markets. The positive results achieved from Doi Moi, both directly and indirectly, have greatly increased employment, equity and social welfare. Still, the increased employment and economic diversification has also meant job losses and layoffs for many workers. The transition places new pressures on young people, who find themselves caught between old and new social norms and values. Their expectations and perceptions of work diverge from what had previously been the norm. For them, a good job is not just a source of income, but also a source of self-esteem, status and social capital. Unless young women find good jobs, their bargaining power in marriage, and control over their fertility will remain limited. Thus, for these young people, their work lives have significant implications for their personal development and well-being.

39. Low wages and participation in the informal economy are also concerns in youth employment, especially among ethnic minorities and youth in rural areas. Ethnic minorities, particularly ethnic women, persistently have the highest share of unpaid family workers. The least developed regions of the Mekong River Delta, the Northern Uplands and the Central Highlands experience much lower wages from employment than do the more developed regions of the Red River Delta and the South East, where labor intensive industries are located.

40. Additionally, a shortage of skilled workers is still a significant problem in the Vietnamese labor market. In 2014, just over half of the employed youth had matching qualifications for their occupations, while the share of overqualified youth has increased by nearly 5% in the past five years (OECD Development Centre, 2017). Interestingly, there is a higher number of under- and over-qualified employees among the Kinh majority youth group than among ethnic minorities.

41. Of more immediate concern is the impact of COVID-19 on youth employment and opportunities, which is as yet unknown. The pandemic has revealed the precarious job arrangements for youth (low wages, lack of social security) as well as having exacerbated the

risks they face due to the dangerous working conditions for low paid "front line workers" in the service industries. COVID-19 related job losses are predicted to more likely to result in a transition from "non-standard" employment to unemployment, rather than an interim arrangement en route to employment. Nor does the future, post-COVID look especially promising as the education sector is not ready to prepare youth to enter the future job market[8]. In result, overqualified youth work will likely continue to work in low-skill jobs or gig employment, in an as yet only marginally organized gig economy. (Pham Thi Thu Lan, 2020)

42. The vocational education and training system (VET) in Viet Nam has significantly improved over the last decade, due to the greater consideration it has received from policy makers and increased public investment. Particularly in rural areas, the government has made substantial efforts to promote VET among youth and rural workers through preferential policies such as Project 1956 that provide financial subsidies and fee exemptions for VET students. The negative perception of VET is also slowly changing in Viet Nam thanks to the government's efforts to better communicate about VET via mass media and in lower secondary schools. VET is becoming increasingly accepted socially and seen as a viable option for many rural youths.

43. Although there has been great improvement in terms of VET quality, access and relevance, social norms (gender discrimination) around VET and employers' preference for untrained cheaper labor still prevail. Public investment in VET institutes increased and majors have become more diversified and practical. However, many institutes lack modern equipment and facilities to adequately train their students to be employment-ready. The quality of VET programmes varies widely from one institute to another and less popular majors are largely underfunded with unqualified teachers. Students complained about VET programmes not having enough courses on agricultural production management, marketing and business development. As automation in manufacturing changes traditional manufacturing, it will become increasingly urgent for the VET system to also prepare students seeking what are today only low or semi-skilled factory jobs.

44. Youth also often face difficulties in transitioning from traditional agriculture to modern "smart" and sustainable methods of production. Although vocational training in agriculture provides some technical knowledge, given the challenges of limited access to productive land, and lack of financial resources for those that do not have access to productive lands, the demand or potential for exercising such skills may also be limited to the few who come from better off households, with adequate land and access to finance. It is here where agricultural policies to underpin local value chain development and cater to domestic markets can play an important role in both economic development and opening new employment opportunities for youth. The promotion of small and medium enterprises development within agricultural sector value chains, especially in the least developed areas, would be a boon to job creation for youth.

45. As efficient linkages from agricultural production to processing and sales are not well-developed in these agricultural regions, and local entrepreneurs often lack business skills to develop their products, these are areas that will require attention and capacity building support. A comprehensive skills development strategy, to be embedded in the broader value chain development approach, is warranted. In addition, infrastructure improvements – both to ensure reliable market access and buffer production systems from climate/weather-related natural disasters – and access to finance and land will also be needed accompaniments.

[8] Described as "Work 4.0", this refer to how the world of work is expected to change over the next decade and beyond in response to the developments associated with the ongoing automation of traditional manufacturing and industrial practices, using modern smart technology (Industry 4.0), which includes widespread digitalization.

46. Labor and migration patterns. In Tra Vinh[9], some 70% of the population is of working age, and 34% of workers are classified as having been trained. Provincial authorities hope to capitalize on this labor force to attract high labor demand industry[10]. There is a similar labor pattern in Ben Tre province, with 72% of the population active in the labor force, and 35% of workers trained. In 2019, the unemployment rate amongst working age individuals was 3% in Ben Tre and 3.3% in Tra Vinh. Tra Vinh province reports having created 25,040 new jobs in recent years and supported 604 workers to work abroad. Through the Viet Nam Bank for Social Policy (VBSP) – under Decree No. 74/2019/ND-CP – a total of VND 43.36 billion (USD 1.88 million) was loaned out to businesses, creating 2,219 new jobs, and providing advisory services that resulted in connecting 2,579 workers into local businesses. Over the same period, the province provided vocational training for 20,758 people. For its part, Ben Tre created 20,652 new jobs, and supported sending 1,517 people to work abroad. Vocational training for farmers and young people contributing to raising the rate of trained worker by 58.5%.

47. According to 2019 census data (GSO, 2020), there was significant net out-migration from both provinces in 2019:

- Ben Tre: 15,402 persons in-migrated and 58,229 persons out-migrated, for a net loss of 42,287 persons or 3.3% of total population. Women represented the majority of both the in- and the out-migrants; 56% and 53%, respectively.
- Tra Vinh: 8,037 persons in-migrated and 49,599 persons out-migrated, for a net loss of 41,562 persons or 4.1% of total population. Women represented the majority of both the in- and the out-migrants; 54% and 52%, respectively.

48. Health & Nutrition. According to the 2020 Global Nutrition Report[11], Viet Nam was on-track to meet the global target for infant exclusive breastfeeding, but was not on-track for meeting the targets for those indicators for which there was adequate data to allow analysis. Although it performed well against other developing countries, Viet Nam still experienced a malnutrition burden among its under-five population. The most current data available (2015) showed that the national prevalence of under-five stunting was 24.6%, slightly less than the developing country average of 25%. The prevalence of under-five wasting was 6.4%, as compared to a developing country average of 8.9%. Almost one-quarter (24%) of infants under 6 months were being exclusively breastfed. Between 2000 and 2015, low birth weight prevalence declined 11% from 9.2% in 2000 to 8.2% in 2015. The percentage of over-weight under-fives increased by over 50% according to the figures presented for 2014 and 2015, of 3.5% and 5.3%, respectively. Amongst Viet Nam's adult population, almost one-quarter (24.2%) of women of reproductive age were anemic; 5.5% of adult males were diabetic, compared to 5.1% for adult women; and 2.6% of women and 1.6% of men were obese.

49. Malnutrition data for children under the age of 5 is reported on the General Statistics Office web site (GSO, 2020). That data is reported with three different indicators, see Figure 4 below. It is beyond the scope of this report to assess how best to interpret the information provided by the three separate indicators, which each provide a significantly different malnutrition rate amongst under fives. Judging from the information provided in Tra Vinh's SEDP Master Plan to 2025[12], which indicates that that the target is to reduce "…rate of malnutrition children under 5 years old to below 12% in 2020 and 7% in 2025", it appears that "height-for-weight malnutrition" (stunting) is more likely the indicator utilized in public

[9] https://www.travinh.gov.vn/1426/37930/65515/tiem-nang-phat-trien

[10] It should be noted that "high labor demand" industries also generally tend to be low wage industries as well, i.e., provincial authorities' appear to be focusing on a competitiveness strategy based on cheap labor, which may be a rational strategy in the short-to-medium terms, but is probably not a strong, long-term competitive option.

[11] https://globalnutritionreport.org/resources/nutrition-profiles/asia/south-eastern-asia/viet-nam/. It should be noted that more up-to-date information is not available through other internationally available data sources (e.g., UNICEF and World Bank).

[12] http://www.asemconnectvietnam.gov.vn/default.aspx?ZID1=12&ID8=36265&ID1=2

policy circles, outside the medical and childhood nutrition community. By that measure, both Ben Tre and Tra Vinh have quite significant issues with malnutrition with 1 of every 5 to 6 children 5 and under in each province are presenting signs of stunting. This speaks to the relevance of Ben Tre's objective that the CSAT should improve the nutrition status of children in 164/164 communes, wards and towns in the province[13]. In Tra Vinh, which was reported to have higher rates of malnutrition as compared to other provinces in the Mekong Delta, the main cause of malnutrition has been ascribed to a lack of awareness/attention on the part of the family to childhood nutrition, and therefore the quality of children's meals do not meet the nutritional needs for their development.

Figure 4. Under-five-malnutrition rate in 2019

	Weight for age malnutrition	Height for age malnutrition	Weight for height malnutrition
Ben Tre	9.9	17.5	4.7
Tra Vinh	13.0	19.1	7.7

Source: GSO, 2020

50. Disability. The 2019 Viet Nam's National Survey on People with Disabilities showed that disability affects a significant portion of the Viet Nam's population. The survey found that over 7% of the population aged 2 years and older – around 6.2 million – have a disability, with 13% of people - nearly 12 million – living in a household with a person with a disability. With the aging of the population, and longer life expectancies, these percentages will undoubtedly rise. Findings from the survey show that households having members with disabilities tend to be poorer than the national average; children with disabilities attend school less; and adults with disabilities are more likely to be un- or underemployed than their peers without disabilities. While they are well covered by health insurance, and poverty does not appear to be a barrier to accessing health clinics, few persons with disabilities (2.3%) use rehabilitation services when sick or injured. Gaps also exist in living standards and the social participation of people with disabilities. Seventy-five percent of the disabled population lives in rural areas. In 2012 a National Action Plan to Support People with Disabilities was approved to provide vocational training and jobs for 250,000 people with disabilities. In 2014 Viet Nam ratified the U.N. Convention on the Rights of Persons with Disabilities (CRPD).

51. Land tenure. Viet Nam's legal framework clearly regulates the ownership and rights to land use and forest land. The Constitution of Viet Nam states that all land and natural resources are public properties, coming under ownership of the entire people represented and uniformly managed by the State (GoVN, 2013). The Constitution and the Land Law (2013) recognize the right of organizations and individuals to be assigned or leased land and to have their land use right recognized by the State through the grant of a land use right certificate. Land users have the right to transfer the land use right, and practice related rights and duties in concordance with the law. Households that have been allocated agricultural and residential land have their rights safeguarded under the Land Law (2013), including rights to compensation in the event of appropriation of land by the state and resettlement. These rights may be important in the context of policies and measures involving changes in land use or strengthening the conservation of forests. The Land Law also provides for compensation to households that use agricultural land but have not been granted land use rights certificates.

52. The Land Law is credited with laying the foundation for a formal land market by providing increased land-tenure security, facilitating access to credit, and bolstering the transferability of use rights. It formalized the farm household as the main unit of agricultural

[13] To do so, they intend to support activities focused on training, communication, healthy meal preparation, and measuring and monitoring of children.

production, and provided for the allocation of land-use rights to households, vesting in them the power to purchase and use inputs, sell outputs from the land and (to some degree) to make decisions regarding the use of land. The law also provides that land users may exchange, transfer, bequeath, lease and mortgage their rights, and requires the state to issue land-use right certificates (LURC) at the household level. Additionally, it increased tenure security by providing for use-right grants of 20 years for annual cropland (further increased to 30 years in a 1998 revision) and 50 years for perennial cropland. The law also imposed ceilings of 2 to 3 hectares on annual cropland and 10 hectares on perennial cropland, and addressed leasing of land to foreigners (Landlinks, undated).

53. Viet Nam's laws emphasize gender equality, including with regard to land-use rights. The Constitution prohibits all forms of discrimination against women, and states that men and women have equal rights in the family and in political, economic, cultural and social fields. Other laws provide that women have the same rights as men to engage independently in civil transactions, contracts, property management and justice mechanisms. The Land Law on Land requires that LURCs bear the names of both spouses if a land-use right is shared property. By law, a wife has the same rights and obligations as her husband in the use, possession and disposition of common property (ibid.).

54. Though by law women are provided land-use rights equal to men's, their access to and control of land remains low. A number of factors prevent women from asserting their land rights. These include the following: laws with inadvertent impacts; lineage practices; biased mediation groups and committees; biased testamentary (will-related) practices; lack of access to legal services; lack of enforcement and male privilege. Many localities have allocated land on the basis of the age of household members, with working-age individuals receiving larger allocations than others. Female-headed households often have fewer working-age adults, and have therefore tended to receive smaller allotments than male-headed households. Size of allotment is often affected by the assignee's retirement age, which is 55 for women and 60 for men, with the result that women are typically awarded smaller plots (ibid.).

55. Viet Nam's laws on inheritance and succession provide for gender equity, but in practice, outcomes tend to be biased against women. While men and women have equal rights to transfer property and to inherit according to testament or the law, the law also gives primacy to parental wills. In the vast majority of cases, excepting bilateral and matrilineal groups, families that divide property before death do so without regard to gender equity, and based on a variety of factors, including male preference and customary practice. Where there are both male and female children, males typically inherit property while daughters may inherit a smaller share or be excluded entirely. Due to the prevalence of patrilocal residency (the practice of married couples settling with or near the husband's family) and to expectations that sons maintain ancestral rites, daughters in families following patrilineal practices do not inherit land equally with their brothers (ibid.).

56. Several factors strongly discourage women from accessing legal services, which in turn affects their ability to exercise their land rights. Lower education and language levels are common barriers, particularly for ethnic minority women, as all formal legal affairs must be conducted in written Vietnamese. Notions of women's lower social status and perceived inability to interact with formal legal institutions also discourage women from seeking legal assistance. In addition, women have reported factors preventing them from accessing legal services, including a reluctance to deal with complicated bureaucratic processes and a sense of disempowerment when interacting with government representatives (ibid.)

57. Institutional Capacity. The Institutional capacity, experience and knowledge gained under the AMD project are there for the proposed project to capitalize and build upon. Certain

promising outcomes from the AMD (IFAD, 2021d) highlight those areas where current capacity exists for climate change adaptation. These include:

58. Ben Tre and Tra Vinh were badly affected by two droughts and saline intrusions in the winter-spring season of late 2015-early 2016, and late 2019-early 2020. Despite these strongly negative events the AMD poverty reduction goals were met, and slightly exceeded. This achievement was attributed to (i) having increased agricultural productivity for some 17 different agricultural products (out of 27 attempted); (ii) improvements in household-level climate resilience capacity (as measured by a resilience index) in 24,613 project households; and (iii) increased sales volumes and selling prices of a number of different agricultural products – for example, in Tra Vinh by more than 30% – as a result of the investments in climate resilient/improved infrastructure, production organization, market connections between producer groups and PPP-supported enterprises, and product quality. These outcomes provide evidence of a significant level of institutional capacity existing among local agencies, community groups, and service providers.

59. The AMD decentralized implementation to the districts and their agencies, providing them with a "learning by doing" opportunity that significantly improved their capacity to work not only with the project-supported communes, but which spilled over into non-project communes as well. This was most obvious in implementation of the commune-level "climate-informed SEDP" and the district-level "climate-informed SEDP". As the SEDP planning process is the vehicle for engaging with local communities and planning/prioritizing the coming years investments, capacity in this area is fundamental to being able to work on building climate adapted livelihood and production systems. Similarly, the project districts were able to play a lead role in implementation of the CCA action plan, and provide support to communes in implementation of the local Climate Change Adaptation Fund (CCAF) and the Women's Development Fund (WDF).

60. Provincial agencies also demonstrated capacity, which was rated "satisfactory" by the AMD project completion appraisal. It was noted that the provincial Departments of Agriculture and Rural Development (DARD) in both provinces – in cooperation with districts and communes, and in Tra Vinh, with universities – succeeded in selection, testing, evaluation, and documentation of CCA models, development of Value Chain Action Plans (VCAP) and agricultural sector action plans. Similarly, the provincial Departments of Natural Resources and Environment (DONRE) were able to successfully complete the environmental sector plans and CCA plans for 2016-2020. The provincial Departments of Planning and Investment (DPI) successfully developed, tested, and finalized a manual for implementing climate-informed SEDPs, and provided training to districts and communes to prepare and implement the commune-level, climate-informed SEDP. This strengthened as well the provincial SEDP in Ben Tre for 2016-2020 as it was able to incorporate a bottom-up element in its CCA planning, and for the 2021-2025 SEDP, both provinces were able to incorporate inputs from the commune and district levels climate informed, SEDP planning processes. The Women's Union also demonstrated its delivery capacity by implementing the WDF in both provinces, and in both project and non-project communes; women's groups participating in the WDF were able to access technical assistance and training for climate smart agriculture.

61. Still, it should be expected that institutional capacity risk will be significant. There are critical areas in which the responsible institutions have been unable to demonstrate capacity to deliver on their mandates. Of relevance to the project's (and the government's) objectives, these include:

62. Implementation of policies in a number of reform areas will require long-term capacity to support, for example, groundwater protection. DONRE (at both provincial and district levels) is responsible for water resources regulation and enforcement, but has yet to demonstrate capacity to effectively engage on and mitigate the unsustainable exploitation of

groundwater or to implement and enforce policies on regarding water resources management. As the CSAT envisages supporting sustainable management through the implementation and deployment of "smart solutions for water management", weakness in this area is of concern.

63. In all relevant line agencies, shortages of experts and technical staff specialized in: climate change and the assessment of the effectiveness of adaptation measures, particularly at the local level (districts, commune, and village levels); communications and awareness-raising on climate change; identification and dissemination of appropriate climate change adaptation models at the community-level; and making informed decisions for the prioritization of resources for the implementation of climate change adaptation activities.

64. Although Provincial DARD, DONRE, and MPI demonstrated experience in CCA elements of the AMD, the CSAT will require a high level of cross-sectoral cooperation for an integrated approach to improving resiliency in Ben Tre and Ta Vinh. Adopting a cross-sectoral and regional approach within their relatively rigid administrative systems will be a challenge. Mitigation measures will need to include oversight from the PPCs to facilitate cross-agency cooperation and inter-provincial coordination as required.

65. Even though IFAD and other development partners (e.g., World Bank) have been actively supporting the development of improved practices and models, going from these to routine application still presents a challenge as they will require ongoing allocation of resources. Mitigating this risk is difficult, and likely will require parallel support to raise the profile of successful activities and significant outcomes through evaluation and dissemination of the impacts and value of these activities to high-level decision-makers at both Provincial and national-levels.

1.2. Natural Resources and Management

66. General Context. Viet Nam's economic growth has been fueled by intense exploitation of natural resources. Utilization of land has intensified, water resources are increasingly stretched, natural forests have been logged, capture fisheries have depleted their resource base, and mineral resources are increasingly exploited. While nothing is wrong with using natural resources for economic growth, development is only sustainable when renewable resources are harvested at a level that allows for replenishment, and proceeds from exploiting non-renewables is invested in other forms of capital.

67. In Viet Nam's case, however, the overall growth of the economy, population growth, urbanization, and industrialization are yet combining to increase water pollution, urban air pollution, and the extraction of natural resources. While this is counterbalanced to a certain extent by increasing efficiency in the use of natural resources, technological progress and the structural shift from agriculture toward industry and services, the net result is still one where pressures on the resource base and pollution continue to increase.

68. Natural resources – land, water, forests, fisheries – are the foundational assets upon which agricultural production, and the ecosystem services that sustain it rest. By exploiting these assets, the agricultural and rural sectors have enjoyed significant growth. In the period between 2010 and 2019 the contribution to GDP by agriculture, forestry and fisheries grew by 28.7% in real terms, from VND 396,576 billion to VND 510,632 billion (constant 2010 prices).

69. This growth, however, was (and still is) subsidized by the unsustainable exploitation of soil, water and forest resources and the degradation and loss of ecological services. Cheap labor and the overuse of fertilizers, pesticides and herbicides have also underlain the "successful" expansion and intensification of agricultural production. These practices have had serious impacts in terms of biodiversity loss, natural resources degradation, and

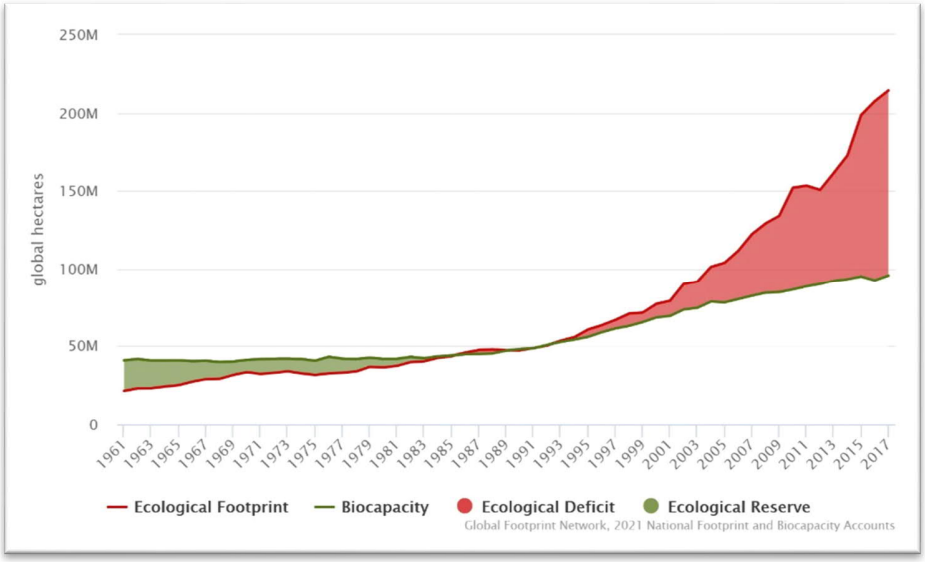


Figure 5. Viet Nam - Fueling growth with unsustainable resource use
Source: Global Footprint Network, 2021

environmental pollution and contamination. By one account, Viet Nam's ecological footprint[14] exceeded its biocapacity[15] in the early 1990s, and by 2017 the footprint exceeded biocapacity by almost 125% (Figure 5). Thus, for these contributions to be sustained, Viet Nam's challenge is to adopt pathways towards the sustainable management and use of natural assets and the environment rather than one of exploiting them beyond their carrying capacity.

70. Geography. The Mekong Delta region is roughly a 40,000 square kilometers triangle stretching from Gò Công in the east to Tân Châu and Hà Tiên in the northwest, down to Cà Mau at the southern tip of Viet Nam, and including the islands of Phú Quốc and Côn Đảo. The Mekong Delta plain can be divided in two parts: an inner delta that is dominated by fluvial processes, and an outer delta that is affected by marine processes. Tra Vinh and Ben Tre provinces are located in the outer delta. The inner delta is low-lying and close to sea level while the outer delta is built of coastal deposits, is fringed seawards by mangrove swamps, beach ridges, sand dunes, and tidal flats. A diurnal tide is dominant in the Gulf of Thailand, whilst a semi-diurnal tide is dominant in the East Sea. Tidal effects extend throughout the Vietnamese delta region (GoVN/GoN, undated).

71. The delta consists of a variety of landscapes, including tidal flats, sand ridges and tidal back swamps in the coastal area, estuaries at river mouths, river flood plains, broad depressions, peat swamps, alluvial levees and terraces further inland. The wetlands of the Mekong Delta are among the richest ecosystems in the Mekong basin. They are important breeding sites for many aquatic species migrating from upper reaches of the Mekong River. They can broadly be categorized into three groups: (i) saline wetlands with coastal mangrove and saltwater lagoons along the east coast and the west coast; (ii) inland wetlands dominated by melaleuca forest and seasonally inundated grassland habitats, and (iii) estuarine seasonally saltwater wetlands, distributed mainly at the mouths of the Mekong River (ibid.).

72. The annual flood pulse plays a vital role in agriculture and fisheries. The floods flush and dilute stagnant and polluted waters, recharge groundwater tables, maintain river morphology, sustain the productivity of freshwater fisheries, and floodwaters are retained for use in the dry season, particularly for irrigation. Flood-deposited sediments improve soil

[14] The area of biologically productive land and water required to produce all the resources consumed and to absorb all the waste generated, using prevailing technology and resource management practices.
[15] The ecosystems' capacity to produce biological materials used by people and to absorb waste material generated by humans, under current management schemes and extraction technologies.

fertility across the floodplains. The flood season in the Mekong River Basin lasts from June to November and accounts for 80 to 90% of the total annual flow (ibid.).

73. Land resources. Ben Tre is formed from alluvial soils deposited over geologic time by four rivers, all branches of the Mekong, which flow through it. They are the Tien river[16] (83 km long), the Ba Lai river (59 km long), the Ham Luong river (71 km), and Co Chien river (82 km). The East Sea lies along its 65 km coastline, forming the province's eastern border[17]. The topography of Ben Tre is largely flat and dotted with sand dunes that are interspersed with fields and gardens. Some forest and mangrove strips lie along the coast and estuaries. In addition to the four main rivers, the province also has an extensive network of rivers, canals, and ditches that interconnect. There are literally hundreds of these, including over 60 ranging from 50 to 100m wide, which confer an advantage to the province for waterway transport, irrigation, and commerce with neighboring provinces.

74. The total natural area of Ben Tre is 236,062 ha, and its four large rivers divide the province into three parts: An Hoa, Bao, and the Minh isles with their highly fertile alluvium. Elevation above mean sea-level averages 1 - 2m, with 10% of the land area below 1m in elevation.

75. There are four main soil categories in the province: sandy, alluvial, acid sulfate and saline soils. Saline soil account for the largest portion (43%), followed by the alluvial soils (27%), the acid sulfate soils (6.7%), and sandy soils (6.4%). Almost two-thirds (66%) of Ben Tre's land area is considered to be suited for agricultural production.

76. Saline soils occupy some 96,739 ha, and are found distributed in the coastal districts of Binh Dai, Ba Tri, and Thanh Phu. Saline soils in Ben Tre are divided into 4 types, depending upon the degree and duration to which they have been exposed to saline intrusion. Distributed through the province, they lie along a gradient from fresh to brackish to saline water areas.

77. Alluvial soils in Ben Tre are greater than 50cm deep. As they have been subjected to cultivation over very long periods, they have begun to degrade seriously. In low-lying areas north of Mo Cay, along Co Chien river, and in Giong Trom district along the Ham Luong river, the alluvial soils are well-mixed with organic materials from surface biomass to a depth of over 1 m. While overall fertility of these soils is quite good, they tend to be phosphorus deficient.

78. The acid sulphate soils of Ben Tre are deep (i.e. >50 cm deep) making them not completely unsuited for agricultural purposes, especially rice. Historically, farmers dug shallow drainage ditches and made raised beds between them for planting gardens, and rice. In areas of Ba Tri, Binh Dai, and Thanh Phu districts salinity intrusion in the dry season turns these soils both saline and alum, making them largely unsuited for planting. With appropriate cultural practices, these soils can be made productive for some types of agriculture.

79. Sandy soils occupy about 14,248 ha of the provincial land area. They are found inland from the sea, forming low sandy dunes with the eroded tops, around Ba Tri, Mo Cay, and Ben Tre Town. These soils have weathered in situ and so are not as porous as more recently sand depositions along the coasts of Binh Dai, Ba Tri and Thanh Phu districts. They are well-drained soils, with little organic matter (1%), very low fertility, and highly susceptible to drought. Even in near coastal areas, under tidal influences, salinity in these soils is not high.

80. Tra Vinh[18] is located between the two rivers of Co Chien and Hau Giang, and is bordered to the east by the East Sea; its coast line is 65 km long, along which are two estuaries (Cung

[16] The Tien is the main northern branch of the Mekong proper.

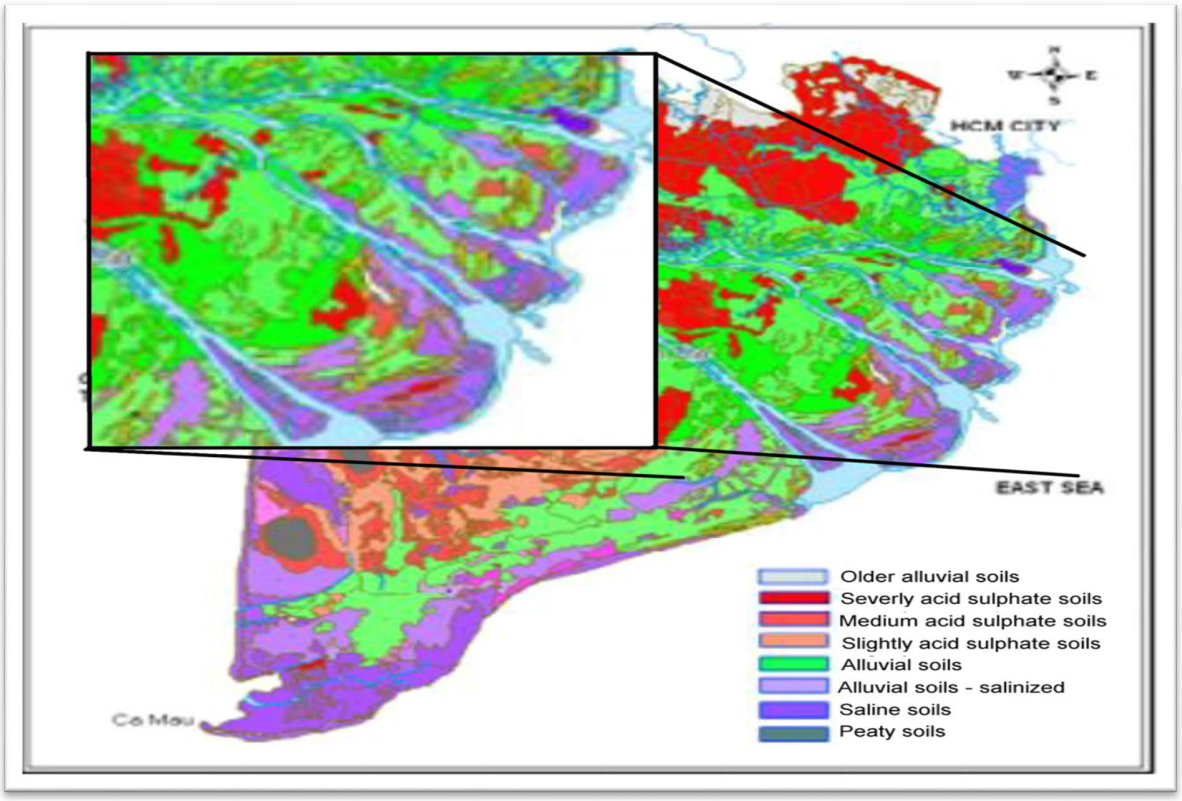
[17] See in: https://www.bentre.gov.vn/Lists/GioiThieu/DispForm.aspx?ID=1&InitialTabId=Ribbon.Read

[18] Adjusted land use planning to 2020 and land use plan for the last period (2016-2020) of Tra Vinh province. Tra Vinh PPC. https://www.travinh.gov.vn/Default.aspx?sid=1426&pageid=37938&p_steering=99984

Hau and Dinh An) that are highly important as trade passes inland from the East estuaries that trade in the Mekong Delta with the East Sea. River systems and canals stretch for a total length of 578 km within the province. The total natural area of the province is 235,826 ha, accounting for 5.8% of the area of the Mekong Delta. The terrain in Tra Vinh is mostly flat, with an average elevation of about 1m above sea level; it is characteristic of coastal plains, with sand dunes running continuously in an arc paralleling the coast. The terrain as a whole is complex, which lends itself to a diversity of production systems for food and cash crops, vegetables, and fruit trees. Rice is dominant in the low to medium elevation areas, with lower-lying areas along the rivers lending themselves to shrimp culture.

Figure 6. Main soil types in the Mekong Delta

Source: Royal HaskoningDHV and GIZ, 2020



81. According to Tra Vinh soils data map (1:50,000) from the Agricultural Planning Institute (2003), there are six main land categories in Tra Vinh province, including:

- Alluvial soil, found on 19.5% of Tra Vinh's land area. These are distributed along the Tien and Hau rivers, and fertile and well-suited for cropping and other productive, agricultural uses. There locations on the rivers gives them ready access to abundant irrigation water resources.
- Saline soil, which occupy about 27.5% of the land area. Almost 90% of these are heavily salinized and so are best suited for aquaculture and mangrove reforestation
- Acid sulfate soils, comprising about 18% of the land area. Only some 27% of these are suited to either forestry or aquaculture uses.
- Topsoil, found in 18.1% of the land area, of which about 27% is developed to non-agricultural use, and the remainder is planted to perennial crops (e.g., fruit trees and coconuts);
- Sandy soil, which covers 7.7% of the land area, and is suitable for growing cash crops
- Coastal alluvium, which occupies about 2.3% of land, and is the product of sedimentation process at the river mouths[19].

82. The inset in Figure 6 gives an overview of the soil resources and their distributiion in the Mekong Delta.

83. Water resources. In the two provinces, water resources' availability – both surface and ground – is becoming increasingly problematic as climate change impacts, sea levels, flood tides, and saline intrusion are all on the rise, while water demand is on the increase from industrialization, urbanization, agriculture/aquaculture, and changing lifestyles. In addition to climate change and sea level rise factors, the Mekong Delta is also strongly affected by Viet Nam's upstream neighbors, whose activities exercise significant influence on water resources, and the river's ecosystem. All factors that are extremely difficult to influence, making it necessary instead to anticipate the unavoidable and focus on adaptation to, and mitigation of both the problems and their impacts.

84. Flow in the Mekong river exhibits large variations throughout the year, and from year to year. The annual flood season occurs in the period July-November, and accounts for 90% of the total annual flow. The low flow season runs from December to May and provides only 10% of the total annual flow. The lowest flows generally occur in the months of March and April. Usually a single flood peak occurs between late September and early October. In years with relatively high floods there may be two distinct flood peaks.

85. The source of surface water for Ben Tre province is the Mekong River (Tien River), which as noted above, divides into four branches running through the province to the sea. All the rivers flow from the northwest to the southeast. The Ham Luong is the largest of these, carrying the largest volume of water within its average width of 1,200 to 1,500 meters and depth of 12 to 15 meters. At its mouth, its average width is about 3,000 meters wide. In addition to rivers, the province also has its extensive network of some 6,000 km of interconnecting canals, and ditches that water the interior of the province.

86. For Tra Vinh, surface water supply comes from its two major rivers, the Hau river, which forms the boundary between Tra Vinh and Soc Trang province and enters the sea at the Dinh An estuary. Its width averages from 2.5 - 3.0km, and its depth from 7-13 m; it is a very important source of fresh water for the province. Flow during the year averages 1,154 to 12,434 m^3/hr. The Co Chien River, a major branch of the Mekong River, has a width from 0.8 to 2.5km, and an average depth of 4 - 14m. Flow during the year averages 1,814 to 19,540 m^3/hr.

[19] TraVinh DONRE report 2019

87. There are also several major tributaries (e.g., Cai Hop, An Truong, Can Chong rivers) and canals (e.g., Tan Dinh, Bong Bot, Tong Long canals). In total, there are over 600 km of large canals, with another 2,000 km of primary and secondary canals that essentially cover the entire province, supplying irrigation water in the dry season, and serving as drainage in the rainy season.

88. Despite this abundance of surface water resources, both Ben Tre and Tra Vinh experience shortages of fresh water, especially in the dry season. The natural variability in the river flow regime, combined with increasing water use in the upstream countries and the Mekong Delta itself, are making the water supply for agricultural and domestic use in Ben Tre and Tra Vinh unreliable. In addition, surface water resources in both provinces are significantly affected by saline intrusion, and inland rivers and canals affected by saline water and alum. This is a strong trend that requires adaptation of agricultural practices and rural and urban water supply water supply systems. In recognition of the suite of problems for freshwater supply, the MDIRP's water supply zoning, places both Ben Tre and Tra Vinh into "Category III"; the lowest category where "Water resources are unfavorable with problems mainly connected to salinity and insufficient flow. Main direction for water supply: interprovincial raw water supply combined with limited use of groundwater and application of desalination technology" (Royal HaskoningDHV and GIZ, 2020)

89. Rainfall is another important water resource, with the rainy season running from May to November and dry season from December to April. Rainfall is abundant, if unreliable in some years (e.g., El Niño years). The average annual rainfall in the project area ranges from 1,200 mm to 1,500 mm in Ben Tre, and 1,420mm to 1,756 mm in Tra Vinh. Increasingly extreme intensity rainfall events are resulting in localized flooding and crop damage.

90. In general, groundwater in the Mekong Delta is widely distributed through seven aquifers whose water storage capacity is moderate. The brackish groundwater reserves in these aquifers far exceed freshwater reserves. Still, the fresh water aquifers, which provide a quality of water that generally is suitable for drinking and consumption, are very important sources of freshwater domestic use and irrigation. The aquifers in which water quality is relatively good, are exploited at depths ranging from 50 - 450m.

91. Groundwater exploitation is via numerous registered and unregistered private tube-wells (usually at depths of 80–120 m or more) and by regulated water supply plants accessing groundwater in the deeper aquifers (100 to over 300 m). Most of the groundwater in the Mekong Delta is extracted from confined aquifers with low to very low natural recharge rates. All but one (the deepest) aquifer in the Mekong Delta have been sufficiently researched to allow for drawing general conclusions on geological and hydrogeological characteristics of each strata. (Royal HaskoningDHV and GIZ, 2020)

92. Groundwater in Ben Tre is not a major supply source for the province, which is much more heavily reliant on surface water resources. Fresh water availability from surface water, however, is diminishing in the dry season due both quantity (e.g., dry season flows) and quality (e.g., saline intrusion) issues, such that increasingly there is a need to access supply from either groundwater or rainwater captured during the rainy season and stored (JICA, 2016). Shallow groundwater in Ben Tre tends to be of low quality due to its direct interconnection with surface recharge areas (e.g., sand dune areas) and/or surface waters,. (Tuan and Koontanakulvong, 2019)

93. Estimates of the groundwater volumes that can be exploited are 213,727 m^3/day of fresh groundwater, and 5,511,282 m^3/day of brackish groundwater. Most existing wells extracting water from the shallow aquifers at a depth of 0 to 200m. Some 2,637 wells that pump more than 200 m^3/day are registered (Minh, 2017).

94. In a recent report (JICA, 2016), DONRE is reported to have assessed groundwater potential for domestic and aquaculture water supply in Ben Tre Province. The report is quoted as having reported: "Groundwater quality in fresh water aquifers can be used to supply water for drinking and domestic purposes if treated for problems of hardness, iron, and to bring sulfate ions and cadmium to within accepted regulatory limits. In aquifers with brackish to saline water, the accepted quality standards for aquaculture are exceeded for NH_4 (ammonium ion), Cd (cadmium), Phenol, and pH in the Upper Miocene aquifer….the data indicates that groundwater supply potential in Ben Tre is low compared to other provinces in the Mekong Delta, but could still be an important source to meet the individual water supply needs at a small and medium scale. Brackish/saline groundwater water potential was considered good for meeting supply needs for the aquaculture sector."

95. Regarding the use of brackish groundwater for aquaculture, JICA (2016) notes that as the aquaculture areas lie outside of the dike systems, brackish water is available years around. However, as freshwater is required for mixing in order to regulate the saline concentration in the shrimp pond, there are only three options for obtaining that: reserve rainwater in a pond, acquire freshwater from a canal when available, or pump groundwater. However, groundwater pumping in these coastal areas is presently prohibited due to the risk of land subsidence, and therefore, aquaculture households must secure water from rain or from canals.

96. Groundwater in Tra Vinh lies within the same seven aquifers as Ben Tre's. Of the seven aquifers, the shallow groundwater aquifer, as noted above, is of greatest interest for groundwater production; though in Tra Vinh its depth is greater, between 60 and 160m (Minderhoud et al, 2017). It underlies a wide area of the province, contains a relatively large supply of good quality water and so is an important source of supply for domestic and productive purposes.

97. In contrast to Ben Tre, groundwater is a major source of water supply for domestic, aquaculture, and industrial purposes in Tra Vinih. Official figures (DONRE, 2018) showed that there were a total of 121 permitted wells pumping over 61,620 m^3/day of groundwater; however, "unofficial" wells are known to far exceed permitted wells in both number and volumes of water pumped. A 2010 estimate (Sanh, 2010) placed total pumping at 245,920 m^3/day, with 82% of the total from unregulated wells, About 80% of the pumping in 2010 from registered wells was abstracted from the Middle Pleistocene (>200 m), whereas the unregulated wells drew about 35% of volumes from the Upper Pleistocene (<100m) and 60% from the Middle Pleistocene. There is still no clear understanding of groundwater use patterns or distribution across the province. A more recent study (Tuan and Koontanakulvong, 2019) estimated that in the dry season of 2016, groundwater pumping was about 346,300 m^3/day, with Duyen Hai, Tra Cu and Cau Ngang districts accounting for about two-thirds of the total.

98. The same study reported that:

- Dry season pumping for groundwater in the coastal and near coastal areas was associated with the aquaculture farms pumping freshwater to balance salinity; with these utilizing an average of about 42m^3/ha during the entire season. Groundwater was also found to be the main irrigation source for annual crops such as watermelon, pepper, and onion from January to April; using about 30m^3/ha/day.
- Most households using groundwater do so from their individual wells. An estimated 80% of households in coastal zone rely upon groundwater for domestic use, with that percentage dropping to 44% in northern part of the province where most groundwater is brackish and saline. In the middle province (inland and coastal), the percentage of households reliant on groundwater was estimated at 83% and 73% percent, respectively. Coastal households daily consumption was 3x the rate of households in the north (3.8m^3/HH/day vs 1.15m^3/HH/day)

- Total groundwater consumption is concentrated in the coastal districts (Duyen Hai, Tra Cu and Cau Ngang), which represent almost 60% total groundwater usage in the province.
- Results of groundwater modelling showed that abstraction of groundwater always exceeded recharge, explaining the observed rate of decline groundwater – about 50cm/yr – between 2007 to 2016.

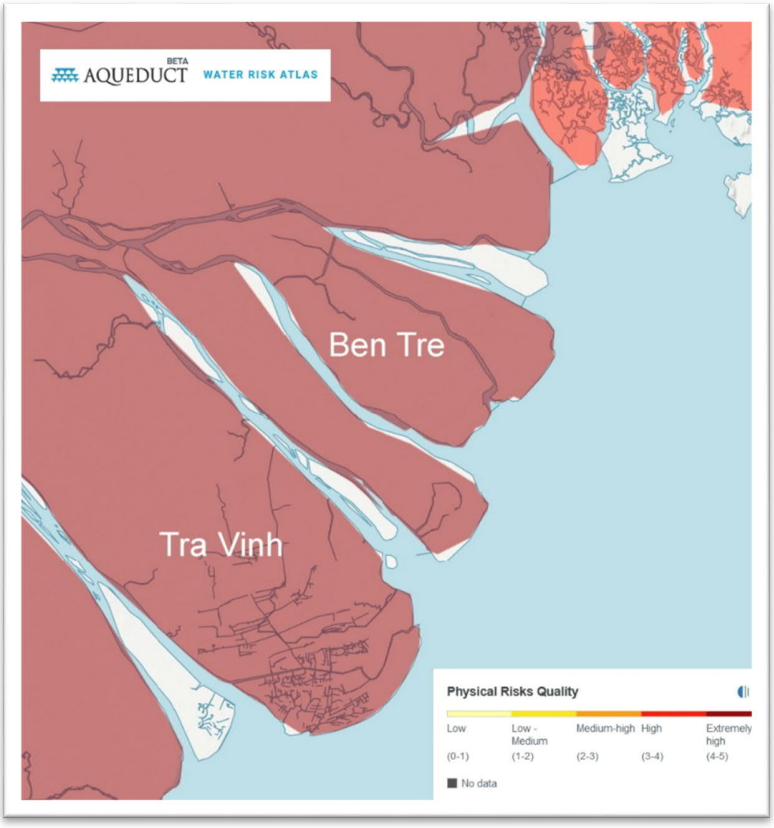
99. Groundwater pumping is of particular concern and interest due to it being identified as a major cause of land subsidence. Modelling of subsidence led to the conclusion that more than two-thirds of detected land subsidence might be caused by groundwater pumping. These conclusions, however, are more of a first approximation. Volumetric pumping data on groundwater abstraction in the Mekong Delta are not systematically collected nor, yet, are all wells known and registered. Thus estimations are educated guesses at best. It can be can safely assumed that groundwater extraction is not evenly distributed throughout the Delta or the project areas, thus the nature of the local drivers of land subsidence, as well as their individual weight and importance, may vary strongly and so it also unclear whether the modelling results are applicable in all locations. (GIZ, 2019). However, in response to concerns about subsidence from overexploitation of groundwater resources, government has banned the abstraction of groundwater from some areas of the Mekong Delta from 2020. Tra Vinh province has issued its own regulations that list specific areas and aquifers in which all wells must be registered, and where new wells or further drilling are prohibited. All districts and cities in the province are included in the list. (Tra Vinh PPC, 2020)

100. Water Pollution. The World Resources Institute's Water Risk Atlas (AQUEDUCT) categorizes the proposed project provinces as having an extremely high risk associated with water quality[20]. This is based on an aggregate index that considers: (i) the percentage of domestic wastewater that is connected to a sewerage system, but that is not treated to, at least, a primary treatment level, and (ii) coastal eutrophication potential based upon the potential for riverine loading of nitrogen (N), phosphorus (P), and silica (Si) that stimulate harmful algal blooms in coastal waters. The concern raised is that water would be unfit for use due to high percentages of point source wastewater being discharged without treatment, as well as and enough additional point-source and nonpoint-source pollution to potentially degrade the environment (Figure 7). Given the concerns about fresh water shortages in some areas (especially coastal zones), and heavy reliance in Ben Tre on surface water, water quality degradation is a factor of great concern.

[20] This is an aggregate index based upon: (i) the percentage of domestic wastewater that is connected to a sewerage system, but that is not treated to at least a primary treatment level, and (ii) coastal eutrophication potential based upon the potential for riverine loadings of nitrogen (N), phosphorus (P), and silica (Si) to stimulate harmful algal blooms in coastal waters.

101. The concerns regarding pollution that are raised in the Mekong Delta Integrated Regional Plan (MDIRP) very strongly reinforce WRI's assessment. The MDIRP (Royal HaskoningDHV and GIZ, 2020) notes that from both upstream and within the Mekong Delta, the aquatic environment in the Delta is being degraded, and the quality of surface waters in the Mekong Delta is seriously compromised. A broad array of point and non-point source are the reason, which include: the release of untreated industrial and household wastewater; intensive cultivation practices in agriculture (agrochemicals: fertilizers, pesticides, fungicides and herbicides) and livestock (manure); improper disposal of domestic, municipal, industrial, medical, and agricultural solid waste; and aquaculture (pest and disease control substances, fish waste). The restoration of polluted rivers and open water bodies, the mitigation, control and prevention from further environmental pollution, and the safeguarding of environmental quality are considered to be key challenges for integrated regional development. Also, large challenges loom to control and monitor the use of fertilizers and agrochemicals; to address the extremely low wastewater treatment capacity; and the increased solid waste generation[21] in the face of limited collection with most of that not being properly treated. These forms of environmental pollution are not solely a problem for water quality. Both lands and air are also being degraded by, among others, chemicals, and solid and toxic waste from industries, agriculture, aquaculture, and households. Improving environmental management and protection are hampered by lack of a scientific basis and monitoring data. While the data on forest coverage and coastline issues is quite strong, the data on environmental quality are scattered and of limited value for analysis. Field monitoring and data collection for these issues are characterized as "scarce and geographically inconsistent".

Figure 7. Physical risk from water quality, current.
Source: WRI, 2019



102. Field work for project design further confirmed the reasons for concerns regarding water quality. Specifically, concerns were raised on the sanitation/hygiene conditions in high technology shrimp farming area, where waste water is not appropriately managed. According to previous findings in a mission scoping report, stakeholders impressed upon the mission that the Mekong Delta's position as a major exporter must be maintained and strengthened. This requires the production of high quality, certified products, which is currently not always the case. Particularly in aquaculture, the presence of heavy metals and pesticides in the water, the discharge of wastes from operations

[21] The MDIRP reports that solid waste generation rates increased by 65% in Tra Vinh during the period from 2015 to 2019.

practicing intensive shrimp culture practice, lack of effective waste and wastewater management, and weak enforcement of laws and regulations are a problem and raise concerns about longer term sustainability and market competitiveness. As a start, improving the monitoring of surface and groundwater quality monitoring is essential.

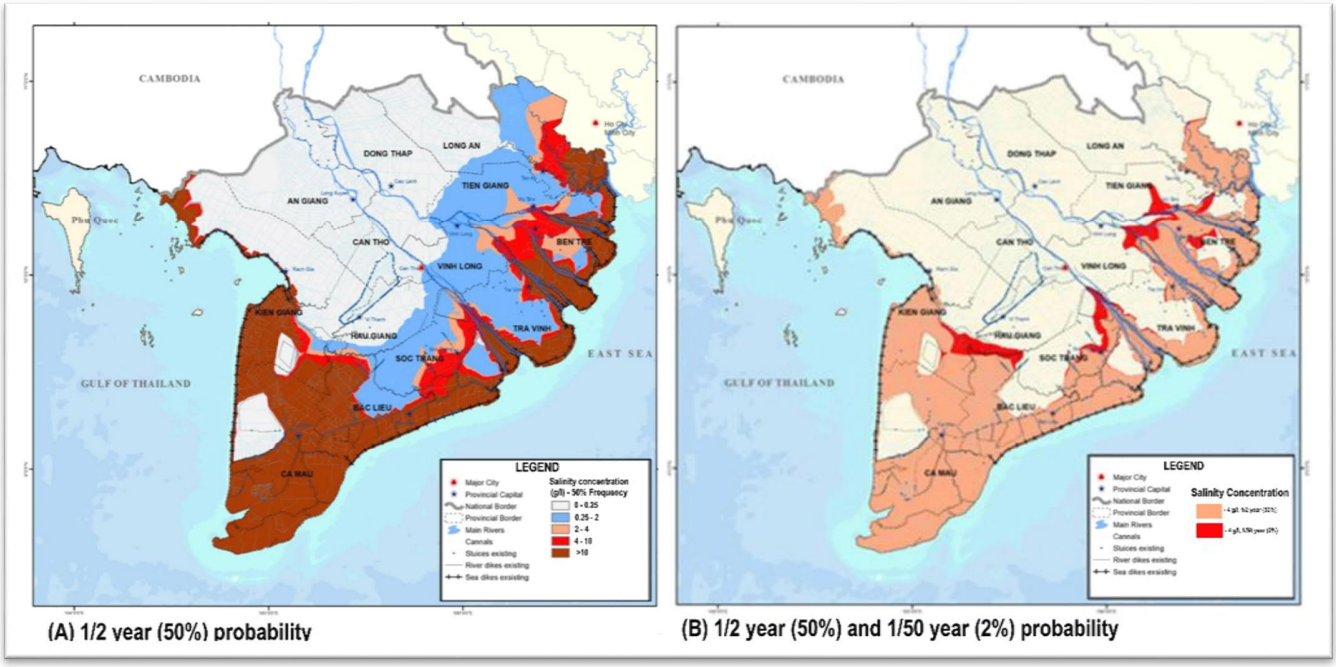
103. Riverbank and coastal erosion. Areas of Tra Vinh and Ben Tre suffer from serious riverbank erosion that is causing severe damages and adversely affecting the lives of people and communities occupying the riversides. In Tra Vinh, more than 19 dangerous riverbank sections, totaling more than 13km in length, have been identified as under threat from ongoing erosion. In the coastal zone and on occupied islets in the rivers, there are 13 communes with 4,705 households that have been identified as requiring resettlement due to erosion[22]; though none have been so to date. Strong northeast monsoon winds associated with high tides, rising sea levels, heavy rains, and overexploitation by sand mining operations within and near the river channels have all contributed to accelerated riverbank and coastal erosion, with the associated destruction of houses, loss of agricultural lands, and increasing likelihood that entire communities will need to resettle outside of vulnerable areas. Currently, the provinces are pursuing "soft solutions", such as mobilizing people to respond to natural disasters, mapping and local zoning of vulnerable areas, putting up warning signs in vulnerable areas, revegetation/planting forests, others. Due to resource limitations and the high costs of engineered, "hard solutions", the provinces are seeking central government support for the construction of protection works (embankment, dykes/dams). CSAT will make a contribution to both the soft and the hard solutions, and assist to address some of the underlying causes of riverbank erosion as proposed through the MDIRP. Appendix 3. In-depth Climate Risk Analysis provides detailed information on riverbank and coastal erosion threats and risks.

104. Tidal influence and salinity intrusion. Due to tidal movement, the low-lying flat topography and the very dense network of canals, the Mekong Delta is prone to salinity intrusion. In discussing salinity, two figures should be kept in mind: (i) 0.25 g/l[23], and (ii) 4 g/l. The former is considered the upper limit for domestic and industrial water supply (Royal HaskoningDHV and GIZ, 2020), and the latter is the concentration at which rice and other saline sensitive crops are affected (Tamura, et al, 2020).

[22] Adjusted land use planning to 2020 and land use plan for the last period (2016-2020) of Tra Vinh province. Tra Vinh PPC. https://www.travinh.gov.vn/Default.aspx?sid=1426&pageid=37938&p_steering=99984

[23] This is the WHO standard. Viet Nam, however, in coastal areas has adopted a standard of 1 g/l. In general, <0.6 g/l is regarded as good quality drinking water; 0.6 – 0.9 g/l fair quality; 0.9 – 1.2 g/l as poor quality; and >1.2 g/l as unacceptable.

Figure 8. Salinity intrusion in an average year (A), and in an average and a high year (B).



Source: (Royal HaskoningDHV and GIZ, 2020

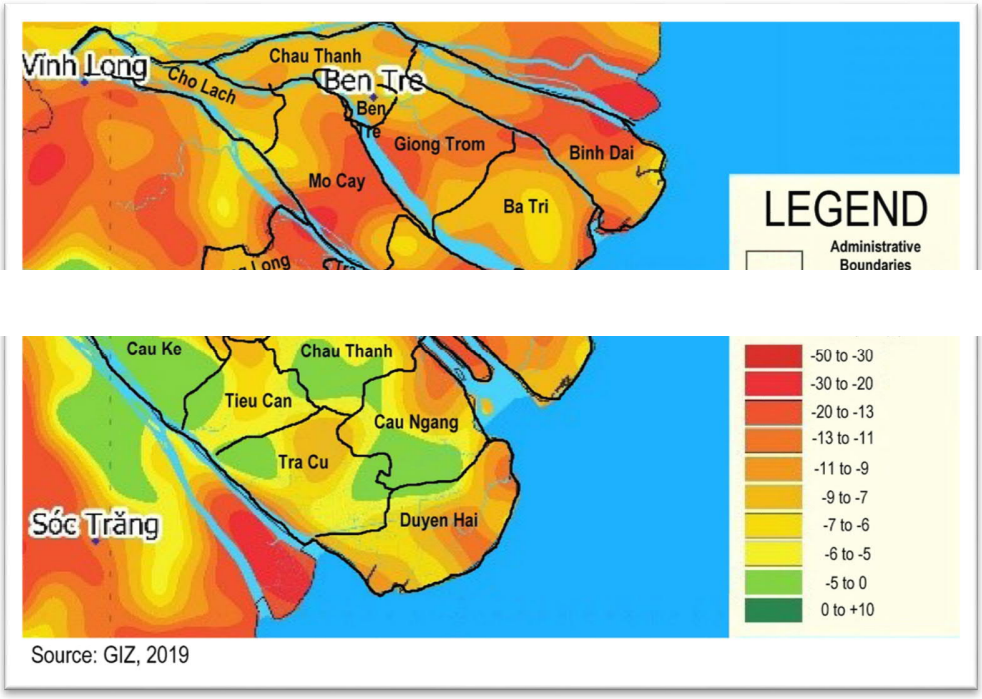
105. Figure 8, above, shows the spread of salinity intrusion in a near-normal year, with a return period of 2 years, based on model simulations. It suggests that a maximum annual salinity of 4 g/l will intrude about 45 km inland in the Hau river, and about 50-55 km inland in the estuary branches of the Tien river. For large areas in the coastal provinces, the maximum salinity levels are over 10 g/l. Under more extreme conditions, with lower river discharges in the dry season, the salinity intrusion will increase. Figure 8b shows the difference in salinity intrusion between a high and an average year using the 4 g/l isolines as an indicator. Compared to the flows in the average dry season, the high scenario's 20 to 30% reduction in dry season flow volumes results in salinity intrusion progressing about 15 km further upriver on both the Hau and Tien rivers; affecting significantly greater areas of the project provinces. (Royal HaskoningDHV and GIZ, 2020),

106. Additional dam building, sea level rise and land subsidence can be expected to further aggravate salinity intrusion. Since the saline and brackish conditions are determining the agricultural and aquaculture potential, unless salinity control measures are taken or alternative sources of fresh water are accessed, many farmers in the coastal zone can be expected to use groundwater either as a supplementary source for freshwater, and/or to dilute the salinity content of brackish water for irrigation usage. As groundwater pumping is a main cause of land subsidence, this can be a dangerous development in extremely low-lying areas. (Royal HaskoningDHV and GIZ, 2020). Appendix 3. In-depth Climate Risk Analysis provides more detailed information on saline intrusion risk and impacts in both Ben Tre and Tra Vinh.

107. Groundwater abstraction and land subsidence. As noted previously, groundwater is pumped via countless registered and unregistered private tube-wells, and by regulated

water supply plants from confined aquifers with low to very low rates of natural recharge. It is this exploitation of groundwater that is considered to be the main cause of accelerated land subsidence in the coastal zones (i.e., where the project provinces are located), the Ca Mau Peninsula, and the central delta. More intensive land-use, population growth and increasing dependency on groundwater is contributing to overexploitation. Mean sea level rise is currently at a rate of about 3.5-4 mm/year, and the average rate of land subsidence is roughly an average of 3 cm/year, measured over the period 2014-2019. At such rates, 35-40 cm of relative sea level rise (combining sea level rise and land subsidence) will occur by 2030 in much of the Mekong Delta, and more than 1m by 2050, compared to 2020, unless unsustainable exploitation of groundwater is stopped.

Figure 9. Land subsidence rates in the project provinces and districts, a simplified interpolation. (Note: district boundaries are approximate)



108. A relative sea level rise of 50 and 80 cm would respectively cause 29% and 54% of the land area of the Mekong delta to fall below mean sea level. Depending on the location, such areas will have substantial drainage challenges in case of extreme rainfall, river flooding or storm surges, because there would not always be sufficient gradient for drainage, especially in areas further inland. Regardless of what action is taken on groundwater extraction, possibly by 2030 and very likely by 2050, major flood protection and pumping for drainage will be needed in cities and towns, and also in rural areas, depending on land use and transitions in production practices. Figure 9 provides one scenario of what the current rates of subsidence might be in the project area. Appendix 3. In-depth Climate Risk Analysis provides more detailed information on subsidence and relative sea-level rise in the project area.

109. Flood risk. The World Resources Institute's AQUEDUCT Water Risk Atlas provides an estimate of flood risk based upon hazard (inundation caused by river overflow or storm surge), exposure (population in flood zone), and vulnerability. The existing level of flood protection

is also incorporated into the risk calculation (WRI, 2019).[24] By these measures, current flood risks are "high" in the majority of the project areas, with portions of Tra Cu and Tieu Can districts classified as "extremely high risk". Figure 27 in Appendix 3. In-depth Climate Risk Analysis show the AQUEDUCT classifications for riverine and coastal flood risk in the project area.

110. The assessments of flood risk by the provinces utilized other methodologies. Ben Tre utilized a design flood based on the highest average river flows that are recorded during October and November in any one year. Tra Vinh used a design flood based on the flood of record experienced in 2016. Both assessments focused only on area and not on potentially affected population.

111. In Ben Tre, the predicted impacts and risks were not large, and were well-distributed among the districts. The most impacted are predicted to be Cho Lach, Giong Trom, Ba Tri, Binh Dai, Chau Thanh, and Thanh Phu. The calculation results show the largest inundated area is Thanh Phu, but in terms of the percentage flooded by district area, Cho Lach district has the largest percentage of flooded area with about 18% of the district area.

112. In Tra Vinh, the areas with the highest risks were identified as those adjacent to the major rivers, outside of river dykes, along the coast, and in low-lying areas inland. According to the results, currently the areas most subject to flooding are located in:

- Chau Thanh district: 7,355 ha or 20.4% of total land area
- Duyen Hai district: 5,377ha or 18.4% of total land area
- Tra Vinh City: 5,377 ha or 17.2% of area
- Cau Ke district: 4,203 ha or 17.1% of area
- Cang Long and Cau Ngang districts with at risk areas constituting about 6% of total area.

Appendix 3. In-depth Climate Risk Analysis provides greater detail on flood risk in the project provinces.

113. Natural Disaster. With its relatively flat and low terrain, and more than 700 km of shoreline, the Mekong Delta is a land with a long history of being affected by natural disasters related to water and climate. Today, extreme climatic events are further exacerbated by climate change, sea level rise, dam construction and operation upstream of the Mekong River basin, and interventions in the Mekong Delta such as groundwater extraction, mangroves degradation and development of some inappropriate infrastructure. These dynamics contribute to making the Mekong Delta one of world's areas most vulnerable to climate change.

114. In the Mekong Delta, the most common natural disasters include:

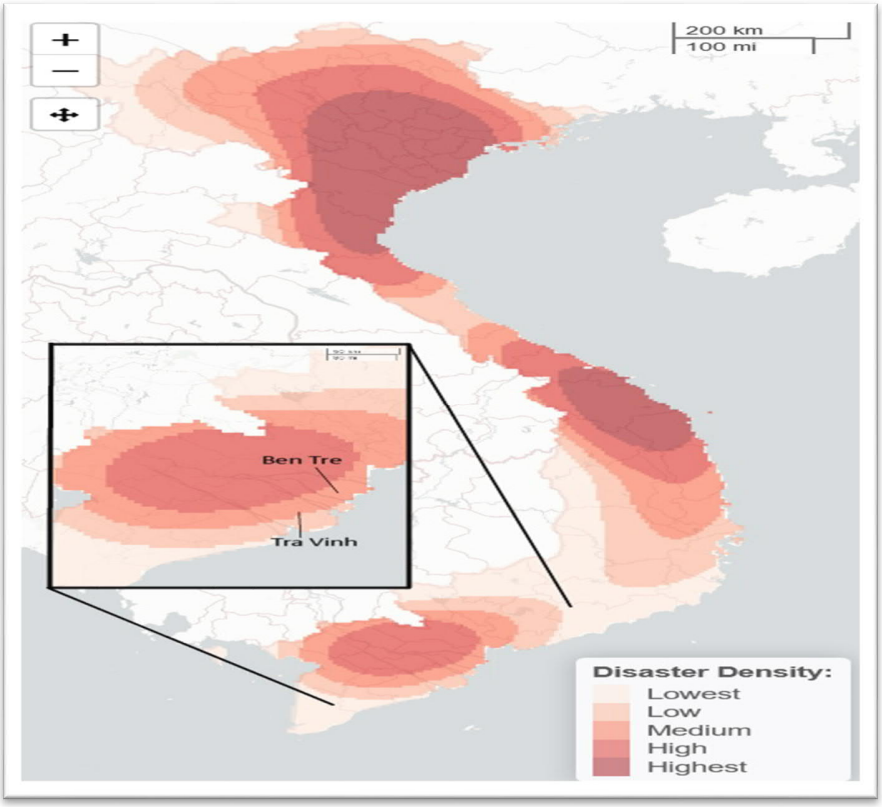
- Extreme river floods (e.g., 2000, 2001 and 2011)
- Storms and storm surge (e.g., 1997 hurricane 5)
- Drought (e.g., in 1998, 2016, 2020)

[24] The indicator represents flood risk, not in terms of maximum possible impact, but rather as "average annual impact". The impacts from infrequent, extreme flood years are averaged with more common, less noteworthy flood years to produce the "expected annual affected population." Higher values indicate that a greater proportion of the population is expected to be impacted by the floods on average.

- Severe saline intrusion occurs at the same time as drought (e.g. 1998, 2016, 2020)
- Coastal and riverbank erosion
- Local heavy rains and flooding due to rain (damage to crops and local flood).
- Heat wave (damages crops and affects vulnerable groups).

(Royal HaskoningDHV and GIZ, 2020)

Figure 10. "Disaster density" 2000 – 2018



Source: CRED, undated

115. According to the International Disaster Database (EM-DAT) of the Centre for Research on the Epidemiology of Disasters (CRED), between 1997 and 2019 there were 11 major natural disasters reported, which impacted the provinces of Ben Tre and Tra Vinh. Of these, five were caused by tropical storms or typhoons, three were the result of heavy rainfall, three were droughts[25], and one was an epidemic. In terms of frequency, Ben Tre and Tra Vinh have experienced, on average, about one natural disaster every two years since 1997. Missing from the database is the 2020 drought in the Mekong Delta, reported to have been the worst on record for the Mekong Delta, which also gave rise to saline intrusion that surpassed the 2016 record for worst to date. According to MARD, however, the agricultural sector successfully overcame both the saltwater intrusion and drought, deploying a number of solutions such that agricultural production losses were estimated to be only about 7%-8%. These included the timely prediction of the coming drought and saline intrusion, which allowed producers to

[25] The EM-DAT does not include "saline intrusion" amongst the natural disaster categories that are tracked, however it is likely that in those years where drought is recorded that, at least of late, it could be assumed that saline intrusion would also have been aggravated by the drought phenomena.

adjust their seasonal cropping calendar and structure, in line with the expected availability (quantity and quality) of water resources in each sub-region. (MARD, 2021)

116. A recent analysis (Kim, et al, 2019) assigns a current typhoon hazard rating of low to medium typhoon hazard for the project provinces. Still, as can be appreciated from the fact that 8 damaging typhoons, tropical storms, and heavy monsoonal rains occurred in 23 years (i.e., about once every three years), "low" in this context still translates into relatively frequent, damaging events.

117. Drought. Drought is another frequent and serious issue for which the Mekong Delta and project provinces figure as "hot spots", i.e., locations with a high annual drought susceptibility (UNDRR, 2020). The concept of drought in the context of the Mekong Delta, and especially the project provinces, goes beyond a discussion of periods when dry weather patterns dominate an area (meteorological drought) to the consideration of hydrological[26] and agricultural drought[27]. This is discussed in detail in Appendix 3. In-depth Climate Risk Analysis.

118. As a general note on drought, the El Niño Southern Oscillation's (ENSO) impact on rainfall and drought is often cited as a contributing factor to drought in the MRD and project provinces. A recent study (Vinh et al, 2020) analyzed data from 102 monitoring stations across the VMD from 1989 to 2017, and concluded the followings:

- The ENSO has a strong impact on rainfall characteristics in the MRD, and these are correlated with Oceanic Niño Index (ONI)[28].
- ENSO processes significantly impacted rainfall regime characteristics, especially the dates of onset and cessation of the rainy season, and season length.
- Total annual rainfall and dry season rainfall are also correlated with ENSO processes, but with lower reliability (e,g., correlation with ONI has R^2 on the order of 0.46). Some La Niña years exhibited significantly lower total rainfall than El Niño years.
- In La Niña years, dry season rainfall averaged more than 100 mm. In El Niño years, dry season rainfall usually remained less than 100 mm.
- Dry season rainfall, which could be an important source of water for domestic purposes or as supplement in horticulture, lacked the predictability needed for effective exploitation.
- No correlation was found between maximum number of days without rain during the rainy season and ENSO processes, indicating that ENSO processes are probably not involved in droughts during the rainy season.
- The shortest rainy seasons were found in the estuary zone (i.e., in the project provinces).
- The number of consecutive days without rain averaged 96 annually, with a difference of 29 days between the largest and smallest observations.
- Although the impacts of climate change on the rain regime is complex, it can be said that the rainy season now tends to start earlier, end later, and be lengthier, though without exhibiting clear trends.

119. In Ben Tre, from the perspective of government officials and residents of Ben Tre Province, the experience with and concern over drought is second only to that for saline intrusion. This was established through surveys carried out to sample a wide range of stakeholders among government officials and households at all levels (commune, district, province). The results demonstrate that saline intrusion and drought (which go hand-in-hand) are a universal concern in the province, which clearly reflect the very recent experiences of the province. The 2019/2020 drought resulted in a salinity level of 5 g/l penetrating through

[26] Depletion of surface and subsurface water resources, usually due to low rainfall.
[27] A period when soil water is insufficient to meet crop water requirements, resulting in yield losses.
[28] An index developed by NOAA's Climate Prediction Center.

Ben Tre into the upstream provinces, resulting in substantial losses in the agricultural sector, and some 86,900 households lacking potable water. Only three years prior, the 2016 drought and its resulting saline intrusion had been the worst until the 2019/2020 event.

120. In Tra Vinh, drought occurs frequently (DONRE/Tra Vinh, 2020). Cau Ke, Cang Long, and Tra Cu districts are less drought-prone. For Tieu Can district, drought is more common at the beginning of the cropping season in June and July; and for the remaining districts (Chau Thanh, Cau Ngang, and Duyen Hai), when drought occurs it is more commonly in the middle of the cropping season in July and August, which timing has a much more serious impact on agricultural production.

121. Forest resources and biodiversity. Statistics from Forest Planning Department (FPD) and Southern Sub-Institute for Forest Inventory and Planning Institute (FIPI) indicate the overall forest coverage in 2016 reached 39.5% in Vietnam, and 4.3% in the Mekong Delta region, including mangrove production forest, Melaleuca forest land and protection forest. Currently, the coverage is slowly growing again because of reforestation and afforestation efforts. However, in relation to coastal protection, the area which can be reforested is very limited because the potential land for this is “squeezed” between intensive land-use (aquaculture) on the land side and the threat of coastal erosion on the sea side (both west and east coasts of the delta).

122. The Mekong Delta wetlands provide unique habitats for both aquatic and terrestrial plants and animals - breeding sites for many aquatic species and resting-feeding places for migrating birds during winter. Some wetland species, such as mammals and birds, may spend only part of their lives in wetland habitats whereas others, such as amphibians and fish, may depend entirely on wetlands for their survival. Important species associated with wetlands are those that are seen as a resource, either because they are rare and therefore have a special conservation value or because they are seen as an important resource for people’s livelihoods, or have cultural-religious meaning, i.e. as sacred animals, such as the red-headed crane (grus antigone sharpii) Catlocarpiosiamensis, Phalacrocorax carbo sinensis, Lutra sumatrana.

123. The fauna of the delta includes 23 species of mammals, 386 species and subspecies of birds, 35 species of reptiles and six species of amphibians (Thinh, 2003). Aquatic life in the delta is abundant and diverse with 347 species recorded including 187 species of phytoplankton, 100 species of zoo-plankton and 60 species of zoo-benthos (MARD, 2016c). More than 850 fish species are recorded, and if including the estuarine and coastal species, the fish species richness increases to 1,100 species. The Mekong River system is also home to 87 endemic species which occur nowhere else. The up to 4 m long Giant Mekong Catfish is one of the critically endangered species. At least 460 species of fish are known in the Mekong Delta (Vidthayanon, 2008; Tran, et al., 2013) – that is about half of all fish species of the whole Mekong River Basin.

124. It is likely that populations of animal species of conservation concern have suffered significant declines over the same period due to deforestation, habitat fragmentation, and a raft of other human disturbances (ICEM, 2014). The loss of biodiversity and rate of extinction can be only assessed on a national level by comparing red lists. The conclusion from comparing 1975 with 2016 inventories is that ecosystems are severely degraded and 63 species have become locally extinct. The efforts to establish national parks and nature reserves during the past 2 decades did slow down the degradation of ecosystems and extinction rate but clearly did not reverse this trend.

125. Fish catches are still high but clearly decreasing due to overexploitation. Larger species have become scarce, such as the Irrawaddy dolphin, Giant Mekong Catfish and Siamese Giant barb (Carp). The so-called “black fish group” consists of several species which are specialised to populate the once wide and open floodplains with the seasonal flooding. The so-called

"white fish group" are long-distance migrant fish while the "grey fish group" prefers shorter distances. The development of upstream dams, environmental pollution, habitat loss and overfishing and increasing sand mining are serious threats to the fish fauna (MRC, 2018).

126. Notwithstanding the considerable loss of natural areas, the remaining river and associated natural wetlands cover about 0.7- 0.8 million ha and support a high biodiversity. Over 200 riparian bird species have been identified. Fish species diversity is also high, with many species being migratory. The continued loss of wetland areas combined with habitat degradation and introduction of exotic species, hunting and illegal wildlife trade, has resulted in considerable loss of species and an increase in the number of threatened species from 327 in 1996 to 1,525 in 2014 (MRC, 2016). Two obvious changes have occurred in the fish fauna of the basin over recent times. One has been the introduction of a number of species either from other river basins in the region or from other regions. More than 20 introduced species are now established in the Mekong. Several of the species from outside the region are ones that are known to have become so-called pest species when these were introduced elsewhere. These include Nile tilapia (Oreochromis niloticus) and mosquito fish (Gambusia affinis).

127. Officially, there are 4 protected areas listed in Ben Tre (MONRE, 2016)[29] covering 32,584 ha, and 1 in Tra Vinh[30] that covers 868 ha. Their approximate locations are noted in Figure 11. The National Biodiversity Strategy (MoNRE, 2016) calls for the development by 2030 of a biological corridor that would run in a narrow strip along the coastal zone of the East Sea from the Cape Ca Mau National Park at the extreme southern tip of country to the Cam Gio Biosphere Reserve in Tien Giang province to the north of Ben Tre is planned. The corridor would pass through Tra Vinh and Ben Tre; a factor to be considered when engaging in any developments immediately along the seafront and immediately inland. Similarly, developments in-and-around protected areas would need to be coordinated with DONRE to ensure compatibility with the protected/conservation areas' management objectives.

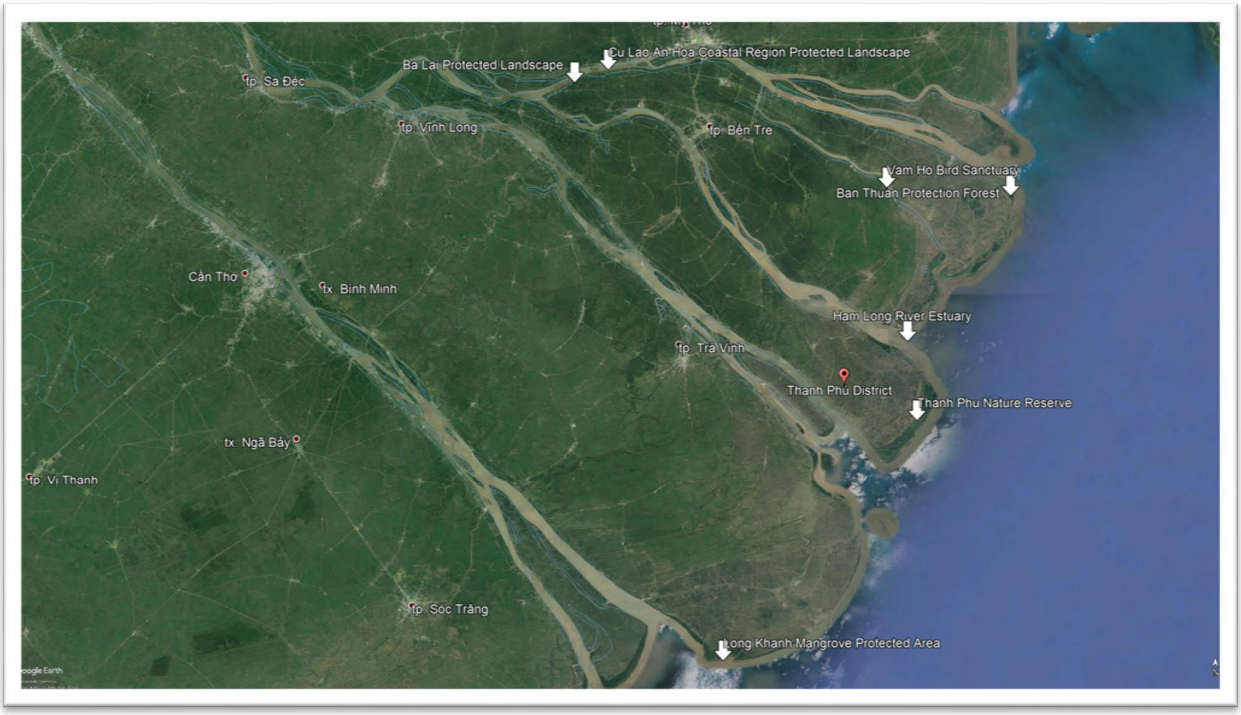
128. Agriculture and natural resources[31]. The Mekong Delta is a key economic and agricultural region in Viet Nam. In 2019, agriculture, forestry and fisheries contributed 33.2% of GDP of the whole agricultural sector in Viet Nam, and 31.5% of overall GDP for the delta (GSO, 2020). The delta has favorable conditions for diversified agriculture (rice, fruits, vegetables, shrimp, fish, livestock) and export. These favorable conditions relate to a tropical climate, flat and relative fertile soils, a dense water-road network, fresh water abundance in the upper-middle region, a saline coastal region and proximity to Ho Chi Minh City.

[29] Thanh Phu Natural Reserve – 2,584 ha; Cu Lao An Hoa Coastal Region Protected Landscape – 10,000 ha; Estuary of Ham Luong River Protected Landscape – 10,000 ha; and Ba Lai Protected Landscape – 10,000 ha. The Vam Ho Bird Sanctuary, a provincial government tourist park, also exists.

[30] Long Khanh Mangrove Protection Area.

[31] The source of the following is Royal HaskoningDHV and GIZ, 2020 unless otherwise noted.

Figure 11. Approximate locations of protected areas in the project provinces



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Source: Author, MONRE, 2016

129. Between 1976 and 2015, agricultural land use in the Mekong Delta underwent four major changes. Rice cultivation shifted from predominantly single-rice cropping in 1976 to triple rice cropping by 2015 in significant parts of the upper delta. The fruit area decreased for rice cultivation in the years to 1996 and increased along the Tien and Hau rivers (which includes the project area) in the period to 2015. Major aquaculture expansion took place between 1996 and 2015 in the Ca Mau peninsula and coastal areas on the eastern side of the delta (which includes the project area). Livestock has never become a major sector and mostly remains an on-farm diversification strategy. After the destruction of some of the forests in the war, and as a result of expansion and intensification of rice and aquaculture, the coastal mangrove forests and inland Melaleuca forests declined drastically to 4.3% in 2016, despite some afforestation and forest protection efforts.

130. The current agricultural production mode is characterized by often low-quality rice, vegetables and fish feed, or unstable high-quality products (e.g. shrimp, Pangasius). Agricultural land uses in 2017 are shown on Figure 12. Aquaculture quality is not stable or guaranteed due to problems with feed, fingerlings and intensive monocultures. Rice production in the coastal zone has become very vulnerable (the drought of 2016 caused a decline in harvest of 1 million tons), whereas salinity control and irrigation projects have been implemented and are planned for fresh water agriculture / rice cultivation in coastal provinces where freshwater supply is difficult, salinity pressures are increasing and where losses as in 2016 are set to reoccur. The economic returns from paddy rice in these areas remain low, yet agro-hydrological and economic impacts are high with reduced water retention, environmental degradation, water stagnation impacting aquaculture, fruits, vegetables, and increased salinity risks. A continued emphasis on rice cultivation in major parts of the coastal provinces is incompatible with sustainable and economic development.

131. In the aquaculture sector, the constraints imposed by a non-conducive, brackish water system might continue to slow the sector growth and potential. The monocultural production systems are also challenged by increased heat stress and elevated salinity levels, which impede production and pose a risk of crop failure. A modernization of production methods is needed. The exploitation of groundwater resources as a source of clean (fresh or brackish) water to reduce the too high salinity levels is continuing, causing serious land subsidence. That urgently needs to stop.

132. The freshwater aquaculture sector needs to secure good quality freshwater. Pangasius farms in the middle delta will have to move upstream as salinity intrusion penetrates further or take corrective measures to secure freshwater supply for their enterprise year-round. Water quality becomes an increasing concern as neighboring crop farms convert to intensive crops (rice, horticulture, orchards).

133. The possibilities to add economic value to Mekong Delta products is constrained because high-value supply chains for rice, vegetables, fruit, aquaculture, livestock are not well-developed. The value-chains tend to have weak vertical (from farmer, middleman and exporter) and horizontal linkages (cooperation amongst farmers, traders, retailers). Notable exceptions are the export of Phu Quoc pepper and the Mekong Delta Pangasius. The lack of integration hampers the facilitation of good practices, joint market access, joint volume, storage and quality control and contribution.

134. A network of organisations has successfully shaped the expansion in the production and export of rice, vegetables, fruit, livestock, aquaculture and seafood, to domestic, regional and international markets. The network consists of an elaborate system of policy and planning organisations, extension services in each province, renowned research institutes and innovative (crop, aquaculture, fruit) farmers in the delta. The agricultural sector has made adjustments in the past to seize economic benefits (e.g. rapid expansion in aquaculture and marine fisheries) and to adapt to climate change and reduced river flows (e.g. coconut farming, livestock). Aquaculture and fisheries are the main sources of income, accounting for 30-46% of domestic GDP and in 6 of the 13 provinces accounting for over 75% of the export earnings in 2015.

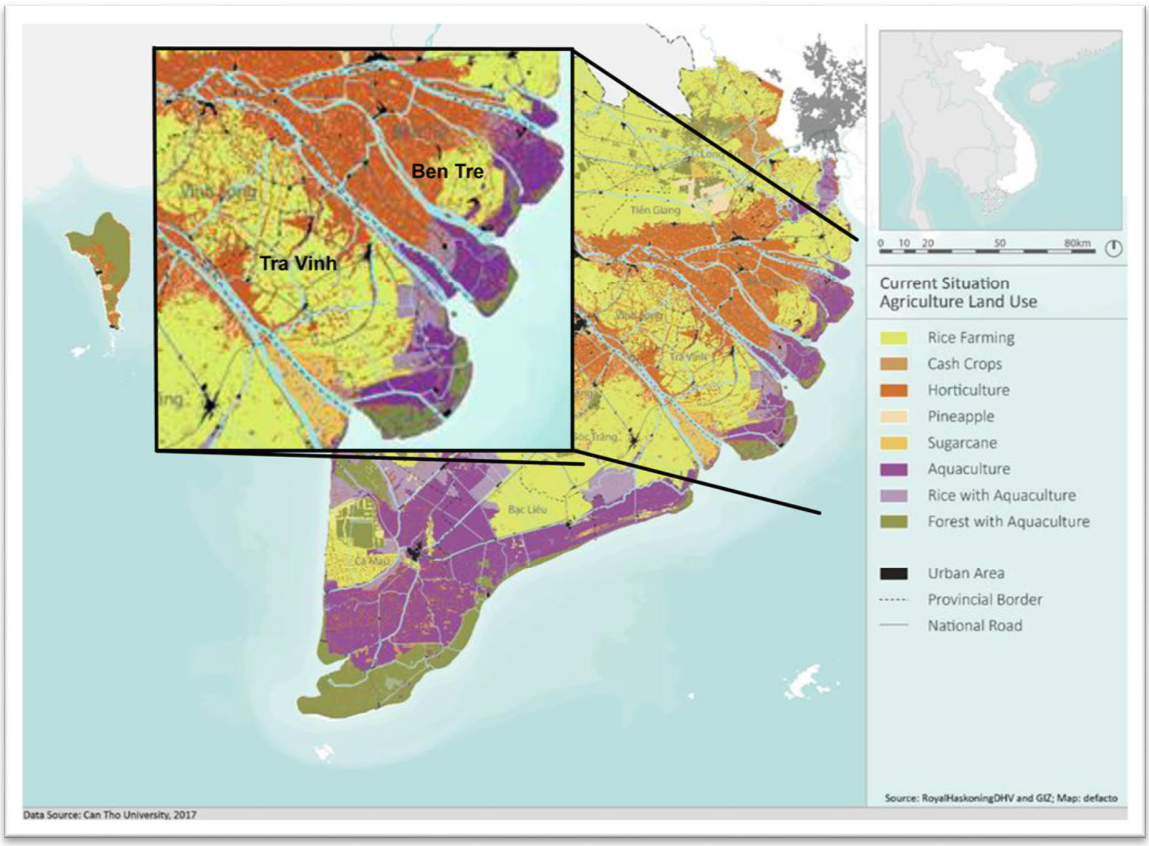
135. Disaggregated figures for Ben Tre and Tra Vinh are not available, but in 2019 agriculture, fisheries, and forestry accounted for 32.6% and 33.9%, respectively, for Ben Tre's and Tra Vinh's GRDPs. The 2020 planned area for agricultural production in Ben Tre and Tra Vinh were, respectively, 175,562 ha or 73.3% of total land area and 175,504 ha or 74.4% of total land area (GSO, 2020). Annex I provides greater detail, with a breakdown of the major agricultural land uses (rice, annual crops, perennial crops/fruit trees, aquaculture, and forest lands) in both provinces.

136. In the project provinces, substantial investments have been made in water management infrastructure over the last decades to provide, among others, for irrigation, salinity control/ protection from saline intrusion, and climate adaptation to sustain and increase agricultural sector growth. In Ben Tre, several projects on water management, irrigation and climate change adaptation projects are under construction, with river dikes and sluices along the Tien, Ham Luong, and Co Chien rivers, and sea dike construction in the coastal zone. The major projects among these are the North Ben Tre irrigation project, South Ben Tre irrigation project, and a Japanese-funded water management project. The list of ongoing projects for water management and climate change adaptation in support of agriculture and rural development in Ben Tre and Tra Vinh provinces can be found in the CSAT PDR, Annex 12. Climate Resilient Infrastructure (see Annex 2. List of on-going projects/ programs on agricultural and rural developments, water management and climate change adaptation in Ben Tre and Tra Vinh provinces).

137. In Tra Vinh province, the Nam Mang Thit Irrigation Project has been one of the most important. Its construction began more than 20 year ago, with the goal being to control salinity, provide and maintain freshwater, drainage, and to flush alum build ups out of the soils. The scheme encompasses nearly 171,650 hectares of arable land, within an area of about 225,650 hectares. It also provides freshwater for domestic use, as well supporting the exploitation of freshwater aquatic resources, for transportation through its network of canals, and improving the environment. The scheme was mainly completed in early 2020. The river dikes and main sluices for the scheme are along the Co Chien and Hau River, with sea dikes constructed in the coastal zones. A map of the constructed and planned irrigation schemes located in Tra Vinh province may be found in the CSAT PDR, Annex 12. Climate Resilient Infrastructure.

138. Under present land uses, both Ben Tre and Tra Vinh currently have a "three agro-ecological zones" structure to their production systems: the saline/brackish coastal zone (aquaculture), intermittent fresh/brackish zone (saline tolerant horticulture, brackish aquaculture and rice), and freshwater zone (multiple cultivation systems: rice, freshwater & brackish aquaculture, fruit trees, vegetables, etc.). The MDIRP (Royal HaskoningDHV and GIZ, 2020), which proposes a rezoning and a compatible commodities production structure in light of the long term regional planning directions for water resources management[32], notes that the expectation is a significant expansion of the intermittent fresh/brackish zones in the project provinces, with only the western extreme of Ben Tre remaining in a freshwater zone.

Figure 12. Agriculture, aquaculture, and forestry land use map (2017)

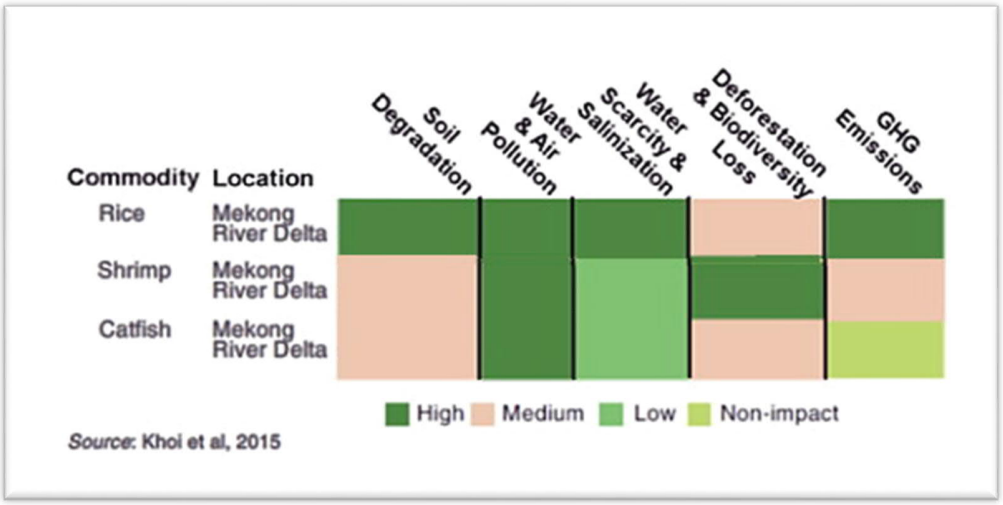


[32] i.e., given predicted impacts of upstream developments, climate change, prolonged drought, saltwater intrusion, sea level rise and ground subsidence on water resources.

The implication being that areas currently growing, fruit trees, and some industrial crops (e.g., sugarcane) in Ben Tre and Tra Vinh would require a shift into more compatible production systems. Appendix 3. In-depth Climate Risk Analysis provides further information on this aspect.

139. In the project provinces, the 5 year period between 2014 and 2019 saw very significant growth in aquaculture production. Ben Tre increased shrimp production by 30% and Pangasius production by 10%, while the area dedicated to aquaculture slightly declined (2.5%) to 45,900 ha. For its part, Tra Vinh has seen a 75% increase in shrimp production, and a more than 27% increase in Pangasius production, with an expansion in aquaculture area of 20% to 36,000 ha. These figures reflect the ongoing intensification of production in both, and the expansion of production in Tra Vinh, which in turn reflect the increased need for environmental management and controls that these imply in order to avoid problems of disease and water pollution. Also of note is that Tra Vinh's expansion of aquaculture has focused much more heavily on shrimp culture, relative to fish culture (GSO, 2020). As noted in Figure 13, the

Figure 13. Environmental concerns associated with major crops of the Mekong Delta



potential environmental impacts of shrimp vs fish culture, especially in the aspects of biodiversity loss and deforestation by expansion into mangrove areas, are of relatively greater concern.

140. Upstream / Downstream Linkages. As the project area sits at "the bottom" of the Mekong river system, upstream-downstream linkages and issues are critical factors to be considered, as they strongly impinge on the feasibility and long-term sustainability of agricultural and aquaculture investments and developments. Upstream developments, actions, and decisions whose repercussions have real world impacts in the project provinces include factors with near term consequences and factors with long term consequences. Principal among these are those that lead to increased downstream flood damage, hydrologic drought (see Box 1), salinity intrusion, riverbank erosion, and reduced inflows of fertile sediments in result of hydropower dam development upstream in the Mekong River, river diversions for irrigation, land subsidence, climate change, and sea level rise (Hung, 2012; Hung et al., 2014a; Manh et al., 2014 and 2015; Hoang et al., 2016; Dung et al., 2018c).

141. Within the MRD, the extensive construction of high dikes to enable triple rice production on the floodplains is itself another exacerbating, anthropogenic factor. The dense system of dikes and dams built since the 1990s, coupled with the expansion of built-up areas, restricts the space available for floodplain restoration on the VMD (Cosslett & Cosslett, 2014).

Box 1. Induced Drought?

The Drought of 2019/2020 – a man-made phenomena?

A recent study on the impacts of dam building on flows in the Mekong River, concluded that these dams have greatly expanded the institutional capacity to regulate the river flow, with corresponding impacts downstream. While the Government of China has pledged to utilize their dams to regulate downstream flow so that periods of high and low flow would be more evenly distributed throughout the year; an objective that suits their need to provide stable hydropower production through the annual cycler, it also has the consequence of shifting natural wet season flows to the dry season.

The events of 2019, when the Lower Mekong recorded some of its lowest river levels ever throughout most of the year, highlight what can happen due to the shifting of rainy season flows to the dry season. During 2019 there was above-average natural flow originating from the Upper Mekong, which was retained to support hydropower production in early 2019, and subsequently flows during the wet season were severely restricted. During the 2019 rainy season, the Lower Mekong received record low levels of rainfall, resulting in a severe lack of water in the lower Mekong during the wet season of 2019, an event that was directly linked to the restriction of water flowing from the upper Mekong during that time.

Cooperation between China and the Lower Mekong countries to simulate the natural flow cycle of the Mekong could have improved the low flow conditions experienced downstream between May and September of 2019.

Source: Basist and Williams, 2020

Before dike construction the floodplains and wetlands functioned as natural water storage areas, mitigating flood damage and providing the ecosystem services that made the Delta a biologically productive and ecologically diverse region (Xuan and Matsui, 1998).

142. Continued, large-scale construction of high dikes would pose multiple risks to the delta and its inhabitants. A number of studies have articulated these. The first risk is downstream flooding (Dung et al., 2018c; Triet et al., 2017). The second is reduced flows of fertile sediment across the delta due to the absence of dynamic interaction between rivers and floodplains during the flood season (Hung et al., 2014a, 2014b; Manh et al., 2015). The third risk is salinity intrusion in the dry season. Though mainly caused by sea level rise and land subsidence, salinity intrusion could be mitigated by the release of water retained within the floodplains (Smajgl et al., 2015; Hoang et al., 2016). The fourth risk is riverbank erosion due to sudden increases in river flows. Such surges have been linked to reduced water retention capacity of the floodplains, as well as to sediment retention by dams, large-scale sand mining in rivers and channels and land subsidence caused by groundwater extraction (Anthony et al., 2015).

143. Recognizing these issues, the Mekong Delta Plan to 2030 (GoVN/GoN, undated) considers the need for a transformative change in the VMD that intertwines flood risk management and the agricultural production system. Specifically, there would be a shift away from high dikes for flood prevention, and instead move towards controlled flooding, with the goal of effectively and safely containing floodwaters within the system by increasing floodplain water retention capacity and reducing flood risk, especially in the downstream areas (GoVN/GoN, undated). In practical terms, this latter option implies a backward transition from high dikes to low dikes and refraining from building new high dikes. VMD agricultural systems would change as well. Instead of a triple rice monoculture, double rice production would be combined with flood-resilient crops during the flood season. Examples of these latter are lotus (Nelumbo nucifera) and indigenous floating rice (Oryza prosativa).

144. Other aspects. Inland capture fisheries are present throughout the delta, yet, with the proliferation of high-dike triple rice areas in the floodplains, large tracts of land have been taken out of the annual flood season, depriving fish of breeding and feeding grounds and people from fishing / harvesting.

145. The outlook for inland fisheries is very bleak. Spawning and breeding grounds are disappearing due to high dikes, whereas fish stocks may be decimated due to upstream development of dams on Mekong tributaries and the mainstream. To compensate for these losses in protein and income, fish culture should be promoted during the flood season and extended into fish cages and stocked ponds once the floodwaters recede.

146. The offshore fisheries areas around the Mekong Delta are regarded as highly productive fishing / breeding grounds that are fed by the Mekong river outflow. The outflow is characterized by a plume of sediments, attached nutrients and brackish waters. The plume extends up to 500 km into the sea, shifts seasonally following winds and currents and supports fishing grounds and fishing fleets from Kien Giang to Vung Tau. Marine fisheries in the plume-affected area are significant: they represent about 50% of Viet Nam's offshore fishing fleet and sea fish catch. Over 1.25 million people are dependent on marine fisheries, either for subsistence or income. The vast majority of the marine catch (80-90%) consists of different sorts of finfish (e.g. threadfin bream, croakers, scads, snappers, groupers) and 10-20% highly valuable seafood invertebrates (e.g. shrimps, squid, octopus, cuttlefish). Nearshore fishing in shallow water was the traditional way of marine fishing in Viet Nam. The Doi Moi policy increased fish catches, exports and offshore fishing. Nowadays, offshore fishing lands the majority of the fish catch whilst depleting fish stocks in the near- and offshore zones.

147. The marine fishing sector is depleting the marine fish stocks through systemic overfishing (observable in the rising fleet, illegal mesh size fishing nets, catches beyond allowable levels). Catch and conservation policies are poorly enforced, resulting in continued growth of the fleet and illegal fishing nearshore and offshore. Furthermore, productivity of the marine fishing sector is likely to be affected by a substantial decrease in the annual Mekong plume of sediments and nutrients due to reduced Mekong sediment load.

148. Environmental (waste) management is largely absent. Some solid waste and domestic wastewater is discharged directly into the soil and water environment. There is also overuse of pesticides and fertilizers, free-roaming livestock and slaughter waste and stagnant waters causing increased hazardous substances in the water environment. These are posing health, food safety and environmental risks as crops, soils, canals and groundwater reserves become polluted.

149. For various reasons, from both upstream and within the Mekong Delta, the aquatic environment in the Delta is being degraded. Due to the untreated release of industrial and household wastewater and the intensive cultivation practices in agriculture (agrochemicals: fertilizers, pesticides, fungicides and herbicides), livestock (manure), and aquaculture (pest and disease control substances; fish waste), the quality of surface waters in the Mekong Delta is seriously compromised. While large connected water bodies are diluted by seasonal discharge of the Mekong River and drainage of excess rainfall in the rainy season, the stagnation of water in the interior fields and canals leads to eutrophication and polluted wetlands, posing a serious threat to the biodiversity of aquatic and riparian ecosystems, food security and human health. These conditions are worsened by the reduced drainage capacity, urbanization and expansion of industries without proper wastewater treatment facilities. The restoration of polluted rivers and open water bodies, the mitigation, control and prevention from further environmental pollution, and the safeguarding of environmental quality are key challenges for integrated regional development. It will be a big challenge to control and monitor the use of fertilizers and agrochemicals and to address the extremely low wastewater treatment capacity.

150. Solid waste generation is increasing, but collection is limited with most of it not being properly treated. This is a direct and increasing threat to water and soil quality, and directly affecting the quality of life of the people.

151. Loss of habitats (total acreage and fragmentation), environmental pollution and wildlife trade are important threats to biodiversity. However, the government has recently initiated policies for biodiversity and protection of endangered species (biodiversity corridors, introduction of Protected Areas (PAs)). There are two significant marine protected areas (outside the project area) within the administrative boundaries of the Mekong Delta region, to protect coral reefs and seagrass habitats. Concerning biodiversity conservation and

protection issues, there is intensive collaboration between national and local government agencies and NGOs such as WWF, IUCN and Birdlife International.

152. Environmental management and protection are hampered by lack of a scientific basis and monitoring data. While the data on forest coverage and coastline issues is quite strong, the data on environmental quality and biodiversity are scattered and of limited value for analysis. Field monitoring and data collection for these issues is scarce and geographically inconsistent.

1.3 Climate

This topic is covered in detail in Appendix 3. In-depth Climate Risk Analysis. The following is an overview.

153. The two provinces are located in within the sub-equatorial monsoon tropics, with two distinct seasons, the rainy and dry seasons, being influenced by the coastal climate. The rainy season starts from May to October - November, and the dry season starts from November and ends in April of the following year.

Historical and current climate trends

154. Temperature. The assessment of temperature change in Tra Vinh province (which also applies for Ben Tre province) shows that the average temperature in these regions during the period of 1986 - 2016 was 26.9^{0}C. Since 2010 the mean annual temperature has been higher than the average for the prior 25 year period. Since temperature in the area is driven by sub-equatorial tropical radiation, it remains quite stable and harmonized year-round. The average temperature has ranged from 25^{o}C to 30^{o}C in the past 10 years (2010 - 2020). The month with the lowest average temperature is January (24^{o}C-26^{o}C), while the month with the highest temperature is April (28- 33^{o}C). According to data from the Cang Long station, the variance in average monthly temperatures during the year has increased over the past 10 years within a range from 1^{o}C to 3^{o}C. Temperature increases could exacerbate current water shortages and drought conditions, particularly in the dry season.

155. Rainfall. Rainfall during period of 2006-2017 in Tra Vinh tends to decrease compared to the period of 1986-2005, except in Cang Long district area, in which it has increased by some 17-34 mm. The rainfall in the remaining districts tend to decrease, in which the strongest decrease is found in Duyen Hai district (110-200 mm less). The total annual rainfall in Tra Vinh is from 1,300 mm - 1,800 mm, wherein the distribution is unstable and strongly differentiated over time and location. The rainfall decreases from North to South, with the highest rainfall in Cang Long, Tra Vinh and the lowest in Cau Ngang and Duyen Hai. In the past 10 years, the lowest rainfall was observed in 2015, which was also the heaviest drought year in the Mekong Delta and Central Highlands.

156. Projected climate trends. According to the climate change analysis by MONRE (2016), the annual and seasonal surface air temperature in all regions of Viet Nam (including Ben Tre and Tra Vinh) has tended to increase compared to the baseline period from 1986-2005. Even the intermediate scenario (RCP 4.5) suggests that annual mean temperature will increase from 1.3°C – 1.7°C by 2050; and from 1.7°C – 2.4°C by the end of the century. Extreme temperatures are also predicted to increase, compared to such baseline period in all regions of Viet Nam. In Tra Vinh, annual droughts often cause difficulties for production with the number of days without rain from 10 to 18 days continuously (IHCCS, 21018). Cau Ke,

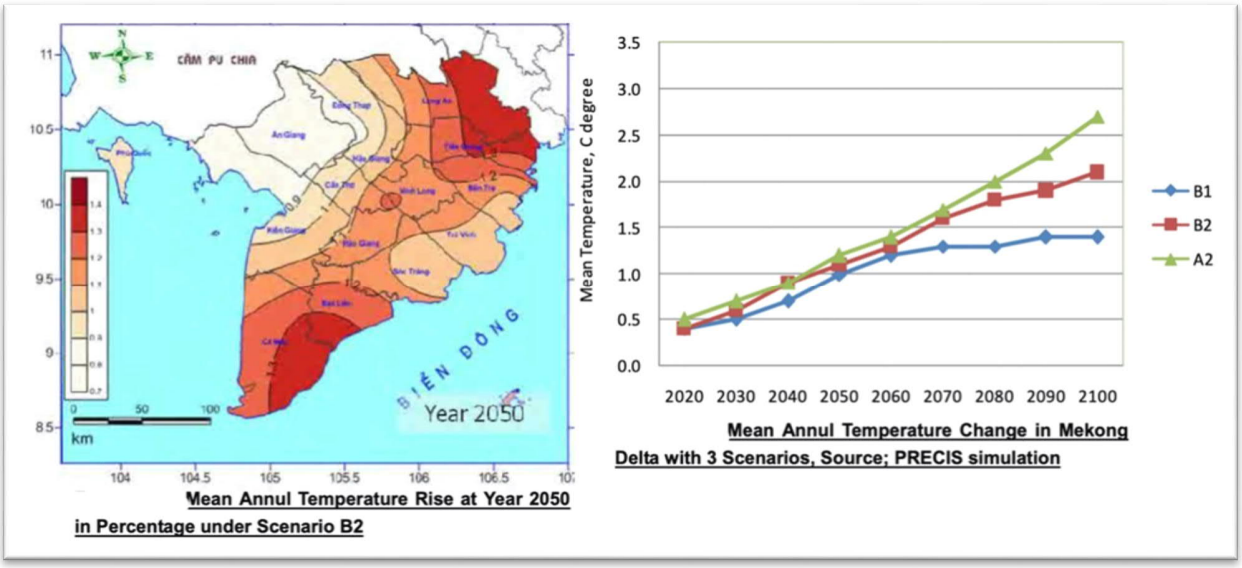


Figure 15. Mekong Delta – annual temperature rise scenario in 2050

Source: IMHE, 2019

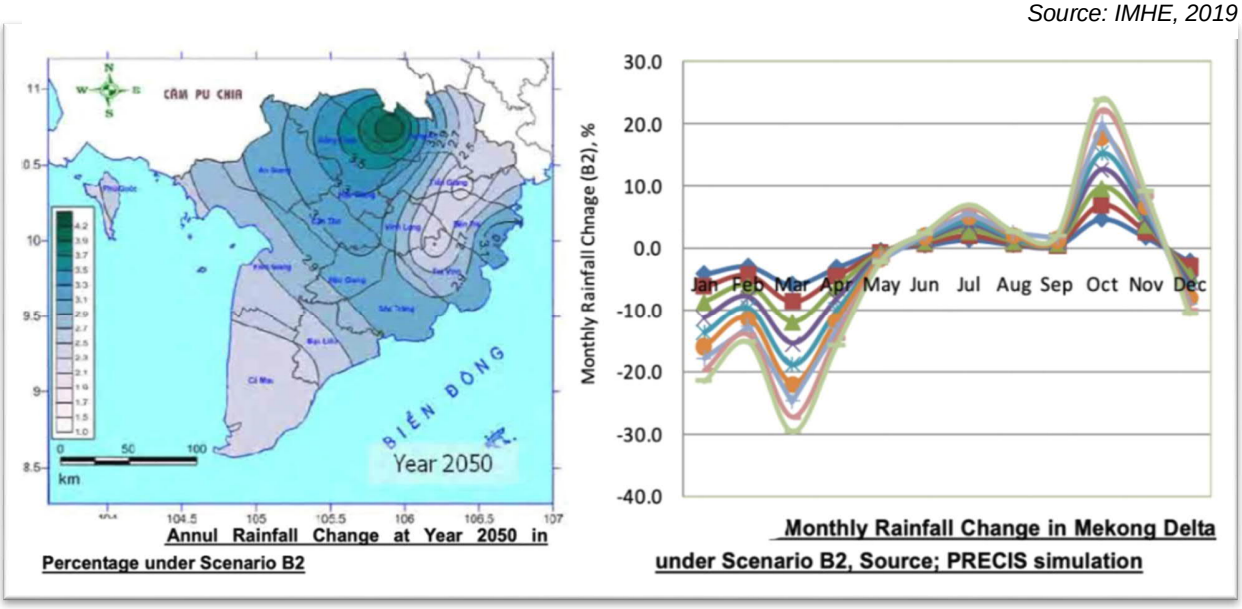


Figure 14.Mekong Delta – annual rainfall scenario in 2050

Source: IMHE, 2019

157. Cang Long and Tra Cu districts are less drought-prone. Tieu Can district is facing drought at the beginning of the crop season (June and July), and the remaining districts such

as Chau Thanh, Cau Ngang and Duyen Hai are experiencing drought in the middle of the crop season (July and August) which severely affect agricultural production. The number and length of heatwaves (consecutive periods with hot conditions) are projected to increase slightly by end-of-century, while the number of hot days (daily maximum temperature of >35°C) is projected to increase in the region. During 1978 to 2017 (39 years), drought almost occurs every dry season with an average length of about 4 months. However, there were drought seasons lasting over 5 months, such as in 1980 - 1981, 1992 - 1993, 1994 - 1995, 1997 - 1998, 2006 - 2007, and 2009 – 2010. In line with this trend, some projections by regional models foresee that short-term droughts (3-4 month consecutive periods with a rainfall deficit) are expected to occur more often.

Figure 16. Coping capacity to natural hazards
Source: IMHEN & UNDP, 2015

158. In terms of rainfall, MONRE (2016) predicted that annual rainfall in the future may increase in all regions over Viet Nam (including Ben Tre and Tra Vinh), and the extreme rainfall may have a similar trend. Rainfall patterns and characteristics are expected to experience significant change due to the increased temperatures. The general trend seems to indicate increased rainfall in the rainy season, and decreased rainfall in dry season. Additionally, the increase in rainfall extremes may be significantly greater than the expected increases in annual rainfall.

2. Potential Project Impacts and Risks

2.1 Key potential impacts of the project on social and environmental

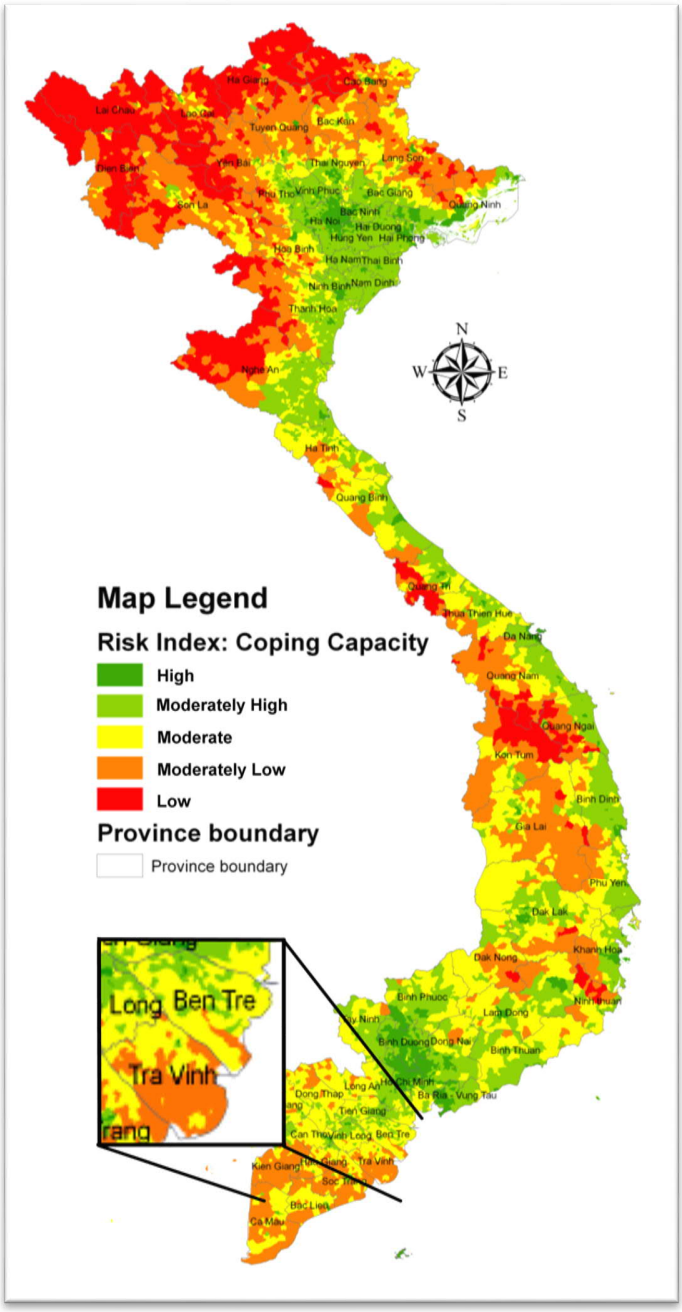
159. Social impacts. A study carried out for the Community-Based Natural Disaster Risk Management Program assessed all 11,112 communes in Viet Nam to create, among others, a coping capacity index (IMHEN & UNDP, 2015). The index is constructed from three indicators, including: i) poverty headcount at the district level; ii) an asset index and iii) the proportion of temporary houses[33]. Equal weights were assigned to each of the three components. It is clear from the results that a substantial proportion of the communes in Tra Vinh have a relatively lower capacity to cope with the impacts of natural hazards (i.e., have a lower resilience). See Figure 16. Based on the nature of the indicators, it is also clear that authors assume the dimensions of resilience to largely be a function of economic well-being, i.e., that all other things being equal, the ability to overcome setbacks from natural disasters and climate change is linked to financial/economic status.

160. Similar studies on adaptation capacity are supportive of the findings portrayed in Figure 16, in that the coastal areas of the MRD are highly vulnerable and are among the areas with the least adaptive capacity (e.g., Nguyen and Woodroffe, 2016). In the cited study, the

[33] The poverty headcount was estimated based on the World Bank's Poverty Mapping Method; and the asset index and the temporary houses index were constructed using GSO's Population Census data.

authors attributed the limited adaptive capacity in these areas to, among others, the relatively high numbers of poor households, low income, and only moderate densities of transport, irrigation and drainage systems. (ibid.).

161. The project's target groups are largely poor, ethnic minority households, vulnerable groups, gender, and youth. This group is disproportionately poor and/or highly dependent on agricultural production and the natural resource base. Living in more rural areas, they have reduced access to markets and supporting services and so have low rates of agricultural investment and, in consequence, lower productivity. They are also identified as being highly sensitive to both climate change and natural disaster impacts and, as noted above, less resilient on average in their ability to overcome the impacts of natural hazards and re-establish their lives and livelihoods, and/or to invest in production system upgrades in order to make them climate smart.



162. For this target group, the principal social impacts of the proposed project are expected to be positive. In the without project case, losses of agricultural productivity would be projected for key food and cash crops, with associated impacts on household income. Significant negative social and economic impacts would also accrue without effective adaptation and disaster risk reduction efforts; multidimensional poverty and inequality would increase. Traditional top-down, technocratic approaches that have characterized the government's central planning framework – a framework that government has been trying to reform through policy mandates emitted over the last decade or more, with little effective, operational advance at the provincial-levels – would not be challenged and therefore be more likely to prevail over the alternative, more bottom-up approaches that prior IFAD projects have helped to develop. CSAT should provide the impetus for finalizing the mainstreaming of these at Provincial, District, and commune-levels across both provinces; potentially providing a catalytic step forward. The CSAT would build upon these and other outcomes and practices developed and institutionalized under the prior AMD project, and so

may be expected to both deepen and expand to new communities and groups the positive social outcomes and impacts that resulted from the AMD.

163. Beginning with the latter, to the extent that the CSAT can successfully replicate and build upon the AMD (IFAD, 2021), expected positive social outcomes would include:

- Poverty reduction – through support for climate change adaptation, value chain development and social inclusion, and increased adaptive capacity, with mitigation of disaster risks in local production systems, with positive outcomes of increased climate resilience, stable productivity, and increased income for the poor.
- Increased human and knowledge capital – through efforts in training and technical support to local people and communities to (i) build knowledge and skills for adapting production systems (composition and processes) through climate-smart agricultural technologies and practices; (ii) build market awareness and understanding, and access to market information to sell their products more efficiently and obtain fairer prices, and become less dependent on collectors and wholesale buyers to market their product as raw materials; and (iii) to avoid/mitigate damages from natural disasters.
- Increased social capital – through inclusion, active participation, encouragement, and engagement with local communities (including their marginalized members) within the key planning, prioritization, decision-making, and implementation processes[34]. This empowered local communities, including the poor, women and EMs, who became much more vocal and active in providing inputs into planning processes. This created real ownership; an outcome demonstrated by the community cash contributions to project investments and activities being well beyond original expectations (e.g., contributed 40-90% more than originally budgeted for infrastructure schemes, and 124–190% more in climate change adaptation/climate smart agriculture. Also, farmer's organizations as SCGs and CIGs were established/supported, enabling poor rural women and men to engage in credit operations, climate adapted production activities, and VCs. Group formation was conducive to obtaining co-financing or credit, but also the greater capacity for collective action that resulted provided tangible, incremental benefits through the economies of scale that conferred more competitive pricing of input supply; bulking, grading, processing, and collective sales improving returns; labor rotation improving the productivity of labor; and potential for specialization amongst some members in support of the group.
- Increased household and communal assets in the form of productive infrastructure; access to land and forest resources; access to credit for capital investment in sustainable livelihood activities; improved livelihoods through increased knowledge, organizational capital, production and access to markets and; enhanced personal and community security in the face of vulnerability to natural disaster and climate risks. All of which should translate into greater resilience – both of households and of the community as a whole – and adaptive capacity in the face of uncertainty and weather/climate-related hazards.
- Improved governance through communities and groups having greater voice and opportunity for utilizing collective decision making to influence local investment priorities and, through local authorities and line agency personnel at commune and district-level becoming engaged as facilitators of bottom-up, participatory planning processes in order to inform how they carry out their institutional mandates and implement the programs and activities for which they are responsible.
- Further progress in gender equality and women's empowerment through provision of opportunities for, and promotion of, women's participation and active engagement in common interest groups, increased access to extension and financial services, creation of livelihoods and rights clubs for women, gender awareness promotion amongst men, gender-based violence education, and enhancing women's visibility as economic

[34] MoP-SEDP, CIF, PPP, CCAF, and WDF under the AMD

agents; and through working with and strengthening the capacity of partners (national, local and decentralized institutions, training centers, private sector providers and national and international NGOs) to take into account issues of gender equality and community empowerment.

- Improved food security through household income and agricultural productivity enhancements.
- Improved resilience and adaptive capacity of agriculture-based livelihoods through (i) technical assistance and capacity building (Government, E2F, F2F extension), (ii) infrastructure improvements and development (e.g. dikes, levees, sluice gates, etc.) to protect against saline intrusion), (iii) introduction and transfer of CCA technologies (e.g. mulching, intercropping) and climate-adapted varieties, and (iv) financial support through co-financing and lending mechanisms.
- Broader societal benefits associated with supporting Provincial-level authorities in complying with the government of Viet Nam's policies for mainstreaming climate risk and climate change adaptation, natural disaster vulnerability reduction, bottom up development planning and, more market-driven approaches to allocating scarce public resources for purposes of rural development and poverty reduction.

164. There are, however, social risks with the potential for engendering negative outcomes as well. These will require consideration and mitigation. They include:

- Selected value chain commodities may be exclusionary of poor households, women, youth, and ethnic minorities, especially intensive shrimp farming, due to high capital investment requirements. In aquaculture in particular, in the past poor households have sold or leased their ponds instead of participating, e.g., in shrimp farming (MARD, 2016).
- It has also been reported in areas of the Delta where shrimp farming has become the main agricultural activity of the majority of households, that the high risks associated with it mean that a stable income cannot be assured. In result, poorer and vulnerable communities might experience food insecurity, given their dependence on income from shrimp (production or employment), versus their former situation where households had a diversified production system (e.g., rice, fruits, vegetables, livestock) to provide for domestic consumption.
- Small-scale land acquisition – temporary or permanent – associated with infrastructure development (e.g., rural roads, small-scale irrigation canals, sluices, irrigation embankments, small-scale reservoirs) may result in economic displacement (e.g., from loss of crops, trees, livelihoods). However the risk of this is minor to zero since the infrastructure schemes will be small in size. Planning (SEDP) and FPIC and EMP will prevent any potential risks to this. .
- The other potential social impacts/risks stemming from construction of civil works, promotion and support for specific value chains and CSA models could include: (i) farmers' reluctance/resistance to changes in livelihood models; (ii) low preparedness of farmers in implementing the livelihood models; and (iii) disproportionate impacts/benefits from project activities on the more vulnerable such as poor, elderly, and ethnic groups.
- The other potential social impacts/risks stemming from policy, strategy development, and planning could include lack of voices and perspectives of rural households, especially vulnerable households (EM, women, youth, elderly); elite capture & exclusion of voice of marginalized households & individuals in prioritization, planning & benefit.

165. Environmental impacts. The Project is expected to have the following positive environmental impacts:

- Increased climate change resilience and reduced vulnerability at provincial, district, commune and smallholder/household level as a result of improved planning processes

for public investment in the ARD sector that include local peoples' participation and so capture local/traditional knowledge and priorities, and integrate environmental and climate risk/climate change adaptation concerns.

- Climate-adapted, sustainable agriculture production systems for target households to balance food security and nutrition and sustainable livelihoods/income generation needs, address declining soil fertility and crop yields.
- Improved environmental outcomes (soil, air, water) through awareness and capacity building within the target groups on climate risk and benefits of sustainable agricultural practices and technical capacity, including soil and water conservation, soil fertility management, agroforestry, composting, IPM and/or safe handling, use and disposal of agrochemicals and; empowerment to be able to implement these practices and learn from each other through farmer-to-farmer learning.
- Improved water resources management (quantity and quality) for agricultural production systems, and agro-processing facilities through support to water resources planning and implementation of Government Resolution No. 120 (of 17 November 2017) on Sustainable and Climate-Resilient Development of Mekong Delta of Viet Nam, and its enabling Decisions and Provincial Plans[35], as well as enforcement of the PPC of Tra Vinh's Decision No. 2367/QD-UBND (June 2020) that regulates groundwater exploitation; support for improved efficiency and use of irrigation waters (e.g., micro-irrigation, reduction of evaporation from open ponds, diversification of water supply sources to include rainfall and aquifer storage & recovery [ASR], others); reductions of agricultural non-point source pollution thru improved practices that reduce and improve management of agricultural inputs; reduced pressure on increasingly scarce freshwater resources through shifts to saline-adapted production systems; and reduced vulnerability of production systems to drought and saline intrusion.
- Support to Ben Tre and Tra Vinh authorities in sustainable landscape management planning, as a contribution to the implementation of the broader landscape planning that, among others, emphasizes: (a) the importance of regional integration, inter-provincial, and inter-sectoral cooperation in resource management and market integration; (b) the integration of socio-economic aspects, land and water management as a sound base for sustained economic development; and (c) the planning and construction of climate smart infrastructure, services, and finances which is of great importance to achieve prosperity in the province.

166. The project faces a number of environmental risks from its proposed interventions. Overall, a central thrust of the proposed project is environmental, with investments oriented entirely to climate adaptation, sustainable land and production management. In this context, the market-oriented aspects of the project contribute to overall environmental sustainability of actions by adding the essential dimension of potential for financial sustainability. As with all projects of this nature there are inevitable potential impacts on the environment. As specific sites, dimensions, magnitudes and intensities of individual investments, and numbers of affected and/or participating households/individual is unknown at this time, preliminary analyses of these are attached in Appendix 2., comprising a preliminary or generic Environmental and Social Management Plan (ESMP) that covers the project in its entirety, and an Environmental and Social Management Framework (ESMF) that cover only the IFAD-financed infrastructure sub-projects under Sub-component 2.1. Climate resilient infrastructure for sustainable water usage and enhanced access to markets. These have been developed to

[35] Prime Minister Decision number 324/2020 dated 3 March 2020 approving the Overall Program of Sustainable Agriculture Development Adapting to Climate Change in the Mekong Delta Region to 2030, with a Vision to 2045 (PSAD); Ben Tre's Province Action Plan number 1330 dated 25 March 2019 on Implementation of Government Resolution No. 120; and Tra Vinh's Province Action Plan number 934 dated 16 May 2018 on Implementation of Government Resolution No. 120.

guide the implementation of the required environmental and social safeguards and ensure the application of the appropriate environmental and social management and monitoring actions.

167. The final selection of key value chains to be supported under the project and more detailed environmental assessment for these value chains is presented in the project design and value chain working report. The recommended mitigation measures are integrated into the preliminary Environmental and Social Management Plan (ESMP).

2.2 Climate change and adaptation

168. Agriculture in Tra Vinh and Ben Tre, due to their location as coastal provinces on the East Sea and comprising estuaries of a river system whose catchment area is greater than 0.75 million km^2, is inherently vulnerable to extreme weather events, natural and man-made disasters, and impacts of climate change such as saline intrusion, sea-level rise, tropical storms, heavy rains, flash floods and inundation, and drought. The combination of upstream developments (especially hydropower dams), urbanization, industrialization, intensive and agricultural and aquaculture development, and ongoing/increasing impacts of climate change have all conspired together to adversely affect water quality; negatively impact the hydrologic regime, creating lower low flows and higher peakflows; greatly exacerbate saline intrusion into estuarine regions and provinces; and make manifest in the daily lives and agricultural livelihoods of its occupants the problems and challenges these bring. The storms directly landing on the continental part of the Mekong Delta of Viet Nam are not many.

169. In Ben Tre, during the period of 2010 - 2016, with support from Danish Government, the province has developed a detailed climate change scenario for Ben Tre, based upon MONRE's scenario (Ben Tre, 2019), which assesses the impact of climate change on biodiversity and coastal residential areas and tourism development. The document details the numerous climate change adaptation/mitigation works that have been carried out in recent years, including development of reservoirs for domestic water supply in coastal areas, upgrading of existing and construction of new brackish water treatment plants to produce potable water; coastal storm shelters, lifeline roads to ensure access during tropical storms, solar pumps for rural water supply, and building up low lying areas to protect them for inundation in three coastal districts.

170. In addition, following the Prime Minister's Decision No. 1670/QD-TTg on October 31, 2017 that approved the Target Program on Climate Change and Green Growth, and the Decision's instructions to MoNRE to update the country's climate change action plan, and develop an updated National Action Plan on Climate Change 2021-2030, Vision to 2050, to be submitted for the Prime Minister's approval, MoNRE requested of ministries, sectors and provinces to develop and update and submit their individual Climate Change Action Plan For The Period 2021-2030, Vision to 2050. Ben Tre completed its update in 2020 (DoNRE/Ben Tre, 2020). The provincial plan, similar to Tra Vinh's, provides orientation for the development of the CSAT project.

171. In agriculture, Ben Tre province has collaborated with Can Tho University to develop and pilot suitable farming models for saline soils, validating effective and economically viable climate change resilient models such as giant freshwater shrimp/coconut garden, shrimp-rice culture, giant freshwater shrimp farming in ponds, etc. They have also piloted a model of shrimp farming which is resilient to climate change, that greatly reduces the environmental footprint of intensive shrimp culture using RAS[36] and biofloc technology of the AKVA Group of Denmark.

172. Tra Vinh province, for its part, developed and issued its first Action Plan to implement the National Target Program on Climate Change in Tra Vinh province over a decade ago, under Decision No. 264/QD – PPC of the Provincial People's Committee on February 11, 2010.

[36] Recirculating Aquaculture System

173. In 2012, the province implemented the project "Assessing the impacts of climate change on the socio-economic sectors of Tra Vinh province, propose response solutions" to identify the manifestations of climate change in the province; assess the impacts of climate change on sectors and sectors thereby propose appropriate response solutions for each sector and vulnerable people in the province.

174. In 2015, The Steering Committee of the National Target Program on Climate Change Tra Vinh established the Tra Vinh Climate Change Office to preside over the implementation of the task of evaluating the Action Plan for the implementation of the National Target Program on Climate Change in Tra Vinh province which was issued in the period of 2010 - 2015 and developing the climate change response plan of Tra Vinh province in the period of 2016 – 2020.

175. The Action Plan for the implementation of the National Target Programme on Climate Change response in Tra Vinh province for the period 2010-2020 has guided the implementation of priority solutions, programs, tasks and projects for adaptation and mitigation of the impacts of climate change in the province. These efforts have been successful in bringing positive benefits and increasing provincial resilience to climate change.

176. In 2016, the Ministry of Natural Resources and Environment developed and issued timely updates on climate change and sea level rise scenarios for Viet Nam, built upon the 5th Assessment Report (AR5) of the Inter-Governmental Committee on Climate Change (IPCC). This resulted in many updates, as compared to the 2012 scenario[37]. On that basis, in the year 2017 - 2018, with the support of the IFAD-financed AMD project, the province used the downscaled information to develop a more detailed understanding of the province's climate change scenarios in order to map the risks of climate change and vulnerable areas, which in turn provided for the updated, local climate change scenarios and sea level rise for the province, consistent with MoNRE's 2016 Climate Change and Sea Level Rise Scenario for Viet Nam.

177. The same as Ben Tre, following the instructions in the Prime Minister's Decision No. 1670/QD-TTg, Tra Vinh (with AMD support) developed its updated Tra Vinh Action Plan To Respond To Climate Change In The Period Of 2021-2030, Vision To 2050 (DoNRE/Tra Vinh, 2020). This plan forms the basis and provides the context and direction for the design of the proposed CSAT project. Indeed, it orients all of the provincial efforts, through its departments and agencies, for the implementation of integrated programs, strategies, and priorities for local Socio-Economic Development Planning (SEDP). The plan (i) evaluates the effectiveness of locally implemented plans and programs; (ii) provides an overview of the province's conditions in responding to climate change; (iii) evaluates climate change's manifestations in recent times, as well as their historic frequency, and their sectoral and geographic impacts; and (iv) assesses the potential damaging effects of climate change and proposes appropriate and feasible adaptations solutions for the future.

178. Among the identified priorities for climate change adaptation in the provinces Action Plans, the following are those most relevant for the CSAT:

- Integration of climate change concerns into other public programs – rural development, poverty reduction, rural water supply and hygiene, planting/livestock/forestry and disaster prevention programs – for which the PPC has established the Steering Committee of the Action Program on Climate Change Adaptation for the Agricultural Sector.
- Improved farming systems to improve soil quality and mitigate risks from droughts and salinations, and dissemination of the system of rice intensification (SRI rice) or other potential CSA practices in order to decrease water withdrawal and reduce pollutions,

[37] Including detailed input data up to 2014; adding multiple models with reduced bias and improved predictive power/reduced uncertainty, detailing: climate change scenarios and predicted extreme climate scenarios for all 63 provinces/cities, as well as the Paracel and Spartly Islands; sea level rise scenarios for 28 provinces/cities and Paracel and Spartly Islands; assessments of extreme climatic factors; and extreme meteorology and sea level rise.

- Improved livestock management systems and nutrition to increase productivity and reduce risk of mortality from heat and lack of fresh water, poor nutrition and diseases, as well as manure/dejection management along compost/organic inputs or biogas digester to contribute to mitigate, improve water quality/minimize waste/pollution etc. and help organic transitions.
- The use of drought tolerant and short-duration crop varieties and adapted livestock breeds to reduce risk and development of new/adapted crops, livestock, and aquatic products.
- The promotion of mixed system/increased diversity to mitigate risks and generate co-benefit from farming system.
- Water store planning and management, treatment of waste water in the areas of possible pollution, etc.
- River and coastal bank stabilization and protection of alluvial rice lands by both non/green and mini/small-scale grey infrastructure measures.
- Land Use Planning to secure agricultural land and food production and avoid/mitigate impacts of droughts, salinations and floods; to enhance opportunity for expansion of irrigation system.

179. Of note also, is that since 2018 both provinces have been in the process of installing an automatic water monitoring and salinity warning system, with 20 stations on the main branches of the rivers flowing through the provinces. The information and data systems will be connected to the other provinces in the region. This was made possible through the IFAD-financed AMD project. The system was expected to operationalize in 2021.

180. The recent project completion report for the IFAD-financed AMD project (IFAD, 2021) concludes that the project's objectives related to building capacity and resilience to climate change were satisfactorily met; an advance that provides an important foundation and path forward for the CSAT. Of particular importance are the institutional organization and capacity building outcomes from that project, as the CSAT bases its implementation on the assumption that such capacities are in place to enable further progress, learning, and capacity building. Of particular importance are the report's validation that despite Ben Tre and Tra Vinh being among the most affected provinces by the severe drought and salinity in late 2015-early 2016 and late 2019-early 2020, that the AMD still was able to have a significant impact on household climate resilience. Based on the characteristics of a resilient HH[38] from the project design, the end-line impact assessment (Do et al, 2020) showed that 56.9% of project HHs (PHH) had a 30% increase in climate resilience, compared to 34.8% of non-project HHs (NPHH). Particularly, 55.9% of the PHHs, who were poor and near poor in 2014, achieved the 30% improvement by the end of the project. Thus, with a total of 44,030 poor and near-poor PHHs from both provinces at the beginning of the project, 24,613 PHHs or 98,451 PHH members had own climate resilience increased by 30%. Thus, the project has met the development objective target of "at least 30,000 members of poor and near poor HHs whose climate resilience has been increased 30%" by 3.3 times.

181. The factors contributing to those outcomes were assessed to have included: the development of climate adaptive, production infrastructure, increasing access to financial resources, knowledge and information on disaster response and climate change, and establishing community-based groups. The AMD also provided significant support on CCA/CSA technologies and practices, which provide a proven menu for the CSAT to replicate and scale-up. According to the endline impact assessment report, over 60% of participating households applied farming solutions to adapt to climate change, compared to less than 30% of non-participating households. The most

[38] A resilient household is anticipated to exhibit, inter alia, the following characteristics: i) diversified livelihood and income streams; ii) improved natural resource and risk management based on better access to knowledge on adapting to CC; iii) membership in social networks such as CIGs and SCGs; iv) ability to access credit; v) protection from some climatic hazards as a result of small-scale community infrastructure; and vi) direct engagement in village and commune level planning, and influence on provincial financial allocations

commonly used CCA/CSA production techniques were water-saving techniques, using bio-fertilizers and adaptive crop and livestock varieties, biological cushioning in livestock production, fermented feeds for cattle, adjusted cropping seasons and off-farm employment. By applying these alternative solutions, PHHs have adapted better to climate change, reduced risks and losses caused by diseases, and increased agricultural productivity.

182. In addition, according to the project districts, the salinity monitoring equipment supported by the project worked well. For example, 690 portable salinity meters (653 in Ben Tre and 37 in Tra Vinh) and 80 hydrometers (Tra Vinh only) provided to District ARDS, CPCs, CGs and cooperatives, enabled the project districts and communes to check salinity periodically in rivers and canals, and inform local people to regulate water timely. In the case of Tra Vinh, since 2018, the installation of automatic in-field monitoring buoys in Cau Ke and Cang Long districts helped to regularly update salinity data in real time and displayed on the Mekong software managed by Rynan Company. Thanks to that, people in these districts better controlled water level, salinity and pH in agricultural production and aquaculture, and the district ARDS became more proactive in adjusting the cropping calendar in 2019 and 2020. As a result, Cau Ke, Cang Long, Tieu Can and Cau Ngang districts expressed that although the Winter-Spring crop in 2019-2020 suffered from early saline intrusion with very high salinity level, but the total loss was much less than in 2015-2016.

183. Although the disaster risk and climate change remained the main challenges for both provinces, restructuring of the agricultural sector towards higher added value and CCA/CSA obtained early results. According to Tra Vinh DARD, since 2015 up to now, nearly 15,000 hectares of inefficient rice land have been converted to aquaculture, fruit, vegetables, grass cultivation for cows. A similar practice has been promoted in Ben Tre where low drought and salinity resistant crops like rice and sugarcane were replaced by fruits (coconut, mango, etc.) and aquaculture. Since 2015, total aquaculture production and areas have been increased by 57,517 ton and 542 ha respectively in Ben Tre. In addition, Ben Tre and Tra Vinh agricultural production is re-focused on higher quality product to meet market demand by promoting organic or VietGAP standards, using high quality varieties, and processing technologies. This is considered a positive trend to achieve more efficient and sustainable agriculture in the context of unpredictable CC.

3. Environmental and social category

184. As regards potentially negative environmental and social impacts, the project itself is designed to be an environmental management, climate change adaptation/resilience building instrument that is specifically tailored to engage with and reach vulnerable and marginalized populations (ethnic minorities, women, youth and elderly) in order to diversify livelihood options and opportunities and to increase their voice and participation in local development processes and governance. Little risk to social and cultural capital is foreseen given that specific criteria and mechanisms are in place, including strengthening farmers' organizations and women's' groups, minimum quotas for women's and poor household participation and, inclusive processes for participatory local planning.

185. In line with IFAD's Social, Environmental and Climate Assessment Procedures, the Project is classified as Category B in terms of environmental and social risks. While the Project's design and implementation activities may have some environmental and social impacts on human populations or environmentally significant areas, these will be small in scale, dispersed and largely local in nature, mitigable and/or reversible. The Project's potential adverse impacts can be prevented or ameliorated by appropriate actions and mitigation measures, as described in the preliminary Environment and Social Management Plan (ESMP) for the entirety of the project, and Environmental and Social Management Framework (ESMF) for the climate resilient infrastructure sub-projects under Sub-component 2.1 of the project, both are included in Appendix 2 of the SECAP Review Notes, in compliance with standards for Category B projects.

186. Given that farmers in two project provinces are facing increasing problems of drought and salinization, the project will support MRD-wide efforts to sustainably manage, protect and conserve increasingly scarce freshwater resources. In all the delta's provinces, the exploitation of groundwater resources is being discouraged due to the impacts of over-exploitation on land subsidence. Thus, the project avoids reliance on developments requiring significant incremental consumption of freshwater resources from groundwater and/or surface water sources, and will proactively engage in, participate, share information, and support all efforts by Provincial DoNREs & PPCs and regional planning/coordination groups to improve the management of water resources in the Provinces themselves, and the MRD region, in general.

187. The attached ESMP will be updated at project initiation, prior to implementation of local activities. The ESMF will be updated once Value Chain Action Planning (VCAP) is sufficiently advanced as to provide clarity over the specific activities to be carried out and the specific locations of these. For that reason, capacity building on the implementation of ESMF and ESMP will be delivered at the launch of the project.

188. Regarding the ESMF, the framework attached here covers only the IFAD-financed infrastructure under Sub-component 2.1. Climate resilient infrastructure for sustainable water usage and enhanced access to markets. At this time it is yet unclear if the activities under Sub-component 2.2. Rural finance services support value chain development - which includes the 4P value chain investments that will not be funded by IFAD, but by other financiers – will fall under GoV's or IFAD's safeguards. The type of investments and/or business proposals are not known at this stage, and this will only be clarified in the course of project implementation, when VCAP planning has advanced sufficiently to allow for the determination of the relevant details. At that time, it will be possible to make a final judgement as to which safeguards will apply to the 4P value chain investments. If IFAD's safeguards will apply, then the ESMF will need to be updated to cover and address sub-component 2.2. If GoV's safeguards will apply, then a gap analysis of SECAP requirements via-a-vis GoV's safeguards will be necessary, and an agreement reached on how the gaps will be addressed to meet IFAD requirements.

4. Climate risk category

189. Climate risk classification. The project target areas (i.e. Ben Tre and Tra Vinh Provinces) are highly exposed to extreme events particularly drought and salinization. Since the dry season of 2015-2016, the Mekong Delta has experienced severe drought and saline intrusion events that have adversely affected livelihoods, human health, and the economies of both provinces. Some of the proposed project investments, notably infrastructures, may take place in low-lying coastal areas/zones exposed to climate change impacts (sea level rise) or other areas exposed to the impacts of extreme weather events (e.g. drought, tropical storms, etc.). Additionally, the project may promote agricultural activity in marginal and/or highly degraded areas that have increased sensitivity to climatic events. Based on these facts, and according to the results of climate risk screening (see Appendix 1), CSAT is classified as "High" in terms of climate risks.

190. Overall, the project supports the development of key agricultural value chains, among which, climate smart investments (including climate resilient infrastructure, such as micro-irrigation, small-scale access roads, and water saving technologies, irrigation embankments and sluice gates, etc.), climate resilient varieties, soil moisture conservation and soil fertility management, and food safety and standards; all of which are widely recognized in the MRD context as essential to building sustainable, climate resilient livelihoods.

191. A climate risk/vulnerability assessment has been done for each of the proposed value chain commodities and the districts in which they are proposed to be established. This may be found in Annex II. Value Chain Commodity Risk Assessment of this review note, as well as more detailed information in Appendix 3. In-depth Climate Risk Analysis. The same type of analysis was not done

for the infrastructure developments. The reason for which an assessment was not done for the infrastructure include:

- The proposed infrastructure is, for the most part, to be built to increase the climate resilience of the production systems it is designed to protect. As such, its objectives require it to be built in the areas where the production systems themselves are located.
- Assuming that on the primary production side that appropriate due diligence is done to ensure that the specific commodity to be produced is suited to the specific locations and conditions, there will be no other option but that the design of the directly associated infrastructure investments (i.e., roads, bridges, water supply infrastructure) accommodate themselves to the location. Thus, the identification of potential risks and vulnerabilities and incorporation of appropriate siting (as possible) and engineering, and protection works as needed will have to be incorporated into the contracting, design and oversight processes. Judging from the AMD experience (IFAD, 2021d), there were no apparent issues with design, supervision, or quality of the “climate resilient infrastructure” investments, and so the CSAT should be able to capitalize itself on that prior capacity and experience.
- The production systems and associated infrastructure to be supported by the CSAT are to be consistent with the broader MRD-wide Master Plan, i.e., fall within its broad-scale priorities and zoning.
- The relatively coarse resolution of available information only allows conclusions to be drawn at the level of districts as regards the likelihood and relevance of risks requiring avoidance and/or mitigation. Such an assessment cannot substitute for the on the ground assessments of exposure, sensitivity, and risk that must take be carried out in the course of project implementation (e.g., thru a combination of participatory planning with communities and knowledgeable locals; technical assessments of proposed production areas by qualified technical staff or consultants; and specific studies, workshops, consultations, etc. with experts from government, academia, and relevant programs). In this, the absolute importance of involvement of local peoples cannot be understated. Their experience and knowledge of actual conditions will be one of the more robust risk mitigation tools for assessing and confirming the levels of risk associated with specific project investments, and as well they would be able contribute to the development of appropriate risk mitigation and avoidance approaches based on local knowledge and experience.

192. Thus, a good deal of what will be required in order for the proposed infrastructure to be both “climate resilient" and mitigating of risk will include:

- Design standards - roads, bridges, etc. are designed to withstand some design storm/run-off events (e.g., 25 year return period or 1/25 or 4% probability event). Because of climate change, the historic design event is likely to an underestimation. It will be recommendable that, if the standards have not already been updated to reflect climate change concerns, that lower probability design events be used (e.g., 50 year return period or 2% probability event, rather than the 25 year or 4% probability event). Then there will be the importance that design standards specify appropriate size, quality, and quantity of materials (e.g., if concrete - quality & size/quantity of rebar; type of road base); layouts and alignments that minimize risk on the ground; drainage; cut-and-fill slopes & compaction, etc. The main objective is that in order to be climate resilient, the infrastructure needs to be appropriately developed, ensuring good standards, good materials, good design, and good construction with good oversight.
- Siting – avoidance of building things in vulnerable areas, to the extent possible (e.g., the road eventually has to cross the river)
- Protection – ensuring that vulnerable elements are well protected (both design and O&M issue), such as bridge footings and approaches, and the riverbanks above and immediately below; cut-and-fill slopes, dykes and levees protected from storm surge. “Soft” bioengineering approaches should be considered wherever hard structures are not

absolutely needed; and where hard structured are required, particular attention should be paid to stabilizing the soil/hard structure interface as this is a common weak point that unprotected leads to failure over time of the structure. There is a good deal of experience in Viet Nam with utilizing Vetiver grass for bioengineering, at scale. Examples of this can found along the HCM Highway and for protection of dykes & levees (more, more). Work by ADB in the north with vetiver, under their "Climate Resilient Infrastructure" project, along with other bioengineering approaches, provides further options.

In conclusion, the main tools for climate resilient infrastructure are good design; siting to minimize/avoid risk/vulnerability to extent possible; protective works where vulnerable; and appropriate oversight during construction to ensure that the good designs are followed.

5. Recommended features of project design and implementation

193. More detailed recommendations may be found in Appendix 2 ESMP and ESMF of the SECAP Review Note; and in the PDR's Annex 12. Climate Resilient Infrastructure; and Annex 8 PIM, Appendix 13. Climate Smart Agriculture model identification, selection and packaging, and Appendix 8. Value Chains and Value Chains Planning Guidance Note.

194. As noted above, the project itself is designed to be an environmental management, climate change adaptation/resilience building instrument that is specifically tailored to engage with and reach vulnerable and marginalized populations (ethnic minorities, women, youth and elderly) in order to diversify livelihood options and opportunities and to increase their voice and participation in local development processes and governance. Further, in addition to the AMD project's experiences and lessons learned with inclusive, climate resilient poverty reduction and sustainable livelihoods, the CSAT design features also draw upon three other projects that IFAD has financed in Viet Nam with the same general objectives of inclusive, climate resilient poverty reduction and sustainable livelihoods. As such, the design constitutes a social, environmental, and climate change mitigation framework, where "mitigation" should largely be understood as a quality control mechanism to raise the probability of achieving the broader objectives stated here, avoid negative unintended consequences, and adhere to relevant IFAD safeguards and GoV laws and regulations.

195. As the specific and detailed features and recommendations are covered at length elsewhere, the below briefly defines the policy and planning context with which the design must be consistent, and the project's main design/recommendation domains.

5.1 Environment and social mitigation measures

196. In alignment with Government policies, under the new COSOP (2019-2025) a central focus will be on building inclusive value chains with high potential to contribute to poverty alleviation and climate resilience. The approach to be taken must closely align with Government's Agricultural and Rural Transformation Strategies for the Mekong Delta (Resolution 120, Decision 324) and with national policies that require non-concessional, foreign loans to be used exclusively for capital investment (Decree 56), and that require Provincial governments shoulder responsibility for repayment of a significant percentage of the loan proceeds, which are invested in their territories. These policies reinforce the decentralization of responsibilities to the provincial-level in terms of both strategy and implementation of ODA-financed activities, a fact which fits well into IFAD's comparative advantage in Viet Nam. Consequently, all the loan financing will be directed towards infrastructure, specifically, productive agricultural infrastructure and other rural infrastructure, such as to foster climate change adaptation and resilience and to support the needs of commodity value chains prioritized by Provincial governments.

197. Beyond infrastructure, experience clearly demonstrates that a prerequisite for encouraging smallholders, especially the vulnerable groups to accept the costs and risks of innovation that accompany investments in productivity improvements and improved and

climate smart agricultural practices is for them have stable access to secure and remunerative inputs, extension and financial services, and markets that can absorb the costs and adequately reward and mitigate the risk-taking. Thus, the approach to value chain development must deliberately start with existing and emerging market opportunities and the leading firms in the given markets of interest and, seek first to involve those smallholders that have the locational and physical assets that allow them to successfully exploit those market opportunities, and then progressively expand out to more remote areas. Consequently, to strengthen government's market-oriented approach to agricultural and rural development, a new approach that places emphasis on the "demand-side" with "enterprise – led", i.e., beginning from the markets themselves and working back to smallholder producer groups, is proposed. This, versus the approach under prior investments that gave equal, if not greater weight, to working from the producer side to develop market linkages and enhance productivity.

198. The private sector must play a central and fundamental role for linking agricultural production and products to growth markets, for generating jobs, and increasing income and alleviating poverty amongst smallholders is well recognized by government. Moreover, as government has placed increased importance on public-private partnerships in the rural sector, the private sector has also played an increasingly important role in providing education, training services and technical assistance to smallholders and the rural poor. It is however also acknowledged that dealing with smallholders/poorer farmers and incorporating stronger environmental/water efficient practices has a cost for the lead enterprise, therefore the policies/project need to work out mechanisms to further provide incentives to the lead enterprise engagement. This may link to improvement of value chain planning, enabling incentivised policy for private sector engagement and value chain financing, and public infrastructure investments which shall contribute to reduce some VC costs / reduce risks/increase sourcing etc.

199. It is important to note that financial service providers including banks, microfinance institutions, and insurance institutions must also be pivotal players in facilitating financing for extension/upgrade of value chains. These actors may participate in a value chain financing arrangement for different reasons, and these reasons determine the ways in which they are willing to facilitate financing for a value chain upgrading investment. Often in value chain finance, some form of strategic alliance is established between the financial provider and one or more value chain actors to reduce transaction costs and lower risks that otherwise impede access to traditional financial services. In such arrangements, private sector actors may directly finance a particular investment or cash flow need, or they may help facilitate financing from a more formal financial institution. It is important to understand how value chain governance, relations and linkages are structured to respond to market opportunities, because these factors will determine the viability of a financing arrangement. Value chain finance works best where there is strong end-market demand, as well as transparency, trust and strong and repeated inter-firm transactions. The stronger the relationships, the more readily players in the value chain can rely on their relationships to facilitate access to finance. Value chain finance is useful for ensuring that businesses have liquidity so they can meet market demands - whether that be to maintain or expand operations or invest in upgrading to access new market opportunities. Experience of IFAD project in Viet Nam reflected that rural and agricultural enterprises and smallholders commonly have the greatest difficulty in accessing financial services from traditional providers due to various reasons including procedures and collateral. This makes any production-level demands for financing challenging and can limit value chain development and growth. To this extent, it is required to facilitate financial innovations which comprise "value chain finance" to bridge this financial gap by lowering costs and risks of financing for value chain upgrades. Given the context that ODA loans to be used exclusively for public infrastructure investment, facilitation of financial innovations will requires the involvement of the existing IFAD supported micro financial

institutions (WDF), potential public and private banks (Social Policy Bank, Agribank, Sacombank, etc), interested insurance institutions, lead firms, international and national projects/programmes, and any ODA grants.

200. While legislative and policy frameworks are in place, implementation and monitoring remain key challenges. Due to entrenched gender roles, women's decision-making power over agriculture at both the household and institutional levels is still limited. The country's sluggish economic performance with decline in exports has made women be more prone to job cut-off because they have less competitive edge in terms of skills and productivity than their male counterparts. Climate change and increase in frequency of natural disasters are posing new challenges to gender equality and women's empowerment. More women than men depend on agriculture, putting them at higher risk of losing income and resources from disasters. Moreover, less access to resources, credit, markets and extension services makes women less resilient, especially those from poor households. CSAT could help increase participation of women in economic opportunities including job creation and green agriculture intensification. CSAT could prioritize training for women so that they are able to participate in the labor force as skilled workers and fully benefit from job opportunities. Also, better inclusion of women in agriculture extension programs and increasing women's access credit and markets is essential to ensure women are not left behind in a potentially unproductive area of the economy[39].

201. Youth accounts for a large share of the labor force with nearly half (49.5%) aged between 15 and 39 years. Agriculture remains the dominant sector of employment creation (44%) in Viet Nam. Among youth, 33% are employed in agriculture. Making its transition to a higher value economy, Viet Nam is facing the challenge of producing jobs for its young and expanding labor force. Young people have a greater likelihood of being unemployed and among the working poor than adults, reflecting both structural issues and young people's particular vulnerability to economic shocks. Qualification mismatch is a significant problem in Viet Nam's labor market. Training in rural areas remains unequal in terms of quality, accessibility and investment. The sustainable value chain development of CSAT project is foreseen to create remarkable economic opportunities for young people in rural area. This potential can only be tapped if young people have access to proper vocational training. Also, by helping youth access to decent jobs in their place of origin, it is not just a source of income; it also provides economic standing, self-esteem, status and social capital.

202. Taking this new approach will be challenging and carry its own risks. The experiences to date of working with the provinces on inclusive and climate resilient value chain development highlight the need for two specific areas where support to the provinces will be key to overcoming these challenges and mitigating these risks: (i) support to provinces for improving or establishing enabling conditions and incentivized mechanism for the private sector (value chain governance); and (ii) support to the private sector, particularly the SMEs, to improve their capacity to approach and expand their market share in local, regional, or international markets. For the first point, support would take the form of assistance for Agricultural Restructuring Programme (ARP) planning, especially aspects related to commodity planning/zoning, land-use planning, identification of infrastructure bottlenecks/needs; and for farmer' organization (cooperatives or common interest groups) and facilitation of the linkage between them and lead firms. For the second point, it would require support to SME to obtain the needed financing to upgrade processing technology, packaging and marketing, and others, at the same time to famer groups to build-up their technical and financial capacities in improving quantity and quality (e.g. food safety, organic standards) of produce to meet emerging national and international markets. In addition to assisting provinces to develop better ARP plans under the guidance of Resolution 120 and Decision 324, coordination between regional/provincial planning and execution for shared VCs

[39] IFAD.2019. Poverty, Gender, Ethnic minorities, Youth employment – COSOP working paper Vietnam.

(e.g., strategic commodities) will be essential for better organized and effective value chain development and/or strengthening. In this context, infrastructure can play a critical role in extension and secure production potential, reduction of transaction costs, and incentive private sector participation and inclusion. Hence, there will be a need for planning processes and inputs that encompass several provinces, which would be very much in line with the coordination role of MARD and PPCs. Finally, technical assistance to government, private sector, farmers and other key actors to complement Government's investment will also be critical wherever innovation and deployment of new instruments, approaches and technologies are required or desired.

5.2 Climate change adaptation and mitigation

Agriculture

203. Rice-based systems in the coastal zones in both provinces will require additional infrastructure to face sea level rise, storms, and saltwater intrusion. However, "hard" dykes and other engineering structures have been shown to have negative effects on productivity after initial increases due to losses in soil fertility and the need for increased chemical inputs. Traditional and bioengineering (i.e., plant-based) measures are needed which are more flexible, cheaper, easily maintained, and locally managed. Salt-tolerant and short-growth duration rice varieties with high yields and good-grain quality will be part of a longer-term adaptation approach.

204. A shift to a rice-shrimp/rice-fish system maybe required in areas where saltwater intrusion will constrain a second rice crop. However, shifting land use from rice to shrimp would reduce women's income opportunities. Shrimp farming is a more physically and mentally demanding activity, culturally perceived to be more appropriate for men[40].

205. In Ben Tre Province, farmers have turned more than 10,000ha of ineffective rice fields to breed aquatic species and other high value crops, according to the province's Department of Agriculture and Rural Development. Ben Tre, the country's largest coconut producer, has also increased its coconut growing area from 68,200ha in 2015 to nearly 71,000ha last year.[41] Thus, the development of coconut value chain could be an option.

206. In Tra Vinh[42], according to the provincial plan, studies on river and river bank fluctuations are to be conducted that proposing measures to prevent riverbank erosion to suit each specific case. Prevention measures to cope with climate change impacts, notably sea level rise, include construction of embankments, sea - river dykes, and solid embankment systems. Sea level rise may destroy facilities; thus, the province will do planning on regulation reservoirs, storing fresh water, establishment of water users association/water management system and adaptation of the system, etc. to ensure enough fresh water for the production and living conditions of the local people.

207. Application of farming techniques suitable to local land conditions improves soil fertility for efficient use of agricultural land, avoiding over-exploitation and soil degradation. Implementation of afforestation in the form of agroforestry, protection forests in combination with eco-tourism, etc. in the alluvial and coastal alluvial areas in both provinces could be desirable. Maximize the ability of alluvial land to plant new forests, increase forest cover, contribute to minimize the impact of climate change - sea level rise, preserve the biodiversity of flooded forests. Develop aquaculture on coastal alluvial land, actively renovating and putting the mulch areas of rivers and coastal areas into use.

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[40] ICEM (2013) - cited.

[41] https://vietnamnews.vn/society/535772/mekong-delta-agriculture-adapts-to-climate-change.html

[42] Adjusted land use planning to 2020 and land use plan for the last period (2016-2020) of Tra Vinh province. Tra Vinh PPC. https://www.travinh.gov.vn/Default.aspx?sid=1426&pageid=37938&p_steering=99984

208. The province may want to restructure cropping and animal patterns, and diversification to adapt to the conditions of saline water intrusion, drought and water saving, giving high productivity, adapting to arid regions and saline soils. The transformation process within the agricultural sector will happen towards reducing the proportion of cultivation, increasing the proportion of animal husbandry, aquaculture and fishing in association with environmental protection, promoting the form of community-based management, value chain approach.

209. In terms of crop varieties, farmer beneficiaries will be encouraged to select and introduce drought and saline tolerant and short-duration crop varieties, or crops requiring less water consumption. These varieties will be more resilient and better adapt to climate variability and change, thereby reducing the risk of crop damages due to climate change impacts.

210. As regards to livestock development, the adaptation and mitigation practices may include diversifying and increasing feed sources for improved animal nutrition, especially fodder grasses and other feed sources for dry season; training and supporting farmers to provide improved conditions for animal raising, encouraging the use of manure management, as well as promoting organic farms & bio-inputs or biogas.

211. The project will also improve technology transfer services for agriculture, forestry, aquaculture/fisheries, including the warning system/water-saline monitoring upscale, in order to equip farmers with the knowledge needed to develop marketable agriculture and aquaculture products under condition of climate change.

Improvement of water use techniques

212. In terms of irrigation, the project will expand irrigation capacity, especially in high potential areas of along rivers; renovate and upgrade existing irrigation works to increase dry season capacity; improve irrigation efficiency; develop/store and protect groundwater resources, especially for life-saving and irrigation; and develop improved soil moisture conservation systems for rice and cash crops.

213. Improved access to irrigation from groundwater, rainwater collection, and small-scale water storage can provide opportunities for dry season crops, supplementary irrigation, or diversification with homestead intensive gardening.

214. Water storage or efficient water use techniques, such as low-cost drip irrigation, mini-ponds, and rainwater harvesting in ponds or tanks can help improving water efficiency and availability thereby providing better opportunities for smallholder farmers to diversify agriculture production and secure cash crops. For the poorest and especially small- scale farming, rainwater harvesting associated with drip irrigation in homestead gardens will be a good potential option. This adaptation strategy can target women with homestead garden vegetable production and marketing activities. Vegetable production can be oriented to specific niche markets, for example, where there is growing demand for organic products around city centers and tourist areas.

Soil/land management and fertility

215. In terms of soil/land management, construction/rehabilitation of embankments will improve soil erosion control as well as protect crop lands along rivers. The project will also introduce facilities for soil and moisture conservation in sandy land, in order to minimize the amount of water lost through evaporation (i.e. water loss directly from the soil) and transpiration (i.e. water loss occurring from the plants) – or combined, the evapotranspiration

216. The negative impact of climate change can be reduced by better fertility management at the plot level. One option is to develop a cropping system that includes the rotation of crops with permanent vegetation cover and limiting tillage to improve the quality of soil organic matter and increase nutrients. Other options to increase availability of quality

compost, bio inputs, etc. mentioned in the CSA practices (see Annex 10 of PIM on the CSA practices) should be encouraged in line with investments in animal production.

Shifting farming systems or crops

217. In some cases, climate change will require a shift of crop or farming system. In order to cope with drought and salinization challenges in both provinces, some traditional rice-based farming systems may be converted into cash crops or other types of farming system or crops that require less freshwater consumption than rice. In the case of Ben Tre, farmers are looking for other alternatives to shift from the existing fruit trees, such as Mangosteen or Durian, especially in areas seriously affected by saltwater intrusion.

Agricultural diversification and mixed farming systems

218. Farmers face many risks such as climatic factors (including climate change), pests and diseases, price uncertainties, and changing government policies. Agricultural diversification is a response to avoid and minimize those risks. The main purpose of diversification in agriculture is to maintain an optimal level of overall production and return by selecting a mixture of activities, which buffer the farmers against shocks affecting individual crops. Smallholder farming system in the provinces of Tra Vinh and Ben Tre is extremely diverse and flexible. Yet, the trends are for consolidation of holdings and a shift to highly productive monocultures. Agriculture diversification is a key principle that needs to guide climate change adaptation in agriculture. In fact, a diverse and biodiversity-rich farming system builds on traditional practices with improvements from modern technologies and approaches.

Aquaculture

219. Many aquaculture farms may have to invest in on-site water storage to lessen the risks of reduced water availability during the dry season. The strengthening of embankments to protect against flooding will be necessary for ponds in many areas (i.e., rice-shrimp or eco-shrimp farms). Changes in rainfall patterns make it more difficult to manage aquaculture systems. Storm intensity and frequency could affect coastal and reservoir aquaculture infrastructure and inland aquaculture farm flood-security systems.

5.3 Multiple benefit approaches

220. The provinces encourage the application of new technologies in water saving/harvesting and production techniques to increase productivity, adapt to climate changes, mitigate greenhouse gases (GHG) emission, and reduce negative environmental consequences from poorly managed production and processing systems. Applying bio-technologies in breeding, selecting and grafting to create plant varieties and animal breeds with high productivity that are well-adapted to expected climatic and soil conditions.

221. Adapting the agriculture sector to climate change in the Tra Vinh and Ben Tre provinces inevitably involves a mix of strategies such as: (i) Improved varieties and risk management practices such as using multiple varieties to spread the risk; (ii) Adopting improved water-use efficiency practices, such as water harvesting and small-scale irrigation in drought-prone areas[43]; and (iii) promoting agricultural diversification and mixed farming systems and reducing the reliance on monocultures.

222. Some options selected for farming practices in both provinces include: (i) the use of early maturation/short-duration varieties that are tolerant to heat, drought and saline; (ii) shifts in cropping calendar and/or cropping patterns to avoid peak temperature or drought; (iii) apply System of Rice Intensification (SRI) techniques; (iv) the use of water efficient

[43] Aquaculture farms may have to invest in on-site water storage to reduce the risks of water availability during the dry season.

irrigation techniques, such as drip/sprinkler irrigation; (v) shift to rice-shrimp and/or rice-fish system, (vi) diversification/mixed system, and (vii) conversion to organic farming practices.

5.4 Incentives for good practices

223. Incentives as tangible benefits for relinquishing unsustainable practices (farming, processing, etc.), reducing risk, and helping smallholders adopt adaptation and mitigation measures, including funding were considered during the design. A principal incentive that will be encouraged through the Value Chain Action Plans will be to access markets that demand clean products from systems that follow and meet GAP or organic standards in order to create a market incentive for adoption of CSA and appropriate environmental management practices.

5.5 Participatory processes

224. CSAT promotes the participation of all stakeholders (including agencies, social groups, enterprises, etc.) from the project design, implementation and monitoring and evaluation process. The participation would be in the form of providing relevant partners with understanding of their problems and potential solutions, as well as to regularly communicate strategies that provide knowledge on the provincial development priorities, project's interventions, etc.

6. Analysis of alternatives

225. Other alternatives considered during the design for CSAT include:

- Different measures for managing saline intrusion: soft measures in which land use is adapted to the brackish/saline environment vs construction/upgrade and operation of sluice gates to prevent the physical intrusion of seawater or brackish water. Based on the discussions with the government, the need for a judicious mix between the two alternatives was found necessary. There are more than just agricultural sector concerns to be considered, as simply allowing (i.e., not physically excluding) saline intrusion has human health and water resources implications, i.e., contamination of domestic and potable water supply and salinization of freshwater aquifers. To the extent possible, soft approaches with long-term sustainability potential are favored, but where a transition must be managed in the period up to 2050, the use of hard alternatives is both called for and warranted.
- For the construction/upgrade of sluice gates, there are two alternatives: (i) the construction of medium-scale sluice gates to prevent saltwater intrusion for broader target areas; or (ii) the construction/upgrade of small-scale sluice gates in the canals to prevent saltwater intrusion. The following points were considered regarding these alternatives:
  - To mitigate damages of agricultural products by predicting saltwater intrusion associated with climate change events;
  - To minimize damages of agricultural products by predicting fluctuation of river water volume in Mekong River due to dam development in the upstream;
  - To minimize adverse environmental and social impacts in the project areas and the surroundings during the construction, operation, and maintenance phases of the project.

  Ultimately, the conclusion was that a priori preference for one over the other is undesirable, and must be looked at on an area-by-area, case-by-case basis. In doing so, the analysis should consider options such as (i) zero option (keep the present conditions without measures, (ii) option 1 (flexible land use farming, i.e., changing in crop and/or cropping patterns/calendar), (iii) construction of small-scale infrastructures, and (iv) construction of medium-scale infrastructures.

- It was considered to establish a separate “climate challenge” competitive fund mechanism to support innovative PPP arrangements. However, in considerations of the impact, operational efficiency and institutional sustainability, it was preferred to integrate climate change adaptation as a cross-cutting concern in all aspects of the project’s interventions and seek to integrate CCA/CSAT planning as a programmatic element of GoV’s SEDP process (by which public ARD budget is allocated).

7. Institutional analysis

7.1 Institutional framework

226. The PPCs in Ben Tre and Tra Vinh would be the owner of the CSAT. A Project Steering Committee (PSC) at provincial level would oversee the project implementation. A Project Management Unit (PMU) with about 25 staff will coordinate and manage project implementation. In order to ensure coordination and mobilization of resources serving the value chain implementation, it is recommended to learn from IFAD good practice in Bac Kan province. The PMU in Bac Kan is assigned by PPC to oversight the NRD and SPR programs apart from the project. In this line, agricultural development, including value chain interventions became more sustainable thanked to effective budget planning and investment arrangement.

227. All districts would appoint the District People’s Committee (DPC) Chairperson or Vice Chairperson responsible for agriculture as the District Project Coordinator and a member of the PSC. The chief of the district agriculture section would be the Deputy District Project Coordinator with responsibility to oversee the project implementation at district level. A fulltime M&E/accountant officer and a Business Linkages Facilitation Officer would be recruited to support day-to-day project implementation at the district level. With regards, to the implementation of SECAP recommendations, a Climate Resilient Infrastructure Engineer will be recruited to oversee the recommendations related to project implementation, notably for the planning and implementation of climate resilient infrastructure investments. S/he will be responsible to ensure all the environmental and social safeguards, climate resilient, and FPIC requirements are met based on the established instruments (i.e. ESMF, In-depth Climate Risks Analysis and FPIC Implementation Plan). Additionally, s/he will also oversee the overall implementation of environment and climate-related activities such as CSA practices. The Provincial government would provide suitable office accommodation for the PCU and cover all staff costs.

228. Institutional capacity. Significant institutional capacity, experience and knowledge were gained under the prior IFAD-financed project, the Adaptation to Climate Change in the Mekong Delta (AMD) project in Ben Tre and Tra Vinh provinces, which was implemented between 2014 and 2020. These gains can be capitalized and built upon. Certain promising outcomes from the AMD (IFAD, 2021d) highlight those areas where current capacity exists for natural resources management, climate change adaptation, and value chain development. These include:

- Ben Tre and Tra Vinh were badly affected by two droughts and saline intrusions in the winter-spring season of late 2015-early 2016, and late 2019-early 2020. Despite these strongly negative events, the AMD poverty reduction goals were met, and slightly exceeded. This achievement was attributed to: (i) having increased agricultural productivity for some 17 different agricultural products (out of 27 attempted); (ii) improvements in household-level climate resilience capacity (as measured by a resilience index) in 24,613 project households; and (iii) increased sales volumes and selling prices of a number of different agricultural products – for example, in Tra Vinh by more than 30% – as a result of the investments in climate resilient/improved infrastructure, production organization, market connections between producer groups

and PPP-supported enterprises, and product quality. These outcomes provide evidence of a significant level of institutional capacity existing among local agencies, community groups, and service providers.

- The AMD decentralized implementation to the districts and their agencies, providing them with a "learning by doing" opportunity that significantly improved their capacity to work not only with the project-supported communes, but which spilled over into non-project communes as well. This was most obvious in implementation of the commune-level "climate-informed SEDP" and the district-level "climate-informed SEDP". As the SEDP planning process is the vehicle for engaging with local communities and planning/prioritizing the coming years investments, capacity in this area is fundamental to being able to work on building climate adapted livelihood and production systems. Similarly, the project districts were able to play a leading role in implementation of the CCA action plan, and provide support to communes in implementation of the local Climate Change Adaptation Fund (CCAF) and the Women's Development Fund (WDF).
- Provincial agencies also demonstrated capacity, which was rated "satisfactory" by the AMD project completion appraisal. It was noted that the provincial Departments of Agriculture and Rural Development (DARD) in both provinces – in cooperation with districts and communes, and in Tra Vinh, with universities – succeeded in selection, testing, evaluation, and documentation of CCA models, development of Value Chain Action Plans (VCAP) and agricultural sector action plans. Similarly, the provincial Departments of Natural Resources and Environment (DONRE) were able to successfully completed the environmental sector plans and CCA plans for 2016-2020. The provincial Departments of Planning and Investment (DPI) successfully developed, tested, and finalized a manual for implementing climate-informed SEDPs, and provided training to districts and communes to prepare and implement the commune-level, climate-informed SEDP. This strengthened as well the provincial SEDP in Ben Tre for 2016-2020 as it was able to incorporate a bottom-up element in its CCA planning, and for the 2021-2025 SEDP, both provinces were able to incorporate inputs from the commune and district levels climate informed, SEDP planning processes. The Women's Union also demonstrated its delivery capacity by implementing the WDF in both provinces, and in both project and non-project communes; women's groups participating in the WDF were able to access technical assistance and training for climate smart agriculture.

229. Still, it should be expected that institutional capacity risk will be significant. There are critical areas in which the responsible institutions have been as yet unable to demonstrate capacity to deliver on their mandates. Of relevance to the project's (and the government's) objectives, these include:

- Implementation of policies in a number of reform areas will require long-term capacity to support, for example, groundwater protection. DONRE (at both provincial and district levels) is responsible for water resources regulation and enforcement, but has yet to demonstrate capacity to effectively engage on and mitigate the unsustainable exploitation of groundwater or to implement and enforce policies on regarding water resources management. As the CSAT envisages supporting sustainable management through the implementation and deployment of "smart solutions for water management", weakness in this area is of concern.
- In all relevant line agencies, there are shortages of experts and technical staff specialized in: climate change and the assessment of the effectiveness of adaptation measures, particularly at the local level (districts, commune, and village levels); communications and awareness-raising on climate change; identification and dissemination of appropriate climate change adaptation models at the community-

level; and making informed decisions for the prioritization of resources for the implementation of climate change adaptation activities.

- Although Provincial DARD, DONRE, and MPI demonstrated experience in CCA elements of the AMD, the CSAT will require a high level of cross-sectoral cooperation for an integrated approach to improving resiliency in Ben Tre and Ta Vinh. Adopting a cross-sectoral and regional approach within their relatively rigid administrative systems will be a challenge. Mitigation measures will need to include oversight from the PPCs to facilitate cross-agency cooperation and inter-provincial coordination as required.
- Even though IFAD and other development partners (e.g., World Bank) have been actively supporting the development of improved practices and models, going from these to routine application still presents a challenge as they will require ongoing allocation of resources. Mitigating this risk is difficult, and will likely require parallel support to raise the profile of successful activities and significant outcomes through evaluation and dissemination of the impacts and value of these activities to high-level decision-makers at both Provincial and national-levels.

230. As these areas of need were identified during the design stage discussions and assessments of capacity needs; they have been integrated into the design and budgets as per the Environmental and Social Management Framework (ESMF) with the associated Environmental and Social Management Plan (ESMP).

7.2 Capacity building

231. CSAT would have an extensive capacity building program associated with all interventions and targeted at key implementation actors and decision makers. Of note here are the capacity building aspects that respond to GoV's own analysis where strengthening is required for climate change adaptation measures to be successful. Specifically, technology transfer for: (i) tools to assess climate change impacts, vulnerability, exposure and climate change adaptation measures and; (ii) sustainable agriculture, forestry and aquaculture production.

232. CSAT will also build the institutional capacity (i) to overcome shortage of experts and technical staff specialized in climate change and the assessment of the effectiveness of adaptation measures, particularly at the local level (districts, commune, and village levels); (ii) for communication and awareness-raising on climate change; (iii) to identify and disseminate appropriate climate change adaptation models at the community-level; and (iv) to make informed decisions in the prioritization of resources for the implementation of climate change adaptation activities.

7.3 Additional funding

233. The financing structure of CSAT encompasses IFAD loan funds (US$ 43 million) and national finance including from government, beneficiaries, banks, the WDF and private sector enterprises.

234. National finance will be mobilized from the provincial budget, both in cash and in-kind, the latter primarily staff time for infrastructure planning and supervision for regulatory compliance. Beneficiary in-kind contributions will be mobilized for small infrastructure. Direct finance will be mobilized from a number of public agencies, such as DoIT who have committed to provide start up support to rural business under CSAT. The microfinance institution WDF, formed under the precursor project AMD, is committed to continue its outreach under CSAT in terms of savings and loans to rural women for agriculture and small businesses. The project aims to bring additional resources from banks or financing institutions during implementation, for which the amount presented in the project budget cost is an estimation.

235. In terms of international co-financiers, the Dutch Fund for Climate and Development (DFCD) expressed strong interest in investing in commercially viable and bankable business proposals that promote climate adaptation, such as ecological mangrove-shrimp, clam and rice production. DFCD would engage with private enterprises and farmer groups who are working under the CSAT. Finance would be available for technical assistance, capacity building and provision of equipment. The amount of these investments are being developed. Consultations with stakeholders are ongoing and expected to conclude before CSAT starts. As soon as possible, IFAD, local government and DFCD will enter in a Memorandum of Understanding outlining the commitments and responsibilities.

236. A number of international funded projects will also work closely with CSAT. An example is the soon starting EU-funded DeSIRA, implemented through a partnership between CIRAD and FAO. It will provide technical know-how and assistance to smallholders to adapt to climate change in the Mekong Delta by supporting agro-ecological value chains and strengthening the learning and advisory system. These aspects are highly complementary to CSAT. Partnerships will developed through joint consultations and planning, technical assistance, joint training programmes and alignment of investments in value chains.

8. Monitoring and evaluation (M&E)

237. The project M&E system feeds into the government system for reporting and project governance and therefore plays a key role to facilitate adaptive and evidence based management and policy dialogue. Outputs, outcomes, and impact indicators are all causally connected as set out in the Project Logical Framework. The latter applies largely IFAD's Core Indicators the outcome and outputs levels. Climate impact related data present the expected adaptation effects of CSAT. Output data are collected directly from the project service reports (e.g. people trained), while impact, results and outcome relevant information is strategically collected from baseline and repeater surveys and thematic studies to assess the effect of project services (e.g. women report higher returns form sale). The annual outcome survey will start by year three. Baseline survey will be organized in year 1. A mid-term survey should inform the Mid-Term Review to be held during the year three. Thematic surveys could start as early as year two, in order to understand progress made against the development objectives and to allow timely adjustments as it may be required. Similarly, the project completion gathers and analysis the endline survey and complete set of project data. Project results will be regularly reported to IFAD ORMS and inform on the COSOP's progress.

9. Further information

None.

10. Budgetary resources and schedule

237. The below is an aspirational estimate of the resources that would be directed to environmental, social, and climate change adaptation during the lifetime of the project. “Aspirational” because, as noted above in “Additional Financing”, a very significant percentage of the total estimated cost of US$ 126.7 million (plus contingencies) comes from to-be-mobilized private sector investment, bank financing, and potential partnerships with other, international sources. “Estimate” as, given the project design, in which its specific activities and interventions are designed for purposes of climate change adaptation, social inclusion, and improved environmental management (i.e., these are mainstreamed, and with rare exception – e.g., wastewater treatment systems and environmental/social analysis to be carried out for individual infrastructure investments – are stand alone activities or systems) and so the extent that a particular investment would cover “environment, social, CCA” concerns versus, for example, market/marketing/ product design/technical aspects of processing/business planning/etc. aspects in value chain investments, is quite subjective. The detailed costs tables on which the below summary are based may be found in Appendix 2 ESMP/ESMF. By this estimate over 50% of project cost would be dedicated to ensuring

Climates Smart Agriculture and Transformation Project
Project Summary
Direct Budget for ESMP/Climate Change Adaptation

Component/Subcomponent	Total US$	ESMP/CCA %	ESMP/CCA US$
A. Effective provincial and regional coordination for sustainable and inclusive rural transformation	**1,712,000**	**36%**	**607,904**
1. Regional integrated, climate resilient and inclusive socio economic planning	*256,000*	*38%*	*98,304*
2. Enhanced capacities for building inclusive value chains	*1,456,000*	*35%*	*509,600*
B. Inclusive and climate smart value chain established	**113,607,000**	**55%**	**62,637,378**
1. Climate resilient infrastructure for sustainable water usage and enhanced access to markets	*48,036,000*	*65%*	*31,434,758*
2. Rural finance services support value chain development	*64,168,000*	*46%*	*29,799,619*
3. Smallholder farmers adopt climate smart agriculture (CSA) for value chain development	*1,403,000*	*100%*	*1,403,000*
C. Project management	**5,378,000**	**28%**	**1,505,840**
1. Project Management	*5,378,000*	*28%*	*1,505,840*
Total	**120,697,000**	**54%**	**64,751,122**

positive social, environmental, and climate change adaptation outcomes.

238. Given that the approach is mainstreamed into project activities, the implementation schedule does not vary from the project’s implementation schedule, as defined in the project design document.

11. Stakeholder consultations

238. This SECAP is based on: (i) significant prior work carried out by the Project Preparation Boards and local IFAD staff during the year 2019 and 2020, involving all concerned line agencies and district authorities (see Project files for working papers and Pre-Design Report), (ii) technical meetings with central line ministries (MONRE, MARD) and institutions (INHEM, IFSARD) and; (iii) field visits and consultations with local farmers, resource users and community members; commune and district-level authorities; private enterprise owners; and all relevant Provincial-level line agencies (DARD, DOIT, DONRE, and DPI).

ANNEXES

Annex I: Land Resources

Land Resource in Tra Vinh

Table 1: Agricultural Land resource management in Tra Vinh province

no.	Items/Category	Unit	Actual 2015	Planned 2020
1	Agriculture land	ha	186,243	175,504
	in which: - Rice land	ha	91,285	89,169
	- Annual crops	ha	10,834	8,084
	- Perennial crops/fruits trees	ha	45,820	38,356
	- Aquaculture area	ha	30,293	27,123
	- Forest land	ha	8,011	12,772
2	Non-Agriculture land	ha	48,856	59,776
3	Unused land	ha	727	546
	Total natural land area (1+2+3)	ha	235,826	235,826

Source: Adjusted land use planning to 2020 and land use plan for the last period (2016-2020) of Tra Vinh province.
https://www.travinh.gov.vn/Default.aspx?sid=1426&pageid=37938&p_steering=99984

Statistical Data on Production Area in Tra Vinh (2018-2020)

Table 2: Statistical Data on Production Area in Tra Vinh (2018-2020)

no.	Items	Unit	Actual 2018	Estimated 2019	Planned 2020
I	Cultivated areas	ha			
1.	Annual crops	"	276,914	277,396	278,480
	1.1-Rice harvested	"	223,243	224,348	223,430
	1.2-Cash crop harvested	"	53,671	53,048	56,950
	in which: - Corn/maize	"	3,870	3,748	4,500
	- Sweet potatoes	"	1,206	1,134	1,400
	- Cassava	"	821	816	950
	- Vegetables	"	31,246	32,320	33,000
	- Peanut	"	4,391	4,336	4,500
	- Sugarcane	"	4,515	2,859	2,000
	- Sedge	"	2,444	2,448	2,700
	- Flower and others	"	4,125	4,428	4,800
2.	Perennial crops				
	2.1-Fruits	"	17,995	18,052	18,500
	2.2-Coconut	"	22,390	23,102	23,200
	2.3-Others	"	555	542	535
II	Forest land	ha	5,160	5,092	5,720
III	Total aquaculture area	ha	57,112	50,754	54,000
	3.1-Freshwater aquaculture	"	4,281	3,411	4,300
	in which: - Fish	"	2,547	2,512	2,600
	- Shrimp	"	1,734	899	1,700
	3.2-Salt/Brackish aquaculture	"	52,830	47,344	49,700
	in which: - black tiger shrimp	"	25,052	20,413	21,000
	- Whiteleg shrimp	"	7,817	7,831	8,500
	- Crab	"	19,100	18,800	18,500

Source: DARD Tra Vinh report 2020

Land Resource in Ben Tre

Table 3: Agricultural Land resource management in Ben Tre province

no.	Items/Category	Unit	Actual 2015	Planned 2020
1	Agriculture land	ha	191,980	175,562
	in which: - Rice land	ha	30,744	21,070
	- Annual crops	ha	6,025	4,731
	- Perennial crops/fruits trees	ha	103,960	102,378
	- Aquaculture area	ha	31,349	38,500
	- Forest land	ha	8,011	12,772
2	Non-Agriculture land	ha	56,997	63,558
3	Unused land	ha	498	355
	Total natural land area (1+2+3)	ha	239,475	239,475

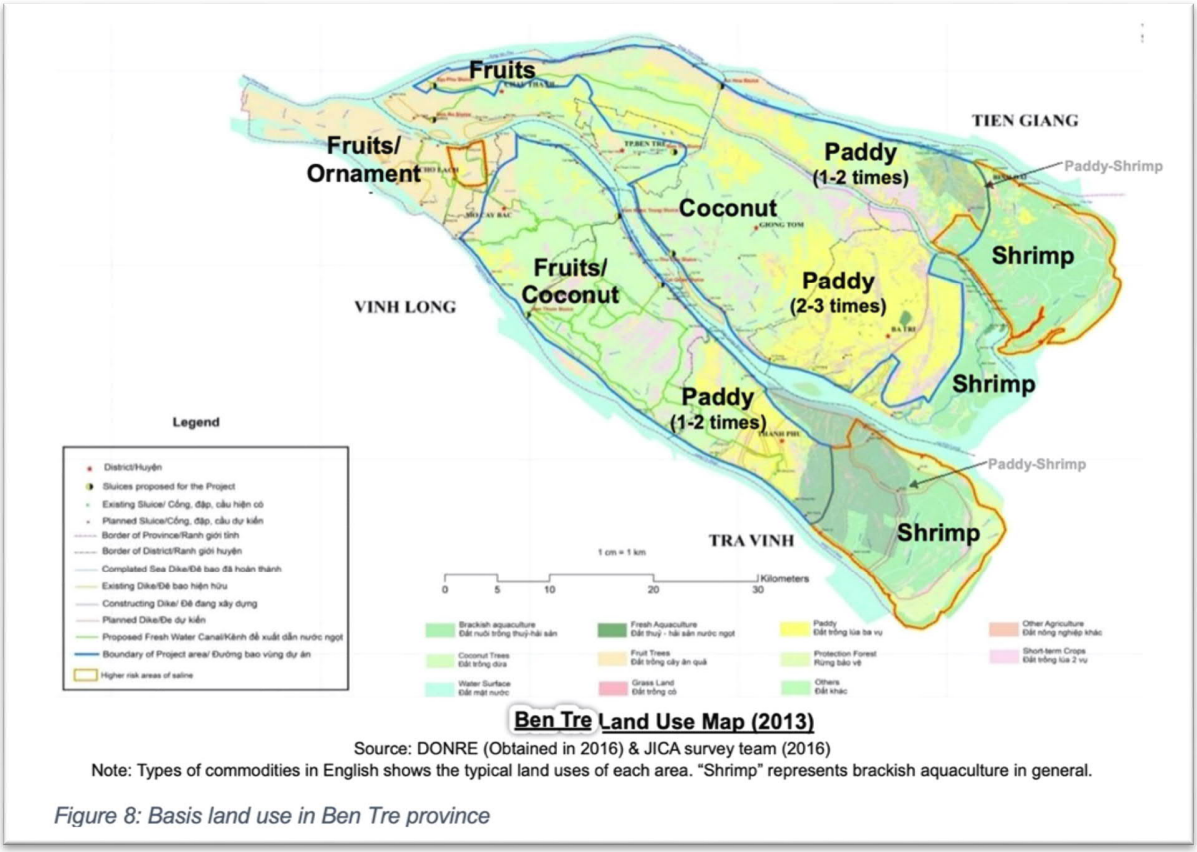
Source: DONRE Ben Tre 2020. Report on natural resource management

Statistical Data on Production Area in Ben Tre (2018-2020)

Table 4: Statistical Data on Production Area in Ben Tre (2018-2020)

no.	Items	Unit	Actual 2018	Estimated 2019	Planned 2020
I	Cultivated areas	ha			
1.	Annual crops	"			
	1.1-Rice harvested	"	51,800	4,700	40,000
	1.2-Cash crop harvested	"			
	in which: - Corn/maize	"	512		
	- Sweet potatoes	"			
	- Cassava	"			
	- Vegetables	"	6,000		
	- Peanut	"			
	- Sugarcane	"	700	300	-
	- Sedge	"			
	- Flower and others	"			
2.	Perennial crops				
	2.1-Fruits	"	28,600	29,100	29,500
	2.2-Coconut	"	72,300	72,800	73,000
	2.3-Others	"			
II	Forest land	ha			
III	Total aquaculture area	ha	46,000	46,600	47,000
	3.1-Freshwater aquaculture	"			
	in which: - Fish	"			
	- Shrimp	"			
	3.2-Salt/Brackish aquaculture	"			
	in which: - black tiger shrimp	"			
	- Whiteleg shrimp	"	11,500	11,500	12,000
	- Crab	"			

DARD Ben Tre 2020. Report on Agriculture Development



Ben Tre Land Use Map (2013)

Source: DONRE (Obtained in 2016) & JICA survey team (2016)

Note: Types of commodities in English shows the typical land uses of each area. "Shrimp" represents brackish aquaculture in general.

Figure 8: Basis land use in Ben Tre province

Table 9: Major Cropping Patterns in Ben Tre province

Major Cropping Pattern in Ben Tre Province

	Cropping Pattern	Dry Season Jan	Feb	Mar	Apr	Rainy Season May	Jun	Jul	Aug	Sep	Oct	Dry Season Nov	Dec	Major Area
1	3 Cropping of Paddy	WS Paddy (90-100days) 5.5Mta				SA Paddy (90-100days) 4.5Mta				AW Paddy (90-100days) 4.5Mta				Giong Trom, Ben Tre, Mo Cay, Chau Thanh, most of Ba Tri,
	2 Cropping of Paddy + Vegetable/Grass			Vege/Grass (short-term)			SA Paddy (90-100days)			AW Paddy (90-100days)				
2	2 Cropping of Paddy		Fresh Aqua (extensive)				SA Paddy (90-100days)			AW Paddy (120days)				Upper Thanh Phu, Upper Binh Dai
3	1 Cropping of Paddy/ Fresh Aqua + Brackish Aqua	AW Paddy (150-180days) / Fresh Aqua				Brackish Aquaculture (White leg: 90 days | Giant Tiger: 120-150days)				AW Paddy (150-180days) / Fresh Aqua				Lower Thanh Phu, Lower Binh Dai
	1 Cropping of Paddy + Brackish Aquaculture	AW Paddy (150-180days)				Brackish Aquaculture (White leg: 90 days | Giant Tiger: 120-150days)				AW Paddy (150-180days)				
4	2 times of Shrimp				Brackish Aqua (White leg: 90 days)			Brackish Aqua (White leg: 90 days)						Coastal Area (Outside of dyke)
	1 time of Shrimp				Brackish Aquaculture (Giant Tiger: 120-150days)									Coastal Area (Outside of dyke)
5	Coconut/ Fruits	Coconut/Fruits												Upper to mid Ben Tre

Source: Agriculture and Fishery Extension Center, DARD Ben Tre (2016)

Annex II
Value Chain Commodity Climate Risk Assessment

Ben Tre Province: Proposed value chain commodities by location, estimated exposure of locations to climate change/weather risk, and sensitivity of commodity production system to climate change/weather risk

BEN TRE / Commodity	Administrative Units								Climate Change/Weather-related Risk Sensitivity* by Commodity								
	Chau Thanh	Cho Lach	Ben Tre City	Mo Cay	Giong Trom	Binh Dai	Ba Tri	Thanh Phu	A	B	C	D	E	F	G	H	I
Coconut	X	X	X	X	X	X			++	+	+	+	+	+	+	+	+
Aquaculture (extensive, rice-shrimp, shrimp-forest)						X	X	X	+	+	+	++	+	+++	+++	+	++
Clam						X		X	+	+	+	+	+	++	+++	+	+
Seedlings, bonsai		X							+	+	++	+++	+	+	++	+	++
Fruit (mango, rambutan, and pomelo)	X	X	X	X	X	X		X	+++	+++	++/+++	++	+	+++	+/++	+	++
Cattle, pig (others TBD)	X					X	X		++	++	++	+	++/+++	++	+++	+	++
Estimated Exposure to Climate Change/Weather-related Risk by Administrative Unit Low (+), Medium (++), High (+++), Very High (++++)*																	
A. Saline intrusion	++	++	++	+++	+++	+++/++++	+++/++++	+++/++++									
B. Inundation (SLR/subsidence)	+	++	++	+/++	+	++	++	++									
C. Drought	+/++	+/++	++/+++	++/+++	++/+++	++/+++	++/+++	++/+++									
D. Floods, River	++	++	++	++	++	++	+++	++									
E. Heat	++	++	++	++	++	++	++	++									
F. Storm Surge, Coastal Floods	++	++	+	+/++	++	++/++	++/++	++/++									
G. Typhoon	++	++	++	++	++	++/++	++/++	++/++									
H. Coastal/Riverbank Erosion	++	++	+	+	+	+	+	+									
I. Local heavy rains w/ flash flooding	++	++	+	+/++	++	++	+++	+									

* Low (+), Medium (++), High (+++), Very High (++++)

Tra Vinh Province: Proposed value chain commodities by location, estimated exposure of locations to climate change/weather risk, and sensitivity of commodity production system to climate change/weather risk

	Administrative Units								Climate Change/Weather-related Risk Sensitivity* by Commodity								
TRÀ VINH/ Commodity	Cang Long	Cau Ke	Tra Vinh City	Chau Thanh	Tieu Can	Cau Ngang	Tra Cu	Duyen Hai	A	B	C	D	E	F	G	H	I
Coconut	X	X	X	X	X		X		++	+	+	+	+	+	+	+	+
Rice	X	X		X	X		X		+++/++ ++	++ +	++ +	+	++	+	++	+	+
Fruit (mango, mandarin, and pomelo)	X	X	X	X	X		X		+++	++ +	++ / ++ +	++	+	++ +	+ / ++	+	++
Shrimp (eco-farming; intensive, super-intensive-CNC)				X		X		X	+	+	+	++	+	++ +	++ +	+	++
Clam				X		X		X	+	+	+	+	+	++	++ +	+	+
Head snake fish							X		++	++	++	+	+	++	++	+	+
Upland crops			X	X		X	X		+++	++ +	++ +	+	TBD	+	++	+	++
Estimated Exposure to Climate Change/ Weather-related Risk by Administrative Unit Low (+), Medium (++), High (+++), Very High (++++)																	
A. Saline intrusion	+ / ++	+ / ++	++ / +++	++ /+++	++ / +++	+++ / ++++	+++ / ++++	++++									
B. Inundation (SLR/subsidence)	++	++	++ / +++	++ / +++	+ / ++	++ / +++	++	+++ / ++++									
C. Drought	++ / +++	++ / +++	++ / +++	++ / +++	++ / +++	++ / +++	++ / +++	++ / +++									
D. Floods, River	++	++	+	++	++	++	++	++									
E. Heat	++	++	++	++	++	++	++	++									
F. Storm Surge, Coastal Floods	++	++	+/++	++	+/++	++	++	+++									
G. Typhoon	++	++	++	++	++	++/++	++/++	++/++									
H. Coastal/Riverbank Erosion	++	+/++	++	+	+	+	+	++/++									
I. Local heavy rains w/ flash flooding	++	++	++	++	++	++	++	+++									

Ben Tre and Tra Vinh Provinces: Estimated level of climate change/weather risk by commodity production system by location

BEN TRE / Commodity	Administrative Units							
	Chau Thanh	Cho Lach	Ben Tre City	Mo Cay	Giong Trom	Binh Dai	Ba Tri	Thanh Phu
Coconut	Low	Low	Low	Low / Moderate	Low / Moderate	Moderate	X	X
Aquaculture (extensive, rice-shrimp, shrimp-forest)	X	X	X	X	X	Moderate	Moderate	Moderate
Clam	X	X	X	X	X	Moderate	X	Moderate
Seedlings, bonsai	X	Low / Moderate	X	X	X	X	X	X
Fruit (mango, rambutan, and pomelo)	Low / Moderate	Low / Moderate	Moderate*	Moderate / High*	Moderate / High*	High*	X	High*
Cattle, pig (others TBD)	Low	X	X	X	Low	Low / Moderate	X	Low / Moderate
TRA VINH / Commodity	**Cang Long**	**Cau Ke**	**Tra Vinh City**	**Chau Thanh**	**Tieu Can**	**Cau Ngang**	**Tra Cu**	**Duyen Hai**
Coconut	Low	Low	Low / Moderate	Low / Moderate	Low / Moderate	X	Moderate	X
Rice	Moderate*	Moderate*	X	Moderate / High*	Moderate / High*	X	Moderate / High*	X
Fruit (mango, mandarin, and pomelo)	Moderate*	Moderate*	Moderate / High*	Moderate / High*	Moderate / High*	X	High*	X
Shrimp (eco-farming; intensive, super-intensive-CNC)	X	X	X	Moderate	X	Moderate / High	X	Moderate / High
Clam	X	X	X	Moderate	X	Moderate	X	Moderate
Head snake fish	X	X	X	X	X	X	Moderate	X
Upland crops (TBD)	X	X	TBD	TBD	X	TBD	TBD	X

X – not proposed in this location; TBD – specific crops remain to be determined, and risk is dependant on specific crop; * - production systems that may not be compatible with the long term regional planning directions for water resources zoning (as per MDIRP (Royal HaskoningDHV and GIZ, 2020), determination must be made on a site-by-site basis.

Annex III - Relevant Projects & Complimentary Factors/ Initiatives in Mekong Delta

Relevant Project/ Programme	Relevant Interventions and Lessons Learned	Complimentary and Duplication Potential
Netherlands Embassy/The Mekong Delta Plan (2015-2025)	Relevant Interventions: The Delta Plan contains guidelines for government, donors and international financial institutions on moving from planning to implementation and placing investment projects in a long-term context. Lessons Learned: Delta Plan contains guidelines for government, donors and international agencies for climate change information on Mekong Delta	Non-Duplication: Different targeted area Complimentary: The Mekong delta plan can be the milestone for the proposed project; Mekong Delta working group can create a platform for further discussion on possible collaboration
JICA/Ben Tre Water Management Project 2017-2022	Relevant Interventions: The project will provide saline water intrusion control facilities in Ben Tre Province in southern Vietnam, where saline water intrusion is damaging crops. Lessons Learned: JICA only provided the facilities in big-scale for the whole province, thus it was hard to cover the small communes for the drinking water or in-field irrigation system	Non-Duplication: Different targeted area Complimentary: The facilities provided by JICA for saline water intrusion can collaborate with the small-scale water desalination and purification system; JICA and IFAD can make synergies in the future
WB/Mekong Delta Integrated Climate Resilience and Sustainable Livelihoods Project (WB9/ICRSL project) 2016-2021	Relevant Interventions: Enhance the tools to make plans for climate change impacts adaptation, improve climate resilience in management and use of land and water resources. Lessons Learned: groundwater and surface water resources monitoring network; monitoring network over coast and river bank movements; integrated data related to water resources and environment for analyzing, assessing and informing decision makers about sustainable development in context of climate change; comprehensive development of infrastructure, in response of climate change, for socio-economic development in MKD.	Non-Duplication: in Tra Vinh and Ben Tre but different targeted areas Complimentary: The proposed project will benefit from groundwater and surface water resources monitoring network to decide suitable supports for selected VC enhancement.
IFAD/The Adaptation in the Mekong Delta in	Relevant Interventions: The project supported the development of a real-time salinity monitoring and	Non-Duplication: Different starting points and

Relevant Project/ Programme	Relevant Interventions and Lessons Learned	Complimentary and Duplication Potential
Ben Tre and Tra Vinh Provinces (AMD) project (11- Dec- 2013 - 30- Mar-2020)	forecasting system comprising of a network of 60 automated salinity monitoring stations, a network of up to 2000 CIG manual monitoring points. Supports to value chain of selected products. PPP enhancement. Lessons Learned: IFAD could not cover the Tra Vinh Province by commune level, it only approach from top-down method for the DRR. So, it resulted that lack of participation from the community.	interventions Complimentary: The previous project's monitoring and forecasting system can complimentary to the infrastructure from this project in efforts to help selected value chains in mitigating risks from climate changes (drought and salinization) in both Tra Vinh and Ben Tre provinces.
USAID/Sustainable Infrastructure for the Mekong (SIM) (2016-2020)	Relevant Interventions: Sustainable Infrastructure for the Mekong will provide Lower Mekong partner governments with rapidly deployable technical assistance from the U.S. Government's premier scientists and engineers to mitigate potential negative social and environmental consequences from large infrastructure projects. Lessons Learned: USAID could include peer review consultations and technical training for decision makers, however it only provided with facilities	Non-Duplication: Different targeted area Complimentary: The proposed project will include consults along with the training for policy makers through component2
Netherlands Embassy/Water Treatment Project (July - 2017 - Dec-2019)	Relevant Interventions: The project delivers sanitation for residents and industries whose wastewater is currently discharged untreated, resulting in high levels of environmental pollution. Lessons Learned: The environmental benefits will be visible in a significantly improved water quality	Non-Duplication: Different targeted area Complimentary: The waste treatment to be considered by the proposed project will contribute to a comprehensive effort for improving environment
GIZ/Integrated coastal and mangrove forest protection Mekong provinces to adapt to climate change (June 2011- July 2018)	Relevant Interventions: the scope of the interventions and the cooperation system are well defined and aimed at achieving the impact identified at the results level as well as by the programme objective indicators. Lessons Learned: The monitoring system developed by GIZ is excellent	Non-Duplication: Different targeted area Complimentary: The monitoring system can also be applied to the proposed project;

Relevant Project/ Programme	Relevant Interventions and Lessons Learned	Complimentary and Duplication Potential
	and can be used on our monitoring stage	
UNDP/Expanding models of rice-shrimp cultivation for efficient management and sustainable use of alkaline lands in Bac Lieu (June 2015 - June 2018)	Relevant Interventions: Community awareness raising and capacity building to manage land as well as water resources; effective exploitation of saline-alkaline lands for rice cultivation; development and expansion of rice-shrimp farming model using MBD rice variety, all of which contribute to poverty reduction and new rural development of the region. Lessons Learned: It is important to provide the hard intervention with soft intervention for the awareness to maintain the hard intervention after the construction.	Non-Duplication: UNDP Project was in another province, but focused on soft intervention Complimentary: The proposed project will make synergy by developing the integrated planning against climate change impact
ICCG/Strengthening capacity of Khmer women in adapting to climate changes in Tra Vinh province, Vietnam (20-Apr-2017 - 20-Dec-2017)	Relevant Interventions: The goal is to strengthen quality of human resources of Khmer women in the Tra Vinh province, to mitigate and adapt to climate change impacts. The outcome of this project will be increased adaptive capacity of community in the Tra Vinh province to climate change. Lessons Learned: The outcome of this project will be increased adaptive capacity of community in the Tra Vinh province to climate change	Non-Duplication: ICCG project focused only on soft intervention through community level capacity building Complimentary: The proposed project will make synergy by developing the integrated planning and/or infrastructures against climate change impact
Netherlands Embassy (PPP)/Climate Change and Water Supply in the Mekong Delta, Vietnam (Apr-2013 – Mar-2017)	Relevant Interventions: This public private partnership (PPP) will improve drinking water supply by increasing availability and reducing climate change effects on three water companies in or adjacent to the Mekong Delta Lessons Learned: PPP approach could be the option for the up-scale the project in the future	Non-Duplication: Different sector. Complimentary: Mekong Delta working group meeting for further discussion on possible collaboration
Oxfam and New Zealand Government/ Response and Adaptation to	Relevant Interventions: This increase the resilience and adaptive capacity of poor people and local authorities to disaster and climate risks in coastal communities in the Mekong Delta.	Non-Duplication: Different target areas/interventions. Complimentary: Mekong Delta working

Relevant Project/ Programme	Relevant Interventions and Lessons Learned	Complimentary and Duplication Potential
Disasters and Climate Change (RADCC) 2012-2017	Lessons Learned: strengthen the capacity to local officials and the community in disaster risk reduction and adaptation to climate change.	group meeting for further discussion and possible collaboration on CSA transformation
USAID/Mekong ARCC Climate Change Impact and Adaptation Study for the Lower Mekong Basin (2011-2016)	Relevant Interventions: Improvements to canal networks including an emphasis on maintenance are required to cope with more intense flood events, particularly to ensure effective drainage of fields and waterways. Lessons Learned: USAID highlighted ways of applying scientific findings at a community level that are helping to raise awareness	Non-Duplication: Different targeted area Complimentary: The proposed project will apply scientific findings through Feasibility Study to help raising awareness of climate change impacts and potential adaptation options
IUCN/Building Resilience to Climate Change Impacts-Coastal Southeast Asia -Ben Tre (Jan-2011 - Dec-2014)	Relevant Interventions: community working groups developed through the BCR project had contributed to the improvement of natural- resource management and use. Workshop teams discussed alternative solutions and methods of community involvement, which IUCN will use as valuable feedback for its work in the future Lessons Learned: Bottom-up approach through community working group would be the key to achieve sustainable management	Non-Duplication: Different targeted area Complimentary: The proposed project may work with community to achieve sustainable management with regard to climate change impacts
JICA/Project for Climate Change Adaptation for Sustainable Agriculture and Rural Development in the Coastal Mekong Delta in Vietnam Aug 2011-2013	Relevant Interventions: The project has produced master plan in the context of climate change for sustainable agriculture and rural development. Lessons Learned: The master plan has identified total 31 projects/programs, of which priority projects were identified.	Non-Duplication: in Tra Vinh and Ben Tre but different targeted areas Complimentary: The proposed project can take advantages from this study to identify relevant interventions, especially the construction/ upgradation of (small-scale) public infrastructures in specific cases.

Annex IV
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APPENDICES

Appendix 1: Screenings for Environment and Social Risks Category and Climate Risk Classification

Environment and Social Risks Screening

Project title:	Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)		
IFAD project no.:		Version of checklist:	
Country:	Viet Nam	Date of this version:	
Checklist prepared by (name, title and institution)			

Guiding questions for environment and social screening	Yes/No	Comments/explanation
Category A – the following may have significant and often irreversible or not readily remedied adverse environmental and/or social implications.		
Project location		
1. Would the project develop any wetlands? (Guidance statement 1)	No	The project will not undertake any intervention to develop wetlands.
2. Would the project cause significant adverse impacts to habitats and/or ecosystems and their services (e.g. conversion of more than 50 hectares of natural forest, loss of habitat, erosion/other form of land degradation, fragmentation and hydrological changes)? (Guidance statements 1, 2 and 5)	No	The project will not entail conversion of natural ecosystems such as natural forests, as it will only be undertaken in existing agriculture/aquaculture areas, hence it will not create loss of habitat. The value chain planning proposed under the project will ensure its interventions so as not to create adverse impacts to habitats and/or ecosystems.
3. Does the proposed project target area include ecologically sensitive areas,[44] areas of global/national significance for biodiversity conservation, and/or biodiversity-rich areas and habitats depended on by endangered species? (Guidance statement 1)	No	The project will support the development of key value chains in Tra Vinh and Ben Tre provinces, where among the pre-identified VCs include eco-shrimp farming at mangrove areas. However, it will only be done at small-scale community level and the nature of intervention will improve their management, hence it will not cause any significant nor irreversible environmental and/or social impacts, including deterioration on biodiversity and endangered species. The project will coordinate with

[44] Sensitive areas" include: protected areas (national parks, wildlife/nature reserves, biosphere reserves) and their buffer zones; areas of global significance for biodiversity conservation; habitats depended on by endangered species; natural forests; wetlands; coastal ecosystems, including coral reefs and mangrove swamps; small island ecosystems; areas most vulnerable to climate change and variability; lands highly susceptible to landslides, erosion and other forms of land degradation, areas that include physical cultural resources (of historical, religious, archaeological or other cultural significance), and areas with high social vulnerability

		DONRE for any activities in and around protected areas, to ensure compatibility with the protected/conservation areas' management objectives.
4. Is the project location subjected to major destruction as a result of geophysical hazards (tsunamis, landslides, earthquakes, volcanic eruptions)?	No	The project will include small-scale infrastructure works to enhance access to markets and to support sustainable water usage. Among the criteria for infrastructure selection is geographical location of infrastructure. In this regard, the project will avoid locations that are at high risks of geophysical hazards in order to minimize the risks to the investments.
Natural resources		
5. Would the project lead to unsustainable natural resource management practices (fisheries, forestry, livestock) and/or result in exceeding carrying capacity. For example, is the development happening in areas where little up-to-date information exists on sustainable yield/carrying capacity? (Guidance statements 4, 5 and 6)	No	The project will promote sustainable yield of selected value chains, ensuring its interventions not to exceed natural resources carrying capacity. Further analysis of natural resources carrying capacity for selected clusters will be undertaken during the project design stage.
6. Would the project develop large-scale[45] aquaculture or marine culture projects, or where their development involves significant alteration of ecologically sensitive areas?	No	The project will support the development of key agricultural value chains including shrimps, but only in existing aquacultures and at small scales (less than 20 hectares for each aquaculture), hence it will not engage in alteration of ecologically sensitive areas.
7. Would the project result in significant use of agrochemicals which may lead to life-threatening illness and long-term public health and safety concerns? (Guidance statement 14)	No	The project will promote the application of CSA practices, and adoption of standards and certification where the use of agro-chemicals will be strictly monitored so as to avoid overutilization which may lead to public health and safety concerns.
8. Does the project rely on water-based (groundwater and/or surface water) development where there is reason to believe that significant depletion and/or reduced flow has occurred from the effects of climate change or from overutilization? (Guidance statement 7)	No	The project will support water management and promoting water use efficiency and water-saving practices to address the decline of available water due to recurring droughts. This will be achieved through construction and/or rehabilitation of small-scale water infrastructure facilities (e.g. small-scale reservoir, water harvesting, water storage

[45] The size threshold to trigger an Environmental and Social Impact Assessment (ESIA) may vary based on the country context and fragility of specific locations. Some countries have regulations on minimum size (usually ranging from a unit area of 10 to 50 hectares) and these will be adopted where they exist. However, where there are no standards, it is proposed to use 25 hectares as an aquaculture unit size to trigger an ESIA

		facilities), among others.
9. Does the project pose a risk of introducing potentially invasive species or genetically modified organisms which might alter genetic traits of indigenous species or have an adverse effect on local biodiversity? (Guidance statement 1)	No	The project will support the development of existing key agricultural value chains. Improved and climate resilient varieties and breeds might be introduced. These will be strictly conformed to Government Policies on varieties and breeds introduction and controlled by Government agencies (Department of Agriculture and Rural Development).
10. Does the project make use of wastewater (e.g. industrial, mining, sewage effluent)? (Guidance statement 7)	No	The project will consider developing wastewater treatment facilities at high technology shrimp farming areas, but only at small-scale aquacultures with capacities of less than 20 hectares.
Infrastructure development		
11. Does the project include the construction/ rehabilitation/upgrade of dam(s) and/or reservoir(s) meeting at least one of the following criteria? - more than 15 metre high wall; - more than 500 metre long crest; - more than 3 million m^3 reservoir capacity; or - incoming flood of more than 2,000 m^3/s (Guidance statement 8)	No	The project might support small-scale multi-purpose reservoir to supply water for domestic use and agricultural production (livestock raising, gardening, etc.) with size and capacity far below than the mentioned criteria.
12. Does the project involve large-scale irrigation schemes rehabilitation and/or development (more than 100 hectares per scheme)?[46] (Guidance statement 7)	No	The project will support production area of only around 20 hectares per area. To this extent, the project will support development and/or rehabilitation of small-scale irrigation schemes with less than 100 hectares per scheme.
13. Does the project include construction/rehabilitation/ upgrade of roads that entail a total area being cleared above 10 km long, or any farmer with more than 10 per cent of his or her private land taken? (Guidance statement 10)	No	Since the support to production area is around 20 hectares, and the road will mainly build to serve the purpose of market linkage in between production areas and market/processing; the project will support rehabilitation/upgrade of communal/ inter-village access roads that entail a total area being cleared less than 10 km long (this will be the maximum threshold).
14. Does the project include drainage or correction of natural waterbodies (e.g. river training)?	No	The project is not foreseen to have investments regarding drainage or correction of natural water bodies.

[46] The size threshold to trigger an Environmental and Social Impact Assessment (ESIA) may vary based on the country context and fragility of specific locations. Some countries have regulations determining size of irrigation development requiring a full ESIA and these will be adopted where they exist. However, where there are no standards, it is proposed to use 100 hectares as an irrigation development unit size to trigger an ESIA.

(Guidance statement 7)		
15. Does the project involve significant extraction/ diversion/containment of surface water, leaving the river flow below 20 per cent environmental flow plus downstream user requirements? (Guidance statement 7)	No	Rehabilitation/upgrading of small infield irrigation canals (not main canals connecting to rivers) and sluices gates will be considered for investments. To this extent, significant extraction/ diversion/containment of surface water, leaving the river flow below 20 per cent environmental flow will not happen
Social		
16. Would the project result in economic displacement[47] or physical resettlement of more than 20 people, or impacting more than 10 per cent of an individual household's assets? (Guidance statement 13)	No	It is expected that physical resettlement (if any) will be less than 20 people per sub-project and economic displacement (if any) will be less than 10% of an individual household's assets. However, this will not likely to happen since the project supports will be more for settlement than resettlement.
17. Would the project result in conversion and/or loss of physical cultural resources? (Guidance statement 9)	No	The project investments will happen mainly in productive areas which are often far away from physical cultural resources.
18. Would the project generate significant social adverse impacts to local communities (including disadvantaged and vulnerable groups and indigenous people) or other project-affected parties? (Guidance statement 13)	No	The project will generate social, economic, and environmental positive impacts to local communities (including disadvantaged and vulnerable groups and indigenous people) through promotion of certified, safety, climate resilient value chain. The resilient indicators provided by the project including empowerment are among the indicators/measurements for social improvement.
Other		
19. Does the project include the manufacture and transportation of hazardous and toxic materials which may affect the environment? (Guidance statement 2)	No	Along the value chain development, investments will be mobilized to support the processing and transportation of agricultural product. Hazardous and toxic materials will be excluded since the project promote food safety and international certified products.
20. Does the project include the construction of a large or medium-scale industrial plant?	No	As mentioned above, only small-scale infrastructure serving the value chains will be supported.
21. Does the project include the development of large-scale production forestry? (Guidance statement 5)	No	Forestry (mangrove forest) occupies limited portion of natural areas in two provinces. Projection investments will not be related to large-scale production forestry. If it is, there will be only small scale/community based forest management with aquaculture production under mangrove forest canopy.
Rural finance		

[47] Economic displacement implies the loss of land, assets, access to assets, income sources, or means of livelihoods (guidance statement 13).

22. Does the project support any of the above (Question 1 to Question 21) through the provision of a line of credit to financial service providers? (Guidance statement 12)	No	The involvement of financial service providers is essential for value chain development. Project will pay significant attention to mobilize financial institutions to support value chain development. However, the supports will only be accepted if they follow the guidance and do not confront to the any policies and guidance of either GoV or IFAD. M&E system will be developed to ensure this.

Category B – the following may have some adverse environmental and/or social implications which can be readily remedied.		
Location		
23. Does the project involve agricultural intensification and/or expansion of cropping area in non-sensitive areas that may have adverse impacts on habitats, ecosystems and/or livelihoods? (Guidance statements 1, 2 and 12)	No	The project will promote production activities which will potentially entail intensification of cropping areas, and promote CSA practices so as to avoid adverse impacts on habitats, ecosystems and/or livelihoods
Natural resource management		
24. Do the project activities include rangeland and livestock development? (Guidance statement 6)	Yes	The project may support small-scale livestock activities (i.e., the promotion of cattle value chain)
25. Does the project involve fisheries where there is information on stocks, fishing effort and sustainable yield? Is there any risk of overfishing, habitat damage and knowledge of fishing zones and seasons? (Guidance statement 4)	No	No fisheries to be involved in the project
26. Would the project activities include aquaculture and/or agriculture in newly introduced or intensively practiced areas? Do project activities include conversion of wetlands and clearing of coastal vegetation, change in hydrology or introduction of exotic species? (Guidance statement 4)	Yes	The project will promote the development of selected value chains, including aquaculture (high technology shrimp farming) and agriculture (rice, fruit trees, etc.)
27. Do the project activities include natural resource-based value chain development? (Guidance statements 1, 6 and 12)	Yes	The project will strengthen small farmers to improve small scale agricultural and aquatic production to access market
28. Do the project activities include watershed management or rehabilitation?	No	The project activities will be mainly on the production areas and will not include watershed management or rehabilitation.

29. Does the project include large-scale soil and water conservation measures? (Guidance statements 1 and 5)	No	The project will promote the application of CSA practices that are at small-scale only
Infrastructure		
30. Does the project include small-scale irrigation and drainage, and small and medium dam subprojects (capacity < 3 million m^3)? (Guidance statements 7 and 8)	Yes	Only small-scale irrigation will be considered by the project (in accordance with the PM Decree no. 67/2018/NĐ-CP[48])
31. Does the project include small and microenterprise development subprojects? (Guidance statements 12 and 13)	Yes	Youth-led enterprises may be supported by the project
32. Does the project include the development of agro-processing facilities? (Guidance statements 2, 6 and 12)	Yes	As agro-processing facilities are pivotally important for value addition along the value chain, these might be invested directly by lead firms and SMEs. The project will facilitate the investments ensuring that those will not creating any negative social and environmental impacts.
33. Would the construction or operation of the project cause an increase in traffic on rural roads? (Guidance statement 10)	Yes	Small scale public infrastructures (i.e., rural roads, irrigation) may be supported, in which the value chain development and market linkages will result in increased production and marketing that may increase traffic on rural road
Social		
34. Would any of the project activities have minor adverse impacts on physical cultural resources? (Guidance statement 9)	No	Project investments will be in productions areas which are often far way from cultural resources.
35. Would the project result in physical resettlement of 20 people or less, or impacting less than 10 per cent of an individual household's assets (Guidance statement 13)?	No	The project would rather contribute to settlement through ensuring stable production and income increase.
36. Would the project result in short-term public health and safety concerns? (Guidance statement 14)	No	The project would strongly promote food safety, international standards for agricultural products, hence will even improve public health.
37. Would the project require a migrant workforce or seasonal workers (for construction, planting and/or harvesting)? (Guidance statement 13)	Yes	Increased agricultural production and construction/ rehabilitation activities will require seasonal workers
Rural finance		

[48] The PM Decree no. 67/2018/NĐ-CP dated May 14th, 2018 on "Detailed provisions on a number of articles on irrigation law", in which providing criteria for defining large, medium and small-scale irrigation work.

38. Does the project support any of the above (Question 23 to Question 37) through the provision of a line of credit to financial service providers? (Guidance statement 12)	No	The involvement of financial service providers is essential for value chain development. Project will pay significant attention to mobilize financial institutions to support value chain development. However, the supports will only be accepted if they follow the guidance and do not confront to the any policies and guidance of either GoV or IFAD. M&E system will be developed to ensure this.

Climate Risks Screening

	Yes	No	Additional explanation of "yes" response*
1. Is the project area subject to extreme climatic events, such as flooding, drought, tropical storms or heat waves?	√		Since the dry season of 2015-2016, Mekong delta has experienced serious drought and salinity problems that have adversely affected livelihoods and the economy in the region, including the project areas.
2. Do climate scenarios for the project area foresee changes in temperature, rainfall or extreme weather that will adversely affect the project impact, sustainability or cost over its lifetime?	√		Increased temperatures and variable rainfall are predicted that may adversely affect the project's impact and sustainability.
3. Would the project make investments in low-lying coastal areas/zones exposed to tropical storms?	√		The project will promote the development of CSA value chains, wherein some investments may take place in low-lying coastal areas/zones exposed to tropical storms
4. Would the project make investments in glacial areas and mountains zones?		√	Both provinces are located in the flat tropical delta
5. Would the project promote agricultural activity in marginal and/or highly degraded areas that have increased sensitivity to climatic events (such as on hillsides, deforested slopes or flood plains)?	√		The project may promote agricultural activity in marginal and/or highly degraded areas that have increased sensitivity to climatic events (such as on sandy-coastal, deforested, near riverbank, etc.).
6. Is the project located in areas where rural development projects have experienced significant weather-related losses and damages in the past?	√		Salinity and droughts have resulted in crop losses in the recent past of both provinces, especially since the dry season of 2015-2016 up to present
7. Would the project develop/install infrastructure in areas with a track record of extreme weather events?	√		Heavy/long lasting rainfalls may occasionally affect the construction/upscaling of infrastructure in both provinces. Adaptation

			measures have been incorporated accordingly to tackle this risk.
8. Is the project target group entirely dependent on natural resources (such as seasonal crops, rainfed agricultural plots, migratory fish stocks) that have been affected in the last decade by climate trends or specific climatic events?	√		The project target groups include the poor, near poor, vulnerable people who are involved in the development of selected value chains. They have been affected in the last decade by droughts and saltwater intrusion.
9. Would climate variability likely affect agricultural productivity (crops/ livestock/fisheries), access to markets and/or the associated incidence of pests and diseases for the project target groups?	√		Some crops, aquatics and livestock are included in the targeted value chains and the productivity would be affected by increasing drought and salinity events and/or any other climatic events (such as temperature increase, heavy/long-lasting rains, etc.)
10. Would weather-related risks or climatic extremes likely adversely impact upon key stages of identified value chains in the project (from production to markets)?	√		Droughts in association with salinity and floods (in some locations) are likely to affect the production and market access stages of the value chains
11. Is the project investing in climate-sensitive livelihoods that are diversified?	√		The project will invest in climate smart agriculture transformation while diversifying the farmer's incomes
12. Is the project investing in infrastructure that is exposed to infrequent extreme weather events?	√		Floods/heavy rains in some locations may have adverse impacts on the rural roads and irrigation schemes
13. Is the project investing in institutional development and capacity-building for rural institutions (such as farmer groups, cooperatives) in climatically heterogeneous areas?	√		The project may invest in institutional development and capacity building of different categories of actors. Farmer Organizations, Women Union and Youth League, extension services, climate information services will be strengthened to ensure that communities are resilient to climate variability and climate change impacts.
14. Does the project have the potential to become more resilient through the adoption of green technologies at a reasonable cost?	√		The project may promote access and use of small-scale renewable energy such as biogas. The CSA practices to be introduced by the project will include specific technologies matching the various agro-ecological conditions, such as rainwater harvesting techniques, crop diversification and livestock integration, mulching and water-saving irrigation (drip/sprinkler) at a reasonable cost.

15.	Does the project intervention have opportunities to strengthen indigenous climate risk management capabilities?	√		Capacity building on indigenous climate risk management and CSA practices will be included in the project activities.
16.	Does the project have opportunities to integrate climate resilience aspects through policy dialogue to improve agricultural sector strategies and policies?	√		The project foresees to provide support for policy dialogue through consultation mechanism to be conducted during implementation, and in collaboration with other agencies within and outside the province.
17.	Does the project have potential to integrate climate resilience measures without extensive additional costs (e.g. improved building codes, capacity- building, or including climate risk issues in policy processes)?	√		Component 1 of the project is mainly dedicated to capacity building for resilience, through trainings in climate risk management/CSA for government technicians, service providers and farmers. The project foresees to strengthen climate (and also water resource management) information services and to support the elaboration of Natural Resource Management Plans at the local and inter province/Mekong delta region level, including climate change adaptation measures.
18.	Based on the information available would the project benefit from a more thorough climate risk and vulnerability analysis to identify the most vulnerable rural population, improve targeting and identify additional complementary investment actions to manage climate risks?	√		Mekong delta available findings and or analysis regarding climate change resilience/CSA practices would highly benefit for the project implementation.

Appendix 2.
Environmental and Social Management Plan (Project) & Environmental and Social Management Framework (for Climate Resilient Infrastructure)

Table 1. CSAT Environmental and Social Management Plan (ESMP)

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigation Measures	Responsible
Component 1: Effective provincial & regional coordination for sustainable and inclusive rural transformation.			
Regional integrated, climate resilient and inclusive socio-economic planning	Technical & institutional • Technical quality & institutional capacity/will lacking to implement • Appropriate inter-institutional/inter-sectoral coordination will be insufficient. Social: • Voices and perspectives of rural households, esp., vulnerable households (especially EM, women and youth, but also others, such as persons with disabilities), lacking • Selected VC commodities exclusionary of poor households; elite capture & exclusion of voice of marginalized households & individuals in prioritization & planning (and thus, eventual benefits) Environmental: • Selected VCs pose significant, unmitigable risks;	Technical & institutional: Project design firmly grounded in GoV policies and priorities as articulated in Mekong Development Plan & others; appropriate institutional and implementation arrangements to minimize risk of lack of political (i.e., PPCs directly responsible for implementation) and institutional will (i.e., appropriate institutions involved as per mandates and expressed strategic priorities viz. implementation of GoV's relevant climate change response, natural disaster risk management, poverty reduction, rural development, environmental policies and priorities); MOUs/contracts signed with relevant agencies/departments to fulfil their obligations to the project activities; assessments/updates of sectoral (DARD, DoNRE, and DOIT) provincial plans for 2021-2025, with integration into the DPI's Provincial SEDP institutionalizes within national and provincial budget planning processes; assessment and development of District-level SEDPs, with bottom-up inputs from commune-level annual participatory, climate-informed MoP-SEDP process; capacity needs assessment & provision of capacity building & technical assistance to all relevant stakeholders in process to optimize technical quality of process and results; stakeholder progress & review evaluation workshops; IFAD dialogue & coordination with coordination mechanisms led by GoV & inclusive of other MRD-involved donors including the World Bank, the Netherland Embassy, JICA, and the Swedish Development Agency. Social: Annual District-level SEDP & Commune-level MoP-SEDP processes integrate strong "bottom-up" commune and	Provincial-level • PPC (Overall) • PPSC (Coord/follow-up) • DPI (Component/ SEDP) • DARD (Ag) • DoIT (Trade) • DoNRE (Env) • PPMU (Compliance w/ agreed criteria/ regulatory/env/social) District-level • DPC (Overall) • DPI (Component/ SEDP) • DARD (Ag) • DoIT (Trade) • DoNRE (Env) • PPMU (Compliance w/ agreed criteria/ regulatory/env/social) • Women's, Farmer's, & Youth Unions (targeting, participation, inclusiveness) Commune-level • CPC (Overall) • PPMU (Compliance w/ agreed criteria/ regulatory/env/social) • Women's, Farmer's, & Youth Unions (participation, inclusiveness)

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigation Measures	Responsible
	• Infrastructure investments pose significant, unmitigable or unmitigated risks Climate: • Selection of VC commodities ignores or inadequately internalizes climate/natural disaster risk dimension; • Infrastructure design/investments ignores or inadequately internalizes climate/natural disaster risk dimension	district-level participatory processes to capture local knowledge and understanding of impacts, vulnerabilities, risks and priorities; provision of capacity building & technical assistance to local authorities (District & Commune) engaged in VCAP planning processes; application of criteria for social inclusion in value chain selection; VCAP-associated planning & public good infrastructure investment planning piggybacks on to local, participatory MOP-SEDP process within the participating commune, a process already developed and validated under prior IFAD-financed programmes; inclusion of locally important value chains with high social inclusion youth, women, and ethnic minorities; formation of 4P platforms as spaces for transparency, negotiations, and informal conflict resolution, involving all key stakeholders, incl. farmer & farmer and women's organizations' representatives; capacity building & technical assistance included for implementation; stakeholder progress & review evaluation workshops; RIMS monitoring specifically tracks (gender & socio-economic disaggregated) participatory aspects & outcomes & target group perceptions of processes & outcomes). See "Enhanced capacities for building inclusive value chains", below. Ensure that persons with disabilities are not left behind (hold focus group discussions with their constituencies during the local development and value chain planning processes, prioritize support to families of persons with disabilities, raise awareness on disability inclusion among PMU and service providers, engage with organizations of persons with disabilities throughout the project's lifecycle). Environmental & Climate: All VCs selected and the specific sites for VC commodity production will be compatible with Provinces' current land use planning, and the "three agro-ecological zones" that define GoVN's support policies for agricultural/aquaculture production within the three zones of saline/brackish coastal zone (aquaculture), intermittent fresh/brackish zone (saline tolerant horticulture, brackish aquaculture and rice), and freshwater zone (multiple	

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigation Measures	Responsible
		cultivation systems: rice, freshwater & brackish aquaculture, fruit trees, vegetables, etc.). All VCs to be compatible with on three agro-ecological areas (fresh / brackish water, coastal, central, and southern regions). The project will coordinate with DONRE for any activities in and around protected areas (including VC development, notably eco-shrimp farming), to ensure compatibility with the protected/conservation areas' management objectives. ➢ Planning & screening aspects (pre-feasibility) (i) climate-informed MOP-SEDP & DRM planning process at commune-level (developed & institutionalized under AMD) to inform decision-making on appropriateness, risk, and siting of investments; (ii) Commodity chain analysis – field-level vetting by value chain planning staff w/relevant district, commune, & mass organization staff, incl. consultations w/ beneficiary households, traders, & intermediary MSMEs includes joint assessment of climate/natural disaster risk, vulnerability, & needed mitigation/avoidance concerns technical; (iii) benefit/cost analysis for commodities incl. costs for CSA & environmental management inputs to comply with environmental norms & regulations (See Table 2); (iv) consultations with responsible line-agency technical staff (DoNRE, DARD, DoIT) & local experts (Universities) on climate/natural disaster risk & needed mitigation/avoidance concerns, environmental management needs to comply with environmental norms & regulations, & constraints/feasibility/costs to compliance; (v) environmental screening (& EIA, if required) as per GoV requirements (EIA Decree No. 18/2015/ND-CP); (vi) scoping report on lands to be affected by proposed VC infrastructure to identify potentially sensitive areas (e.g., as per Law on Biodiversity No.20/2008/QH12) and/or potential for land acquisition resulting in physical and/or economic displacement of local individuals households, including	

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigation Measures	Responsible
		estimated magnitude of impacts[49] (as per Circular No.30/2014/TT-BTNMT dated May 15, 2014 of the Ministry of Natural Resourcesand Environment stipulating documents on land allocation, land lease, change of land use purpose and land acquisition and (vii) integration of mitigation measures into VC pre-feasibility study. ➢ Commodity chain selection by PMUs and 4P Platforms ensure (i) application of criteria of social inclusion & resilience; (ii) review outputs from pre-feasibility work with senior technical staff from DARD (production system climate adaptation, CSA requirements, etc.); DoNRE (env. mgmt. & regulatory compliance[50]); DoIT (feasibility/cost effectiveness of env. mgmt., incl. waste treatment from processing, etc.); (iii) PMU no-objection based on alignment with Provincial plan for implementation of Mekong Development Plan, & evidence of adequate consideration of climate/natural disaster risk & mitigation/avoidance needs, and compliance with environmental norms & regulations. ➢ Preparation of Value Chain Action Plans (VCAP) – (i) farm-level benefit/cost analysis incls. incorporation of costs associated with CSA, and relevant GAP/other best practices for sustainable production & avoidance of non-point source pollution from farming/aquaculture practices; (ii) full financial analysis (of enterprise and VC as whole) includes full costs of environmental management and regulatory compliance from farm-level through processing; (iii) feasibility study/financial analysis of potential investments in value chain supporting infrastructure includes required environmental mgmt. needs (solid waste management, wastewater treatment, air pollution abatement, worker health & safety requirements); (iv) VCAP time line for all activities to be supported by the project incls. implementation of climate resilience & env. mgmt. elements; (v) environmental screening as per GoV requirements (EIA	

[49] For pre-feasibility the scale/scope of impacts may be estimate using Google maps and consultations with CPC, village authorities, and potentially affected households.
[51] Under AMD, the most commonly adopted CCA production techniques were water-saving techniques – nylon cover in crop cultivation, mulching, use of bio-fertilizers, adaptive crop and livestock varieties, biological cushioning in livestock production, fermented feeds for cattle, adjusted cropping seasons, and off-farm employment (IFAD, 2021)

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigation Measures	Responsible
		Decree No. 18/2015/ND-CP); (vi) review by senior technical staff from DARD (production system climate adaptation, CSA & GAP/other good practices inclusion); DoNRE (env. mgmt. & regulatory compliance); DoIT (env. mgmt., incl. waste treatment from processing); (vii) PPMU no-objection based on adequate consideration of climate/natural disaster risk & mitigation/avoidance needs, and compliance with environmental norms & regulations. ➢ VCAP M&E: (i) relevant district & commune line agency & mass organization staff incorporated into M&E to monitor/report on implementation as per timeline, & consult with participating households on progress & issues; (ii) DARD, DoNRE, & DoIT technical staff monitor compliance with timeline & implementation of CSA & GAP/other good practices, & env. mgmt. & regulatory compliance; (iii) participating MSMEs and Lead Firms provide quarterly updates during construction phase on progress and compliance with timeline and installation of required env. mgmt. components; (iv) PPMU field supervision & quarterly reporting to Provincial Project Steering Committee (PPSC) on quality/timeliness of compliance & issues of non-compliance; (v) PPSC meets quarterly, reviews progress on implementation & compliance with climate/environmental criteria & regulations, instructs PPMU on any corrective actions to be taken.	
Enhanced capacities for building inclusive value chains	<u>Social</u>: • Voices and perspectives of rural households, esp., vulnerable households (especially EM, women and youth, but also others, such as persons with disabilities), lacking • Elite capture & exclusion of voice of marginalized households & individuals in	Note: Project Sub-Component 1.2 is itself a social and climate/natural disaster/environmental risk mitigation measure <u>Social</u>: PPMU/PPSC to ensure that (i) development of Gender Transformative Action Plan, Youth Sensitive Action Plan, and Ethnic Minority Participation Plan given early priority and are successfully completed with effective consultations with, and inputs from, affected/target groups prior to launch of other activities; (ii) that Action Plans establish priorities and links for appropriate participation of women, youth, EMs, farmer's organizations, and women/youth/EM-owned MSMEs in policy	<u>Provincial-level</u> • PPC (Overall) • PPSC (Coord/follow-up) • PPMU (Compliance w/ agreed criteria/ regulatory/env/social, incl. FPIC/EMP)

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigation Measures	Responsible
	training, capacity building, & access to BDS Social/Environmental/Climate: • Primarily implementation risks, i.e., technical & institutional in nature, that technical quality & institutional capacity/will lacking to implement	dialogues on improving business linkages among value chain actors, value chain fairs/business matching events, Strengthening Business Development Services (BDS) and "farming as business" activities; Capacity building for value proposition and differentiation activities; Develop local capacities for value chain infrastructure activities; and Develop a pool of inclusive value chain expertise activities; and (iii) monitor quality, effectiveness, and inputs/outputs/outcomes from sub-component implementation in terms of social inclusion, equity in participation and from benefits. • Social/Environmental/Climate: mitigation of technical & institutional risk same as above	
Component 2. Inclusive and climate smart value chain established			
Climate resilient infrastructure for sustainable water usage and enhanced access to markets.	Social: • Construction of civil works' small-scale land acquisition – temporary or permanent – may result in economic displacement or physical resettlement of individuals/households • Voices & perspectives of rural households, esp., vulnerable households (especially EM, women and youth, but also others, such as persons with disabilities); disproportionate impacts/benefits from project activities on the more vulnerable such as poor, elderly, and ethnic groups • Use of child labour Environmental:	Social: ➢ Small-scale land acquisition: (i) eligibility criteria enforce that works are small-scale and that no schemes will be supported that require physical resettlement of >20 people and/or impacting >10% of affected households, social & environmental assessments to be carried out on proposed infrastructure investments to capture potential for such impacts; (ii) works requiring involuntary resettlement are ineligible; (iii) where land acquisition would result in physical and/or economic displacement of any kind, objective will be to seek agreed & negotiated resettlement and/or compensation thru FPIC processes (see Appendix 4. FPIC Implementation Plan and Appendix 5. Ethnic Minority Plan) to ensure a fair and timely compensation for being relocated and/or selling or relinquishing access to assets; (iv) project resettlement and/or compensation policy and approach will apply the recently agreed Resettlement Policy Framework (March 2020) between Vinh Long Province and the World Bank, which complies with World Bank's Environmental and Social Framework (ESF) and the regulations of the GoVN on compensation, assistance and resettlement; the PPMU will be	Provincial-level • PPC (Overall) • PPSC (Coord/follow-up) • PPMU (Compliance w/ agreed criteria/ regulatory/env/social, incl. FPIC/EMP & technical) • IFAD (support to PPMU on FPIC) District-level • DPC (Overall) • DARD (Ag) • DoIT (Trade) • DoNRE (Env) • PPMU (Compliance w/ agreed criteria/regulatory/env/social/ technical) • Women's, Farmer's, & Youth Unions (targeting, participation, inclusiveness)

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigation Measures	Responsible
	• Infrastructure investments pose significant, unmitigable or unmitigated risks • Infrastructure design & budgeting fails to provide for environmental regulatory compliance • Infrastructure construction fails to adequately mitigate construction phase impacts and/or to follow approved design for inclusion of required env. mgmt. elements • Dam safety • Over-exploitation/unsustainable use of water resources for irrigation/aquaculture • O&M failure to operate appropriately and/or maintain wastewater treatment systems associated with intensive shrimp culture or agroprocessing • <u>Climate</u>: Infrastructure design & investments ignore or inadequately internalize climate/natural disaster risk dimensions	responsible to faithfully implement; (v) the IFAD/Viet Nam office will be informed in a timely fashion by the PPMUs in any and all cases where the potential for resettlement and/or economic displacement are identified at pre-feasibility stage or later, and PPMU will provide periodic, quarterly updates to IFAD/Viet Nam on resettlement activities; and (vi) in any such cases, IFAD supervision missions will carry out, or cause to be carried out by independent monitors, an independent assessment of the results of implementing the resettlement policy framework, and the need for additional measures to minimize the damage (if any). ➢ Voice/participation/equity issues: VC selection criteria & targeting mechanisms – geographic, direct, and self – for related infrastructure development heavily weighted to bring benefits to poorer producers and other target groups; 80% of beneficiaries to be poor/near-poor/vulnerable households, 30% EM, 40% women (youth targeting 50% women); empowerment & capacity building support to target population; inclusive, participatory MoP-SEDP planning processes; targeting & social inclusion training & incentives to project staff & implementing partners; RIMS monitoring specifically tracks (gender & socio-economic disaggregated) participatory aspects & outcomes & target group perceptions of processes & outcomes. Ensure that persons with disabilities are not left behind (hold focus group discussions with their constituencies during the local development and value chain planning processes, prioritize support to families of persons with disabilities, raise awareness on disability inclusion among PMU and service providers, engage with organizations of persons with disabilities throughout the project's lifecycle). ➢ Prevent the use of child labor and ensure compliance with the government's labor laws and related international treaty obligations (awareness raising on the issue, include relevant clauses in all contracts with service providers, close monitoring of incidences of child labor by PMU)	<u>Commune-level</u> • CPC (Overall) • PPMU (Compliance w/ agreed criteria/ regulatory/env/social/ technical) • Women's, Farmer's, & Youth Unions (participation, inclusiveness) • Contractor (stakeholder consultation, regulatory compliance) • Consultant (supervision/ quality control) • DARD, DoNRE, DoIT regulatory compliance staff (regulatory compliance)

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigation Measures	Responsible
		Environmental & Climate: ➢ Planning & screening aspects: See Component 1 Environmental & Climate and the Environmental and Social Management Framework (ESMF) prepared for the Climate Resilient Infrastructure sub-projects ➢ Design & budgeting review & oversight: Contracting of qualified design consultants & technical supervision consultants to be responsible for design, budgeting, regulatory compliance/permitting, and quality control; PPMU technical staff monitor compliance with timeline & env. mgmt. & regulatory compliance; DARD, DoNRE, & DoIT regulatory compliance staff review & approve as per relevant legal/regulatory framework; ensure ESMF provisions are followed. ➢ Construction phase: (i) Contractor - prior to site prep/site work meet district/commune authorities (DoNRE; persons responsible subsequent O&M) & community leaders to provide relevant information (e.g. activities, schedules, etc.) & address stakeholder concerns; compliance with all regulation relevant to dust generation, noise & vibration, water pollution, drainage & sedimentation control, management of stockpiles, borrow pits, quarries; solid waste mgmt.; chemical or hazardous wastes; mgmt. excavated soil; disruption of vegetative cover & ecological resources; traffic mgmt.; interruption of utility services; restoration of affected areas; worker & public safety; communications with local communities (see Section I, Table 2); (iii) technical supervision consultants responsible supervision, and quality control; PPMU technical staff monitor supervise technical supervision consultants and ensure timely reporting; relevant DARD, DoNRE, DoIT regulatory compliance staff supervise and inspect and give final agency approvals as per relevant legal/regulatory framework; PPMU determines final compliance with contract. See ESMF for further detail.	

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigation Measures	Responsible
		➢ Dam safety: No large dams will be financed, only "small-scale reservoirs" with <3 million m^3 storage capacity. See ESMF for further detail. ➢ Water management: Overall institutional mechanisms for IWRM are weak, therefore PPMU will proactively engage in, participate, share information, and support all efforts by Provincial DoNREs & PPCs and regional planning/coordination groups to improve the management of water resources in the Provinces, this would include: strict attention to licensing & reporting where required; collection and sharing of data/information on water quality & consumptive use, wastewater & waste management, erosion control & sand mining regulation, and CCA – design standards of canals, sluices, roads, adaptation in agriculture & aquaculture cropping schedules and technologies; and water management actions/activities associated with project investments. o For groundwater management, compliance with GoV regulations on groundwater development & extraction will be closely monitored by DARD, DoNRE, and relevant PPMU technical staff during all phases of subproject development (design, construction, and operation); environmental and social assessments during design phase will specifically assess potential for groundwater exploitation, which will require participation and cooperation with specialized technical assistance to estimate sustainable extraction potential – e.g., not to exceed natural recharge capacity – on a site-by-site basis w/o contributing to accelerated subsidence; in both provinces all new wells will be registered and permitted, and any existing wells that are not registered and permitted will be registered and permitted prior to further pumping; all wells will be required to install flow meters and records kept of abstraction to be kept by both well owners & WUGs, and monitored by Commune officials; in Tra Vinh, Decision No. 2367 / QD-UBND of June 2020 to regulate the groundwater management will be strictly followed, among others it establishes zones in which new	

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigation Measures	Responsible
		wells are prohibited. As groundwater must ultimately be managed at the aquifer-level, a site-by-site approach is given to great uncertainty. However as there as yet is not a regional or aquifer-level framework in place for overall management and permitting, and land subsidence comes at a very high cost for the delta, very strict groundwater management will be essential and groundwater use should be restricted via licensing and exploited only in areas where other sources of fresh water are unavailable, and then only in conjunction with water saving irrigation practices or, in the case of aquaculture, where average salinity levels require minimum, if any, freshwater for production. It will be essential to strengthen overall water resources management and regulation, and WUGs and use of local knowledge will be very important to the efforts to both estimate potential for development, but also to avoid undesirable impacts. o For management of freshwater resources, water use groups (WUGs) will be mandatory for small in-field irrigation canals and embankments, and will be trained in water-savings techniques; CSAT will build upon AMD's (and others) demonstrated successes in dissemination of improved irrigation and moisture conservation practices[51]; other water savings approaches will be promoted and encouraged, including covering small reservoirs (e.g., with solar panels) to reduce the significant evaporative losses; rainfall collection and storage for domestic and aquaculture use; conjunctive use of shallow groundwater on reservoir borders (i.e., to exploit leakage), others.	
Rural finance services support value chain development	<u>Social</u>: Elite capture & exclusion of marginalized households & individuals in participation & benefits.	<u>Social</u>: Supported VCs selected thru process to ensure potential for inclusion of IFAD target groups; support to establishment, consolidation, and strengthening of SCGs/CIGs emphasizes woman, youth, EMs, and low-income households thru direct targeting criteria; delivery through provincial Women's Unions	<u>Provincial-level</u> • PPC (Overall) • PPSC (Coord/follow-up) • PPMU (Compliance w/ agreed criteria/

[51] Under AMD, the most commonly adopted CCA production techniques were water-saving techniques – nylon cover in crop cultivation, mulching, use of bio-fertilizers, adaptive crop and livestock varieties, biological cushioning in livestock production, fermented feeds for cattle, adjusted cropping seasons, and off-farm employment (IFAD, 2021)

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigation Measures	Responsible
	Environmental & Climate: Credit utilized for unsustainable, productive investments	(WU) & Farmer's Union (FU) and their networks of savings and credit groups (SCGs) and CIGs; TA and support for business plan development subject to direct targeting criteria, PPMU staff monitor; capacity building efforts to mobilize an additional women into WSCGs; equal access to technical assistance & training for productive investments. For further detail see CSAT Working paper on targeting, gender equality and women's empowerment and SECAP Appendix 5. Ethnic Minority Plan. Environmental & Climate: Supported VCs selected using criteria of, or potential for, climate resilience to mitigate climate/natural disaster risk; awareness and capacity building to enhance knowledge and consideration of climate change and natural disaster risks in local lending; menu of good CSA practices to be made available; existing planning instruments (e.g., local land use and disaster vulnerability maps) shared with lenders & borrowers; training & promotion of use of due diligence procedures in lending to include basic climate change adaption/natural disaster risk elements. See also Component 1, Environmental & Climate ensure potential for inclusion of IFAD target groups	regulatory/env/social, incl. EMP & technical) • DoNRE (Env. mgmt) • DARD (Technical quality) District-level • DPC (Overall, CCA/DRM planning) • PPMU (Compliance w/ agreed criteria/regulatory/env/social/ technical) • Women's & Farmer's Unions (targeting, participation, inclusiveness) • DARD, DoNRE (env. mgmt, technical quality, CCA/CSA/ DRM) Commune-level • CPC (Overall, DRM planning) • PPMU (Compliance w/ agreed criteria/ regulatory/env/social/ technical) • Women's, Farmer's, & Youth Unions (targeting, participation, inclusiveness) • DARD (CCA/CSA practices)
Smallholder farmers adopt climate smart agriculture (CSA) for	No significant, direct risks. Risks are primarily implementation risks, i.e., technical & institutional in nature, that technical quality	Social: Potential risks mitigated through actions/activities detailed previously in this table. Environmental & Climate: Potential risks mitigated thru actions/activities detailed previously in this table. AMD success in developing/disseminating CSA provides knowledge capital base of proven CSA technologies and	Provincial-level • PPC (Overall) • PPMU (Compliance w/ agreed criteria/ regulatory/env/social, incl. EMP & technical)

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigation Measures	Responsible
value chain development.	& institutional capacity/will lacking to implement	systems; coordination with existing CSA-oriented VC projects in MRD (World Bank, JICA in Ben Tre) for exchange of knowledge & technical expertise; provision of TA for CSA identification/selection processes to support farmer and enterprise decision-making; awareness building & education thru study tours and cross visits; marketing of CSA technologies (e.g., thru newspaper, radio, social media) and development/dissemination of technical guides (publications, manuals, etc.); facilitated interchanges at provincial, district, commune levels for CSA dissemination and expanding technical networks/contacts among technical staff, farmers groups, and enterprises (e.g., meetings, workshops), TA to enterprises and CIGs demand-driven, wide range of eligible areas (CSA investments, CIG administration, techniques for CSA, CSA replication, access to finance, etc.)	• DARD, DoNRE (env. mgmt, technical quality, CCA/CSA/ DRM) <u>District-level</u> • DPC (Overall, CCA/DRM planning) • PPMU (Compliance w/ agreed criteria/regulatory/env/social/ technical) • Women's & Farmer's Unions (targeting, participation, inclusiveness) <u>Commune-level</u> • CPC (Overall, DRM planning) • PPMU (Compliance w/ agreed criteria/ regulatory/env/social/ technical) • Women's, Farmer's, & Youth Unions (targeting, participation, inclusiveness) • DARD (CCA/CSA practices)

Definition of "Scale/Severity/Reversibility of Potential Environmental Impacts" classifications, and its interpretation.

Potential Scale of Impact:
- S = site
- L = local
- W = watershed or landscape
- R = regional
- G = global

Potential Severity of Negative Impact:
- L = Low
- M = Moderate
- H = High
- S = Severe

Potential Reversibility of Negative Impact:
- RR = impact can be mitigated and/or reversed
- IR = impact cannot be mitigated and/or reversed

Impact:
- Mn = Minor
- Md = Moderate
- Mj = Major

Scale	Potential Severity	Impact: Reversible	Impact: Irreversible
Site	Low	Minor	Minor
	Moderate		Moderate
	High		Major
	Severe		
Local	Low	Minor	Minor
	Moderate		Moderate
	High	Moderate	Major
	Severe		
Watershed/ Landscape	Low	Minor	Minor
	Moderate	Moderate	Major
	High	Major	
	Severe		
Regional	Low	Moderate	Moderate
	Moderate		Major
	High	Major	
	Severe		
Global	Low	Major	Major
	Moderate		
	High		
	Severe		

Impact evaluation criteria

Table 2a. Ben Tre & Tra Vinh - Environmental management for commodity production in pre-selected value chains

Potential Environmental Impacts (– or +)	Scale / Severity / Reversibility – Impact of Potential Environmental Impacts[52]	Proven Good Practices/Options to Mitigate or Avoid Potentially Negative or to Ensure Positive Environmental Impacts
Coconut		
1. (–) Monoculture 2. (–) Increased use agrochemical inputs (fertilizers/pesticides) 3. (–) Inappropriate disposal husks (pre-processing)	1. R / L / RR – Md 2. L / M / RR – Mn	1. Mixed or inter-cropping/agroforestry/GPCB/Coconut-livestock 2. Use of compost fertilizers (incl., composting coir & coconut byproducts); raise Asecodes hispinarum (natural parasitoid) to control pests on coconut; promote organic production thru market linkages; avoid dwarf hybrids w/high

[52] Potential Scale of Negative Impact: S = site, L = local, W = watershed or landscape, R = regional, G = global.
Potential Severity of Negative Impact: L = Low, M = Moderate, H = High, S = Severe
Potential Reversibility of Negative Impact: RR = reversible, IR = irreversible

Potential Environmental Impacts (– or +)	Scale / Severity / Reversibility – Impact of Potential Environmental Impacts[52]	Proven Good Practices/Options to Mitigate or Avoid Potentially Negative or to Ensure Positive Environmental Impacts
4. (+) Well-adapted & resilient to climate/ weather/natural disaster/ salinity risk	3. L / L / RR – Mn	disease susceptibility; prohibit purchase/use of WHO Class 1 & 2 pesticides (https://www.who.int/ipcs/publications/pesticides_hazard/en/) 3.Recycle/reuse husk material (compost, coco peat, coco husk chips, coco crush, coir fibre, commercial potting mix; soil amendment for greenhouse production)
Aquaculture – Eco-Shrimp, Clams		
1. (+) Adapted production system for saline/brackish (coastal areas/mangroves) & intermittent fresh/brackish water-zones (rice-shrimp) 2. (+) Little or no pressure on fresh or groundwater resources 3. (+) Farming system is "natural", w/o using industrial feeds, antibiotics or supplements, does not require water treatment, and can be combined with mangrove restoration[53], and production of other edible bivalves (clams, cockles, oysters)	Successful up scaling of this system has implications on a global scale[54] for development of sustainable shrimp farming; Viet Nam seems to currently be the global pioneer.	A central challenge to the development of a certified value chain for organic, sustainable farmed shrimp is establishing a system of verification (chain of custody and certification of production) that is efficient and affordable, that binds the actors in the value chain together, avoids the cost of frequent outside audits, and can be administered on a regional, rather than a farm by farm basis. Minh Phu Seafoods, with Seafood Watch and SGS have developed such an approach and platform that is being piloted, with the aspiration that a scalable system can be put in place, with a high percentage of the audits being done by local auditors. The CSAT should monitor these developments closely.
Aquaculture – Intensive Shrimp / Aquaculture, freshwater – Snakehead[55]		
1. (–) Clearing of mangrove/native vegetation – habitat loss,	1. R / H / RR - Mj	1 & 2. Support to development/implementation of Agricultural Restructuring Programme (ARP) planning in VC commodity planning/zoning, and land-use

[53] See Selva Shrimp "sivofishery", combing mangrove restoration with extensive black tiger prawn production

[54] Monterey Bay Aquarium's Seafood Watch – one of the most widely respected and influential sustainable seafood lists – classifies 86% of shrimp exported from Viet Nam as "Avoid" due to its environmental impacts and unsustainability. However, they expect Ca Mau Province to have 20,000 eco-shrimp black tiger prawn farms by 2025 and by 2030 for the entire province's production to be eco-shrimp, which will carry their "Best Choice" rating. The market potential is vast and is a direct incentive for restoration of coastal mangroves.

[55] These are discussed together as, in general, there is little substantive difference between environmental management concerns (and thus recommended management and mitigation) between freshwater, brackish water, and seawater aquaculture when the systems are single species monocultural, intensive/semi-intensive aquaculture production systems (Ahmed et al, 2019), or in the specific context of the MRD and project provinces.

Potential Environmental Impacts (– or +)	Scale / Severity / Reversibility – Impact of Potential Environmental Impacts[52]	Proven Good Practices/Options to Mitigate or Avoid Potentially Negative or to Ensure Positive Environmental Impacts
increased vulnerability to storms 2. (–) Induced development - unplanned, large-scale intensive shrimp culture salinizing soils & surface waters, polluting surface waters w/ untreated discharge, causing eutrophication of canals, & damaging neighbouring ag lands & crops[56] 3. (–) Heavy use of inputs (industrial feeds, antibiotics, chlorine products, iodine, supplements) w/high levels of residue causing environmental pollution 4. (–)Wastewater/wastes causing water pollution/environmental contamination 5. (–) Misuse & unsafe handling/disposal of chemical inputs[57] 6. (–) Contributes to increase of water resources management problems (freshwater scarcity, water quality)	2. W / H / RR – Mj 3. W / H / RR – Mj 4. L / M / RR – Mr 5. W / M / RR – Md 6. L / H / RR – Md 7. W / S / IR – Mj	planning; support planning efforts to establish reasonable, enforceable limits on aquaculture farm numbers, size and geographical distribution; ensure farms appropriately spaced; participatory resource use planning thru MOP-SEDP processes at commune-level as vehicle for zoning & zoning compliance; infrastructure investments only in areas where specific VC commodity supported is consistent with ARP and provincial master planning zoning for production (thru VCAP development) 3 & 4. Promotion of/support to development of production systems & systems management in accordance with GAP standards, SRP, 1M5R, organic farming (coconut, rice, shrimp) thru market linkages; wastewater treatment systems at individual aquaculture farms; bio-digesters and/or compost treatment systems at individual aquaculture farms to repurpose sludge as fertilizer; redesigned sluices and/or canals to separate inlet & outlet canals to ensure proper circulation of water for aquaculture productions (clean water in/wastewater out to treatment systems; monitoring of wastewater management and discharge quality/regulatory compliance thru DoNRE, and verification by PPMU staff of compliance; participatory technology development to treat wastewater from super intensive system[58]; co-management on water use (inlet and outlet); VCAP feasibility, design, construction contracts, and O&M planning/budgeting to include wastewater/waste treatment requirements for full regulatory compliance; VCAP M&E plan/implementation to include specific environmental management oversight needed to ensure implementation & implementation quality; promotion/dissemination of better/more effective feed management to prevent accumulation of organic material, and avoid use of feeds with higher than necessary protein levels. 5. Preparation of VCAP to identify issues and propose needed training on appropriate handling, storage, use and disposal of chemical inputs; VCAP M&E

[56] Source: Nguyen et al, 2020
[57] Tran et al, 2019
[58] Should exploit existing R&D in Vietnam for phytoremediation of N, P, BOD, COD, complex organic molecules, heavy metals, other toxics with Chrysopogon zizaniodes (Vetiver grass), see examples #1 and #2.

Potential Environmental Impacts (– or +)	Scale / Severity / Reversibility – Impact of Potential Environmental Impacts[52]	Proven Good Practices/Options to Mitigate or Avoid Potentially Negative or to Ensure Positive Environmental Impacts
7. (–) Exploits groundwater w/ potential to contribute to subsidence 8. (+) Adapted production system for saline/brackish		to include specific environmental management oversight needed to ensure appropriate use, management, & disposal 6 & 7. Infrastructure selection criteria include potential for sustainable water resources usage; use of alternative rainwater storage to reduce surface/groundwater demand; VCAP planning to ensure consistency with Provincial water planning/zoning criteria and regulations; CSAT participation and support for Provincial DoNREs & PPCs and regional planning/coordination groups to improve the management of water resources in the Provinces; strict attention to licensing & reporting where required; collection and sharing of data/information on water quality & consumptive use, wastewater & waste management, erosion control & sand mining regulation, and CCA – design standards of canals, sluices, roads, adaptation in agriculture & aquaculture cropping schedules and technologies; and water management actions/activities associated with project investments. 7. Compliance with GoV regulations on groundwater development & extraction closely monitored by DARD, DoNRE, and relevant PPMU technical staff during all phases of subproject development (design, construction, and operation); environmental and social assessments during design phase will specifically assess potential for groundwater exploitation, which will require participation and cooperation with specialized technical assistance to estimate sustainable extraction potential – e.g., not to exceed natural recharge capacity – on a site-by-site basis w/o contributing to accelerated subsidence; in both provinces all new wells will be registered and permitted, and any existing wells that are not registered and permitted will be registered and permitted prior to further pumping; all wells will be required to install flow meters and records kept of abstraction to be kept by both well owners & WUGs, and monitored by Commune officials; in Ben Tre, use of groundwater is strictly prohibited due to the risk of land subsidence, aquaculture households to secure water from rain or from canals, where available; in Tra Vinh, Decision No. 2367 / QD-UBND of June 2020 to regulate the groundwater management will be strictly followed, among others it establishes zones in which new wells are prohibited.
Fruit (mango, rambutan, pomelo, and mandarin)		

Potential Environmental Impacts (– or +)	Scale / Severity / Reversibility – Impact of Potential Environmental Impacts[52]	Proven Good Practices/Options to Mitigate or Avoid Potentially Negative or to Ensure Positive Environmental Impacts
1. (–) Monoculture 2. (–) Increased use/misuse of agrochemicals 3. (–)Source water polluted 4. (–) Increased pressure on scarce freshwater resources (surface/ground) for irrigation supply 5. (–) Land degradation/accelerated soil erosion	1. L / L / RR – Mn 2. W / M / RR – Md 3. W / M / RR – Md 4. L / H / RR – Md 5. S / M / RR – Mr	1. Mixed or inter-cropping/agroforestry/fruit-livestock 2. Training on appropriate handling, storage, use and disposal of pesticides & herbicides; purchase of certified/virus-indexed germplasm; appropriate siting; training on tree maintenance, esp., pruning & soil fertility management & plant nutrition; soil fertility management; drip irrigation w/automatic & semi-automatic fertigation); IPM & cultural practices for pest & disease control; prohibit purchase/use of WHO Class 1 & 2 pesticides (www.who.int/ipcs/publications/pesticides_hazard/en/; link to companies (processors/traders) branding & marketing fruit produced under VietGAP and/or GlobalGAP standards and/or organic certification; CSAT-financed pest monitoring systems for agricultural production (rice, fruit trees) 3.& 4. Siting (away from pollution sources); water quality monitoring on-farm (e.g., conductivity, pH, DO/BOD/COD, etc.); rainwater collection/storage & water reservoirs in rainfed areas; water-saving irrigation systems (drip irrigation, potential for fertigation); moisture conservation with organic mulches or agricultural films (plastic mulching[59], polyethylene film) 5. Maintain groundcover (i.e., cultivation around tree, not clean cultivation of site); soil fertility management (green manure/manure/compost/vermicompost/other organic or biological inputs/products); contour hedgerows (vetiver[60], fodder grasses, close growing market crops – aloe, pineapple, others).
Rice		
1. (–) Greenhouse gas emissions 2. (–) Improper use/misuse of agrochemicals 3. (–) Source water polluted	1. G / L / RR – Mj 2. W/ M / RR – Md	1. Supporting structural shift that reduces overall area under rice & rice cropping intensity (i.e., redesign sluices and/or canals to enable the transformation from rice towards rice – shrimp productions or brackish aquaculture); 1M5R model w/AWD rice production system[61]

[59] Plastic mulches/covers provided they are removed from the field at the end of the growing season, and are petroleum-based, not polyvinyl chloride (PVC). Disposal of plastic and polyethylene problematic, usu. not recyclable and not biodegradable.
[60] See Vietnam Vetiver Farmers Network (https://www.facebook.com/groups/vetiver4vn)
[61] CSA model "1M5R" (one must, five reductions) provides higher yields & better-quality rice, while reducing input costs (and usage of fertilizer, pesticides, & water) by 30%, reducing GHG emissions by 50-60% in comparison to traditional farming

Potential Environmental Impacts (– or +)	Scale / Severity / Reversibility – Impact of Potential Environmental Impacts[52]	Proven Good Practices/Options to Mitigate or Avoid Potentially Negative or to Ensure Positive Environmental Impacts
4. (–) High water use in scarce freshwater resources environment	3. W / M / RR – Md 4. R / H / RR – Mj	2. 1M5R model w/AWD rice production system;); promote production of higher value organic/clean rice thru market linkages to niche markets (i.e., do not compete in large volume/low price market); IPM-Integrated Pest Management for rice; rice stem-borer control with dead-end trap crop (Vetiver[62]); CSAT-financed pest monitoring systems for agricultural production (rice, fruit trees 3. Siting (away from pollution sources); water quality monitoring on-farm (e.g., conductivity, pH, DO/BOD/COD, etc.); rainwater collection/storage & water reservoirs in rainfed areas 4. AWD rice, and other water resources management options noted above.
Seedling Production		
1. (–) Heavy use of inputs (N & P compounds, pesticides/fungicides, etc.) 2. (–) Improper use/misuse of agrochemicals 3. (–) Propagation & spread of economically important pests and diseases 4. (–) Solid waste (bio-waste, plastics) 5. (–) High water use in scarce freshwater resources environment	1. L / M / RR – Mr 2. L / M / RR – Mr 3. L / L / RR – Mr 4. L / L / RR – Mr 5. L / M / RR – Mr	1, 2, 3, & 4. VC screening to assess nursery management practices (seedling quality, containers, substrates, fertilizer usage, storage/handling/use/disposal of pesticide/fungicides, nursery & plant hygiene (incl. internal practices – sterilizing equipment & irrigation water, virus indexing capacity, and certifications), nursery environment & facilities, nursery management, incl. staff/worker training); VCAP to address need for improved nursery management (incl. record keeping for traceability, seedling quality control, phytosanitary/virus certification, training, etc)., pre-treatment of irrigation water[63]; waste management (incl., wash water from pesticide application equipment, pesticide containers, plastics and bio-wastes, etc.); IPM & cultural practices for pest & disease control; prohibit purchase/use of WHO Class 1 & 2 pesticides (www.who.int/ipcs/publications/pesticides_hazard/en/ 5. Water saving technologies (drip/misting systems); other water resources management options noted above

[62] See Chinese development of Vetiver as ecological engineering method (trap crop) for the control of Chilo suppressalis (striped stem borer) and Sesamia inferens (pink stem borer), which can reduce stem borer populations in rice by almost 85%, with associated significant reduction in pesticide purchase and use for stem borer control. Vetiver hedgerows are planted in two rows, 3-5 meter apart, about every 50 meters apart; in most cases hedgerows are planted on the paddy field boundaries

[63] 1 ppm chlorine added to irrigation water for 30 minutes to control damping-off fungi

Table 3b. Ben Tre & Tra Vinh - Environmental management for infrastructure investments

Potential Environmental Impacts (– or +)	Scale / Severity / Reversibility of Potential Environmental Impacts	Proven Good Practices to Mitigate or Avoid Potentially Negative or to Ensure Positive Environmental Impacts
Rural access roads		
1. (–) Generation of dust and noise during construction process. 2. (–) Generation of garbage/solid waste during construction. 3. (–) Impacts of land clearance on native vegetation, ag lands, or habitat 4. (–) Increased erosion & sedimentation, construction & operation phases 5. (–) Accelerate riverbank erosion/collapse 6. (–) Increased runoff/changes in local hydrology	1. L / L / RR – Mr 2. L / L / RR – Mr 3. L / L / RR – Mr 4. L / M / RR – Mr 5. L / H / IRR – Mj 6. L / M / RR – Mr	1. Regulated[64] (e.g., QCVN 05: 2013/BTNMT), contractor responsibility to manage (e.g., watering to minimize dust; noise pollution in residential areas limits construction to during office hours) 2. Regulated (e.g., Decree No. 59/2015/ND-CP), contractor responsibility to manage (e.g., provide for collection and proper disposal, including construction camp & equipment parks) 3. Small-scale only[65], design phase environmental and social assessments carried out to identify & incorporate appropriate avoidance and/or mitigation into design. 4. Design standards & quality control during construction on lay out, cut-and-fill, drainage and sediment control; identification & stabilization of vulnerable areas; concrete or stone-reinforced embankments/vegetative stabilization[66]; O&M planning & organization to keep side drains, culverts clear, identify & reinforce actively eroding areas; culvert sizing reviewed and updated based on predicted increases in rainfall/runoff/peakflows over useful life of roads (e.g., apply 50 year return period design storm instead of 25 year storm) 5. See #4, riverbank stabilization (generally mix of structural & vegetative); siting & alignments to avoid vulnerable stream sides as possible. 6. See #4, terraced drainage ditches to reduce flow velocity, use of canals/ditches to direct runoff into sediment traps, then into ponds and reservoirs; alignment adjustment to allow for natural drainage, where possible)
Small-scaled irrigation embankments or irrigation embankments cum rural roads		

[64] In all cases, where environmental and health & safety regulations' compliance are the responsibility of the contractor to comply, supervision and oversight will be exercised by DARD/DoNRE; project-hired supervisors; and users groups responsible for post-construction O&M

[65] Eligible schemes ≤10 km and compliant definition in Rural Road Standard TCVN10380-2014, Type A of rural road having surface width 3.5m, embankment width 6.0 – 6.5m; Type B of rural road having surface width 3.0 – 3.5m, embankment width 4.0 – 5.0m; Type C of rural road having surface width 2.0 – 3.0m, embankment width 3.0 – 4.0m.

[66] See Vietnam Vetiver Network, ADB Climate Resilient Infrastructure in Northern Viet Nam, and additional sources (#1, #2)

Potential Environmental Impacts (– or +)	Scale / Severity / Reversibility of Potential Environmental Impacts	Proven Good Practices to Mitigate or Avoid Potentially Negative or to Ensure Positive Environmental Impacts
1. (–) Generation of dust and noise during construction process. 2. (–) Generation of garbage/solid waste during construction. 3. (–) Impacts of land clearance on native vegetation, ag lands, or habitat 4. (–) Water quality and aquatic life impacts in rivers/canals. 5. (+) Increase resilience to climate change, protecting areas from saline intrusion, storm surges/inundation/SLR, & reduced drought impacts.	1. L / L / RR – Mr 2. L / L / RR – Mr 3. L / L / RR – Mr 4. L / M / RR – Mr	1. See #1, above 2. See #2, above 3. See # 3, above; small-scale embankments only, protecting cultivated areas of ≤500 hectares[67] 4. Wastewater/waste from construction equipment maintenance/washing, site runoff, and worker camps regulated, contractor responsible to mitigate/control impacts; dredge spoils disposal, especially acid-sulphate soils, regulated w/ contractor responsible for safe disposal (siting, offsite drainage control, etc.), however, wherever possible dredging materials should be used strategically for improved protection of local assets including aquaculture ponds and settlements/communities, and for local dykes and roads that improve safety from high-tide inundation/peakflows
Sluices and sluice gates / Redesigned sluices and/or canals		
#1 to #5, same as above 6. (–) Saline intrusion affects existing freshwater agriculture areas & conflict between freshwater & aquaculture water uses 7. (–) Barrier to fish migration & ecosystem connectivity 8. (–) Surface water quality impacts from sluice gate operation 9. (–) Groundwater aquifers impacted by saline intrusion	#1 to #5, same as above 6. W / M / RR – Md 7. W / M / RR – Md 8. W / M /RR – Md 9. L / M /RR – Md 10. W / M / RR – Md	3. See # 3, above; small-scale sluices with total drainage width less than 10m / small-scale irrigation canals with base width less than 10m; construction & operation regulated[16] 6. Follow MRD Master Plan for determining zones for freshwater & brackish farming; transition supported by GoVN programs & CSAT VC development. 7. Fish & bio-monitoring by DoNRE at regional-level 8. Mitigation by CSA practices. 9. CSAT-supported groundwater monitoring thru construction of salinity and/or water quality monitoring facilities, also World Bank regional project's "Enhancing Monitoring, Analytics, and Information Systems" activities for the 13 province MRD (incl. Ben Tre & Tra Vinh) provides for groundwater monitoring and use studies.
Waste water treatment systems for aquaculture activities		

[67] Regulated by Decrees 67/2018/ND-CP, 40/2019/ND-CP, & 18/2015/ND-CP, latter provides guidance on environmental protection; full EIA not required for systems ≤500 ha

Potential Environmental Impacts (– or +)	Scale / Severity / Reversibility of Potential Environmental Impacts	Proven Good Practices to Mitigate or Avoid Potentially Negative or to Ensure Positive Environmental Impacts
1. (–) Poor/lack of proper O&M result in discharge of partially or untreated wastewater 2. (+) Effective mitigation of water pollution/environmental contamination from aquaculture	1. W / H / RR – Mj	1. Incentives for proper O&M thru promotion of/support to development of production systems & systems management in accordance with GAP standards thru market linkages; training (E2F, F2F) on proper clean-up/ disposal of spilled materials/spill prevention, operation and cleaning of production and wastewater treatment systems, and feeding procedures and equipment use; regulatory oversight & water quality monitoring (producers: DO, pH, temp & DoNRE/DARD).
Collecting point/warehouse for processing and logistics / Cold storage / Small buildings[68]		
1. (–) Inappropriate Siting 2. (–) In-plant Health and Safety 3. (–) Solid Waste Disposal 4. (–) Surface & Groundwater Contamination 5. (–) Air Pollution	1. S / L / RR – Mr 2. L / M / RR – Mr 3. L / M / RR – Mr 4. L / M / RR – Mr 5. L / M / RR – Mr	1, 2, 3, 4, 5. Facilities are small-scale; VC pre-feasibility/VCAP planning/environmental & social assessment to identify need for and provide for design, construction contracts, and O&M planning/budgeting to ensure compliance with air, water, and labor safety & health regulations, as well as consistency with any additional Provincial water planning/zoning criteria and regulations on wastewater/waste treatment requirements for full regulatory compliance; VCAP M&E plan/implementation to include specific environmental management oversight needed to ensure implementation & implementation quality; compliance thru relevant agency staff (DARD, DoNRE, DoIT), and verification by PPMU staff, and specialized consultants contracted for supervision during design and construction phase

[68] Pest monitoring stations; Centers for environment and natural resource monitoring and testing, Product introduction showrooms, Center for seedlings and seeds quality testing

GOVERNMENT OF VIET NAM

Climate Smart Agriculture Transformation Project for the Ben Tre and Tra Vinh Provinces the Mekong Delta

(CSAT)

Environmental and Social Management Framework

(ESMF)

June 2021

CONTENTS

I. INTRODUCTION

A. Introduction

The Government of Viet Nam (GoV) and IFAD agreed to finance and develop jointly the Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT). CSAT will be implemented in the two provinces of Ben Tre and Tra Vinh, and will cover eight districts in each province. The project aims to achieve sustainable and climate resilient rural transformation in Ben Tre and Tra Vinh province that would serve as a model for the Mekong Delta region. The project builds on the successful IFAD project, Adaptation to Climate Change in the Mekong Delta in Ben Tre and Tra Vinh Provinces (AMD), which was funded through the Adaptation for Smallholder Agriculture Programme (ASAP) and recently completed in 2020.

CSAT comprises two components as follow: (i) Component 1 - Effective provincial & regional coordination for sustainable and inclusive rural transformation; and (ii) Component 2 - Inclusive and climate smart value chain established (see Section II). At this project design stage, the general nature of activities to be supported are known, however specific details of the various interventions are yet to be developed. More specifically, Component 2 comprises of infrastructure activities which have a bearing on physical and social environments. Types and magnitude of impacts is fairly known, however, the exact sites and scale of the infrastructure sub-projects are yet to be clearly identified. In this regard, the exact scale and locations of infrastructure sub-projects will follow the recommendations of the Value Chain Action Planning (VCAP) which will be done in the early stage implementation of the project. SECAP requires that in such case, an Environmental and Social Management Framework (ESMF) must be prepared in order to establish the guidelines and procedures to comprehensively assess risks (environment, social and climate) and impacts associated with the project and its sub-projects.

B. Purpose of the document

CSAT will incorporate the environmental, social and climate safeguards required by IFAD (2017) *Social, Environmental and Climate Assessment Procedures (SECAP)* and the GoV national environmental laws and regulations. The ESMF document will be used by the Project Management Unit (PMU) to ensure that all environmental and social safeguards are adequately addressed throughout the CSAT implementation period.

The main purpose of the ESMF is to:

- Establish clear procedures and methodologies for the environmental and social assessment, review, approval and implementation of investments to be financed under CSAT.
- Specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social aspects related to project investments.
- Determine the training, capacity building and technical assistance needed to successfully implement the provisions of the ESMF.
- Provide practical information resources for implementing the ESMF.

The ESMF provides a guide for the integration of environmental and social considerations into the planning and implementation of the proposed project investments. It further provides a basis for environmental assessments of all sub-projects to be carried out under CSAT.

II. PROJECT DESCRIPTION

The goal of CSAT is to achieve sustainable and climate resilient rural transformation in Ben Tre and Tra Vinh province that would serve as a model for the Mekong Delta region. The development objective is to generate sustainable income opportunities and improved rural livelihoods for poor households and their women, men, EM and youth in Tra Vinh and Ben Tre provinces. In line with the request from GoV, CSAT will be implemented in Tra Vinh and Ben Tre provinces that are highly vulnerable to the effects of climate change. The project is expected to directly reach 60,000 smallholder households (25,000 households in Ben Tre and 35,000 households in Tra Vinh) equivalent to around 210,000 people, and will target the following groups: poor and near poor households, vulnerable households, medium and better off farmers, ethnic minority, rural women and women headed households, and rural youth.

CSAT will be financed through IFAD loan (US$ 43 million), for which the entirety of the loan will be used to fund public climate resilient infrastructures under sub-component 2.1. The GoV is committed to allocate USD 11.2 million of co-financing in cash and USD 6.6 million in kind to address the need for capacity building and other soft investments that IFAD is not eligible to finance according to the existing government ODA policy. Additional private sector financing is available for group formation and strengthening, group organization, investments in private sector enterprises and value chain development.

The project has the following components and outputs:

Component 1: Effective provincial & regional coordination for sustainable and inclusive rural transformation established. This sub-component aims at improving the effectiveness of the regional/interprovincial cooperation on the socio-economic development plans (SEDP) at provincial and the Mekong Delta Plan at regional levels. Value chain plans, improved capacities and public private collaboration mechanisms will inform such SEDP. CSAT joins the efforts for improved coordination led by GoV and with other donors including the World Bank, the Netherland Embassy, Japanese International Co-operation Agency (JICA), and the Canadian International Development Agency (CIDA).

Component 1 has two sub-components as follow:

Sub-component 1.1 – Regional integrated, climate resilient and inclusive socio economic planning

Sub-component 1.2 - Enhanced Capacities for building inclusive value chains

Outcome 2: Inclusive and climate resilient value chains established. This component will support smallholders to improve access to financial services, water and market infrastructure, which facilitate their participation in value chains through jobs and improved sales of primary agricultural products. It will promote the adoption of environmentally sustainable and climate resilient technologies, including efficient water usage. All contribute to create jobs for women, youth and ethnic minorities.

Component 2 has three sub-components as follow:

Sub-component 2.1 - Climate resilient infrastructure for sustainable water usage and enhanced access to markets

Sub-component 2.2 - Rural finance service support value chain development

Sub-component 2.3 - Smallholder farmers adopt climate smart agriculture (CSA) for value chain development

III. TYPOLOGY OF SUB-PROJECTS AND ANTICIPATED IMPACTS

Sub-projects under the CSAT will consist of: (i) Climate resilient infrastructure to address the emerging risks of climate change, notably drought and saltwater intrusion, and (ii) Public-private-producer partnership (4P) value chain investments. They will be implemented in sixteen (16) districts within the provinces of Ben Tre and Tra Vinh. All of IFAD loan amount will be invested in the climate resilient infrastructure sub-projects, while the resources for 4P value chain investments will be mobilised from private sector, other donors, and Non Sovereign Operations (NSOs) following the development and implementation of the value chain action plans (VCAP).

The climate resilient infrastructure sub-projects will comprise civil works investments in three categories: (1) rural roads; (2) water infrastructures; and (3) other infrastructures. These are described below:

Rural Roads: CSAT will finance the construction and rehabilitation of commune to district and inter-commune roads to improve market access and contribute to reducing the cost of transporting agricultural inputs and outputs. It will take into account climate change risks and impacts, including sea level rise, floods, tide surge, and high temperature in planning and design specifications (e.g. road embankment and structures elevation; water discharge capacity of culverts, bridges, ditches; erosion prevention measurements for embankment such as vetiver vegetation on cut/fill batter/slope; heat-resistant asphalt materials). It is estimated through field consultations that about 260 km of rural roads will be built/ rehabilitated/upgraded.

Water Infrastructures: CSAT will finance small-scale irrigation works (irrigation canals, sluices and sluice gates, multiuse reservoirs, irrigation ring dykes/embankments, irrigation-pumping stations) which will contribute in improving water sources availability, reducing impacts from salinity intrusion, storing fresh water, and regulating fresh/brackish water sources for cultivation and aquaculture. The other possible infrastructures in this category is wastewater treatment systems for aquaculture activities. All water infrastructures will incorporate climate change adaptation measures in their planning and design specifications, such as measures to prevent soil erosion and sedimentation, the use of saline-resistant materials for mechanical parts, etc.

Other Infrastructures: CSAT will finance other types of infrastructure, which will potentially include medium/low-voltage electricity lines to supply power for agriculture/aquaculture productions, centre for seedlings and seeds/varieties quality testing, collection points/warehouses, transit warehouses, cold storages for logistic services, salinity and water quality monitoring points/stations, pet monitoring stations, centre for environment and natural resource monitoring and testing, product introduction showrooms/shops, etc. Climate change adaptation measures will also be incorporated in the planning and design specifications of these infrastructures.

It is anticipated that the climate resilient infrastructure sub-projects will be Category B in terms of environment and social risks based on IFAD's SECAP (2017). There maybe some adverse environmental and/or social impacts on human populations or environmentally significant areas, but the impacts are less adverse than those for Category A, are site-specific and few are irreversible in nature, and can be readily remedied by appropriate preventive actions and/or mitigation measures. Environmental impacts will mainly arise during the construction phase, including dust and noise, waste disposal and water quality impacts arising during the construction phase. The residual impacts should be minor as the impacts will be mostly reversible. Health and safety hazards to workers and the public, nuisance due to stockpiling

of materials, elevated dust and noise levels, and disruption of community services due to re-provisioning of drainage, sewerage and other utilities can be controlled through the implementation of a site-specific Environment and Social Management Plan (ESMP) to address the foreseen negative environmental impacts. The site-specific ESMP will be required for climate resilient infrastructure sub-projects.

For the 4P value chain investment sub-projects under *Sub-component 2.2. Rural finance services support value chain development*, during the project design it is yet unclear if the activities – which will not be funded by IFAD, but by other financiers – will fall under GoV's or IFAD's safeguards. The type of investments and/or business proposals are not known at this stage, and this will only be clarified in the course of project implementation, when Value Chain Action Planning (VCAP) has advanced sufficiently to allow for the determination of the relevant details. At that time, it will be possible to make a final judgement as to which safeguards will apply to the 4P value chain investments. If IFAD's safeguards will apply, the ESMF will be updated to cover and address the 4P value chain investment sub-projects. If GoV's safeguards will apply, a gap analysis of SECAP requirements via-a-vis GoV's safeguards will be undertaken, and an agreement shall be reached on how the gaps will be addressed to meet IFAD requirements.

IV. LEGAL, POLICY AND REGULATORY REQUIREMENTS FOR SUB-PROJECT IMPLEMENTATION

The Government of Viet Nam has several policies, legislations, regulatory frameworks to regulate and address environmental, social, and climate thematic areas. Followings are key policies, legislations, and regulations that provide the overarching framework for environmental, social and climate risk management for CSAT.

Administrative framework on Environmental Assessment. The Law on Environmental Protection (No.55/2014/QH13) dated June 23, 2014 and Decree on Environmental Protection Planning, Strategic Environmental Assessment, Environmental Impact Assessment and Environmental Protection Plans (No. 18/2015/ND-CP) dated February 14, 2015 are key legal frameworks for environmental management in Viet Nam. Law on Environmental Protection (LEP) provides statutory provisions on environmental protection activities; measures and resources used for the purpose of environmental protection; rights, powers, duties and obligations of regulatory bodies, agencies, organizations, households and individuals who are tasked with the environmental protection task. LEP is applicable to regulatory bodies, public agencies, organizations, family households and individuals within the territory of the Socialist Republic of Viet Nam, including mainland, islands, territorial waters and airspace. LEP is on regulating strategic environmental assessment, environmental impact assessment and environmental protection commitment.

Article 11, chapter II of Decree No. 18/2015/ND-CP dated February 14, 2015 provides instruction on consultation, inspection and approval of the planning for environmental protection. Appendices I and II of the Decree list all the entities subject to requirements for carrying out strategic environmental assessment.

The Article 13 of the Decree (No. 18/2015/ND-CP) explains the requirement of the pertaining ESIA agencies. Clause 1: the project owner or the advisory organization conducting ESIA must meet all requirements – (a) there are staff members in charge of ESIA meeting requirements prescribed in Clause 2 of this Article; (b) there is specialist staff members related to the project obtaining at least Bachelor's degrees; and (c) there are laboratories, inspection and calibration devices eligible for performing measurement, sampling, processing and

analysis of environmental samples serving the ESIA of the project; if there is not any laboratory with decent equipment for inspection and calibration, it is required to have a contract with a unit capable of carrying out inspection and calibration. Clause 2: the staff members in charge of ESIA must obtain at least Bachelor's degrees and Certificate in ESIA consultancy and Clause3: the Ministry of Natural Resources and Environment shall manage the training and issuanceof Certificates in consultancy of ESIA.

As the CSAT does not involve wetland, natural protected areas, emission of persistent organic pollutants, or international trade in endangered species of wild fauna and flora, no relevant international environmental agreements to which Viet Nam is a party would apply. The relevant national laws, regulations, standards and technical guidelines that CSAT should comply with during the project preparation, construction and operation are presented in Table 1 below.

Table 1. National laws, regulations, standards, and technical guidelines for CSAT compliance during the project preparation, construction, and operation

LAWS
Law on Environmental Protection No.55/2014/QH13 passed by the National Assembly on 23 June 2014 and took effect since 01 January 2015. This law enacts policies and regulations on environmental safeguards, and rights and obligations of organizations, households and individuals relating to environmental protection activities.
Construction Law No. 50/2014/QH13 issued on 18 June 2014 and took effect since 01 January 2015
Land Law No. 45/2013/QH13 passed by the National Assembly of the Socialist Republic of Viet Nam on 29 November 2013 and took effect since 01 July 2014
Law on Planning No. 21/2017 / QH14 dated November 17, 2017
Law on Forestry No. 16/2017/QH14 dated November 15, 2017 of the National Assembly providing for management, protection, development and use of forests, and forest owners' rights and obligations.
Law on Occupational Safety and Hygiene No. 84/2015/QH13 dated 25 June 2015.
Law on Natural Disaster Prevention and Control No.33/2013/QH13 of the National Assembly of the Socialist Republic of Viet Nam dated June 19, 2013 provides natural disaster prevention and control activities; rights and obligations of agencies, organizations, households and individuals engaged in natural disaster prevention and control activities; and the state management of, and assurance of resources for, natural disaster prevention and control.
Law on Water Resources No. 17/2012/QH13 passed by the National Assembly on 21June 2012 provides on management, protection, exploitation and use of water resources, as well as the prevention of, combat against and overcoming of harmful effects caused by water.
Labor Law No. 10/2012/QH13 passed by the National Assembly of the Socialist Republic of Viet Nam on 18/06/2012 provides labor standards; rights, obligations and responsibilities of employees, employers, employees' representative organizations and employers' representative organizations in industrial relations and other relations directly relating to industrial relations; and state management of labor.
Biodiversity Law No. 20/2008/QH12 passed by the National Assembly of the Socialist Republic of Viet Nam on 11/13/2008 providing for conservation and sustainable development of biodiversity, rights and obligations of organizations, households and individuals in the conservation and sustainable development of biodiversity.
Law on Protection of People's Health No. 21/ LCT/HDNN ratified by the National Assembly of the Socialist Republic of Viet Nam, adopted on 30/06/1989
DECREES
Decree No.40/2019/ND-CP dated May 13, 2019 of the Government on amending and supplementing a number of articles of the decree that provides detailing and guiding the implementation of the Law on Environmental Protection
Decree No. 37/2019/ND-CP dated 07/5/2019 of the Government detailing a number of articles of the Law on Planning.
Decree No.114/2018/ND-CP on safety management of dams and reservoirs enacted by the Government on September 4, 2018.
Decree No. 59/2015/ND-CP dated 18 June 2015 of the Government on construction project management

Decree No.18/2015/ND-CP dated 14 February 2015 of the Government on promulgating environmental protection planning, strategic environmental assessment, environmental impact assessment and environmental protection plan
Decree No. 19/2015/ND-CP dated 14 February 2015 of the Government detailing the implementation of some articles of the Law on Environmental Protection
Decree No. 38/2015/ND-CP dated 24 April 2015 of the Government on management of waste and scrap materials
Decree No. 43/2014/ND-CP dated 15 May 2014 of the Government detailing the implementation of some articles of the Land Law
Decree No. 44/2014/ND-CP dated 15 May 2014 of the Government regulating on land prices
Decree No. 45/2014/ND-CP dated 05/15/2014 of the Government regulating on collection of land use fees
Decree No. 47/2014/ND-CP dated 15 May 2014 of the Government regulating compensation, support and resettlement upon land acquisition by the State
Decree No. 80/2014/ND-CP dated 06 August 2014 of the Government regulating on drainage, and wastewater treatment
Decree No. 179/2013/ND-CP dated 11/14/2013 of the Government regulating on sanctioning of administrative violations in the field of environmental protection
Decree No. 25/2013/ND-CP dated 29 March 2013 of the Government regulating on charges of environmental protection for wastewater
Decree No. 667/QD-TTg dated May 2009 regarding sea dike maintenance and upgrading
Decree No. 147/2007/ND-CP dated 29 November 2007 of the Government regulating on charges of environmental protection for solid waste
Decree No. 59/2007/ND-CP dated 09 April 2007 of the Government regulating on solid waste management
Decree No. 149/2004/ND-CP dated 07/27/2004 regulating on the exploitation and use of water resources, discharging wastewater into receiving water bodies
CIRCULARS
Circular No.25/2019/TT-BTNMT dated December 31, 2019 of the Ministry of Natural Resources and Environment, detailing the implementation of the Government's Decree No.40/2019/ND-CP of May 13, 2019 of the Government amending and supplementing a number of articles of the Decree that provides detailing and guiding the implementation of the Law on Environmental Protection
Circular No. 27/2015/TT-BTNMT dated 29 May 2015 of the Ministry of Natural Resources and Environment (MONRE) on strategic environmental assessment, environmental impact assessment and environmental protection plan
Circular No. 36/2015/TT-BTNMT dated 30 June 2015 of MONRE on hazardous waste management
Circular No.30/2014/TT-BTNMT dated May 15, 2014 of the Ministry of Natural Resources and Environment stipulating documents on land allocation, land lease, change of land use purpose and land acquisition
Circular No. 32/2013/TT-BTNMT dated 25 October 2013 of MONRE on the issuance of national technical regulations on environment
Circular No. 19/2011/TT - BYT dated 06/6/2011 of the Ministry of Health guidelines occupational health management, health workers and occupational diseases
Circular No. 22/2010/TT-BXD of 03 December 2010 of the Ministry of Construction on labor safety in civil construction works
Decision No. 02/2009/TT-BTNMT dated 19 March 2009 of MONRE on the assessment of capacity to receive wastewater of water sources
Circular No.146/2007/TT-BQP dated September 11, 2007 of the Ministry of Defense guiding the implementation of the Prime Minister's Decision No.96/2006/QD-TTg dated May 4, 2006, on management and clearance of bombs, mines and unexploded ordinances

STANDARDS AND REGULATIONS
Water quality QCVN 01:2009/BYT - National technical regulation on drinking water quality. QCVN 08-MT:2015/BTNMT - National technical regulation on surface water quality. QCVN 09-MT:2015/BTNMT - National technical regulation on underground waterquality. QCVN 14:2008/BTNMT - National technical regulation on domestic wastewater. QCVN 40:2011/BTNMT - National technical regulation on industrial wastewater. QCVN 25:2009/BTNMT - National technical regulation on wastewater of the landfill sites: Permitted maximum concentration of pollution parameters in wastewater of thesolid waste landfill sites when discharging into receiving sources.
Air quality QCVN 05:2013/BTNMT – Air quality – National technical regulation on ambient airquality. QCVN 06:2009/BTNMT – Air quality – Permitted maximum concentration of hazardoussubstances in ambient air. TCVN 6438:2001 - Road traffic means - Permitted maximum level of exhaust gas.
Super-Intensive shrimp farming Decision No. 502/QD-TCTS-KHCN & HTQT dated May 3, 2017 by the Directorate of Fisheries of Viet Nam on **Super-intensive white leg shrimp farming in 2 stages and little water change according to Truc Anh Technology** BKT 03-01: 2017/BNNPTNT; issued together with Decision No. 502/QD-TCTS-KHCN & HTQT in May 3, 2017 by the Directorate of Fisheries of Viet Nam – shrimp farm design for good environmental management
Quality of soil and sediment QCVN 03-MT:2015/BTNMT – National technical regulation on the allowable limits ofheavy metals in the soils. QCVN 15:2008/BTNMT - Soil quality - National technical regulation on the pesticideresidues in the soils. QCVN 43:2012/BTNMT - National technical regulation on sediment quality in freshwater areas.
Noise and vibration QCVN 26:2010/BTNMT - National technical regulation on noise. QCVN 27:2010/BTNMT - National technical regulation on vibration.
Water supply and drainage TCVN 7957:2008 - Drainage and sewerage - External Networks and Facilities - DesignStandard. TCXDVN 33:2006 - Water Supply - Distribution System and Facilities. Design Standard.
Quality of soil and sediment QCVN 03-MT:2015/BTNMT – National technical regulation on the allowable limits ofheavy metals in the soils. QCVN 15:2008/BTNMT - Soil quality - National technical regulation on the pesticideresidues in the soils. QCVN 43:2012/BTNMT - National technical regulation on sediment quality in freshwater areas.
Labor safety and health Decision No. 3733/2002/QĐ-BYT dated 10 October 2002 on application of 21 standardson safety and health.
LEGAL RESOLUTIONS/DECISIONS
Decision 1163/QD-TTg dated 31/07/2020 of the Government on approval of planning tasks of Mekong Delta regional plan for 2021-2030 period, vision to 2050 (PTR). This is the most important legal basis for MRD regional planning
Decision No. 825 / QD-TTg dated June 2020 on the Regulations of the Mekong Delta Coordination Council (2020-2025).
Decision No. 324/QD-TTg dated 02/3/2020 of the Prime Minister on approving the Comprehensive Program on sustainable and climate-resilient agricultural development in Mekong Delta region to 2030, with a vision to 2045.
Resolution No. 120 / NQ CP dated November 17, 2017 of the Government on sustainable development of the Mekong Delta (Mekong Delta) to adapt to climate change
Decision No. 5528/QD-BNN-TCTS dated 31/12/2015 of MARD on approving the plan on developing brackish shrimp systems in Mekong Delta region to 2020, with a vision to 2030.
Decision No. 120/QD-TTg dated January 22, 2015, approving the project on protection and development of coastal forests to cope with climate change in 2015-2020 period

Decision No. 245/QD-TTg dated 12 February 2014 of the Prime Minister approving the master plan on socio-economic development of the Mekong delta key economic region through 2020, with orientations toward 2030
Decision No. 939/QD-TTg dated 19 July 2014 of Prime Minister approving the master plan on socio-economic development of the Mekong river delta till 2020
Decision No.96/2006/QD-TTg dated May 4, 2006, on management and clearance of bombs, mines and unexploded ordinances
Decision No. 2623/QD-TTg in 2013 of Prime Minister on approval of the scheme "Viet Nam's urban development for response to climate change"
Decision No. 11/2012/QD-TTg dated 10 February 2012 of Prime Minister approving the master plan on development of transport in the Mekong river delta key economic region through 2020, with orientations toward 2030
Decision No. 1397/QD-TTg dated 25 September 2012 of Prime Minister approving irrigation planning in Mekong River Delta from 2012 - 2020 and orientations to 2050 in relation to climate change, high sea rise
Decision No. 1581/QD-TTg dated 9 October 2009 of Prime Minister approving construction plan on MKRD toward 2020 and vision to 2050

V. PROCEDURES FOR ENVIRONMENTAL, SOCIAL AND CLIMATE ASSESSMENT OF SUB-PROJECTS

CSAT will implement the following procedures for the environmental, social and climate assessment of all sub-projects. The procedures consists of four steps, as follow:

Step 1: Screening for environmental, social and climate risks and impacts assessment
Step 2: Development of mitigation measures and public consultation
Step 3: Review, approval, and disclosure of site-specific ESMP
Step 4: Implementation, supervision, monitoring, and reporting

Step 1. Screening for environmental, social and climate risks and impacts assessment

Screening for environment, social and climate risks and impacts assessment involves two steps: (i) screening for eligibility of the proposed sub-project, and (ii) sub-project risks screening and classification.

A. Sub-project eligibility screening

The following sub-projects will not be eligible for financing under CSAT. Any sub-project meeting one of more of these screening criteria cannot be put forward for financing under the project:

- Rural roads with total length of more than 10 kilometres per scheme;
- Irrigation canals with base width more than 10m; sluices with total drainage width more than 10m; irrigation embankments to protect cultivation areas of more than 500 hectares;
- Reservoirs with capacity of more than 3 million cubic meters;
- Affected people (economic displacement or physical resettlement) from investments: physical resettlement (if any) more than 20 people per scheme; and affecting (if any) more than 10 percent of individual household's assets.

The purpose of eligibility screening is to avoid significant adverse impacts that cannot be adequately mitigated by the project. The Project Management Unit is responsible for eligibility screening of sub-projects.

B. Sub-project risks screening and classification

For sub-projects that are determined to be eligible for financing, an environmental, social and climate risks screening shall be carried out. At the sub-project selection stage, all proposed sub-projects shall be screened and assigned an environmental and social risks category and climate risks classification in accordance with IFAD's SECAP (2017) and Viet Nam's Law No. 55/2014/QH13 on Environmental Protection. The risks screening and procedures are described in Table 2 below:

Table 2. Risks screening and procedures based on Viet Nam's Law No. 55/2014/QH13 on Environmental Protection, and IFAD's SECAP (2017)

Requirements	Procedures
Viet Nam's Requirements for Screening and Categorization	In 2015, the Government of Viet Nam promulgated Decree 18/2015/NDCP (under the Viet Nam Law No 55/2014/QH13) establishing requirements for screening and categorisation. The Decree categorizes the infrastructure projects into ownership (Gov, Province, District, Commune), size, and sector. The check list is provided in the following link: https://thukyluat.vn/vb/nghi-dinh-18-2015-nd-cp-danh-gia-moi-truong-chien-luoc-danh-gia-tac-dong-moi-truong-410a9.html
IFAD requirements for screening and categorization (based on IFAD's SECAP (2017)	IFAD uses a categorization system to reflect the significance of a project's potential environmental and social impacts. SECAP prescribes the following screening categories: • **Category A** projects require one or combination of a formal Environmental and Social Impact Assessment (ESIA) or Environmental and Social Management Framework (ESMF), Resettlement Action Framework (RAF)/ Resettlement Action Plan (RAP), free, prior and informed consent (FPIC)/FPIC implementation plan and Indigenous People Plan. • **Category B** projects are those that may have some adverse environmental and/or social impacts on human populations or environmentally significant areas but the impacts are less adverse than those for Category A, are site-specific and few are-irreversible in nature, and can be readily remedied by appropriate preventive actions and/or mitigation measures. While no formal ESIA is required for Category B projects, in many cases further environmental analysis could be undertaken during project preparation or implementation. Category B projects require an ESMP. • **Category C** projects generally do not require additional environmental analysis because the activities have positive environmental impacts, or negligible or minimally adverse environmental impacts.

To comply with the above, the PMU shall screen all proposed sub-projects using the sub-project screening form developed under the project (see Appendix 1. Sub-project Screening Form). The screening should be prepared based on a site visit and secondary data as necessary.

The PMU is encouraged to send the screening form to IFAD to ensure that IFAD agrees with the results of the screening prior to the hiring of consultants to prepare necessary E&S safeguards documents. Once the screening form is received, IFAD will review and confirm the categorization within 5 working days. Proposed sub-projects with potential significant adverse impacts and requiring an environmental and social impact assessment/ESIA (Category A) will be rejected. In accordance with IFAD's SECAP requirements, Category B sub-projects require the preparation of a site specific Environmental and Social Management Plan (ESMP). For Category C sub-project, an E&S instrument is not required.

Sub-projects that are classified as High in terms of climate risk are required to undertake climate risks analysis and incorporate the results and mitigation measures in the site-specific Environmental and Social Management Plan (ESMP).

Among the envisioned sub-projects to be supported by CSAT are multi-use reservoirs with less than 3 million m3 of total storage capacity. As defined by IFAD's SECAP (2017) guidelines, small dams are defined as <5 m in height; medium dams are between 5-15 m; and large-scale dam/reservoirs as those with dam height >15m, more than 500m long crest, and/or with a reservoir exceeding 3 million m^3 or incoming flood of more than 2,000 m^3/s. Under Viet Nam's national standards, large dams are ≥ 15 m, or with height between 10m and <15 and a dam length of ≥500m or with designed flood discharge flow of over 2,000 m^3/s; dams of reservoirs with a total storage capacity >3 million m^3. It is uncertain during the project design whether "medium", as well as "small" dams would be built. Therefore, for current purposes both types are considered and a dam safety plan has been prepared (see Appendix 4 - Dam Safety) to guide on the requirements.

Step 2. Development of mitigation measures and public consultation

Following sub-project screening and classification, for Category B sub-project, an impact assessment related to the proposed sub-project shall be carried out. This aims to identify the level of impact of the activities proposed under the sub-project. Category B sub-projects require the preparation of site-specific Environmental and Social Management Plan (ESMP) based on IFAD's SECAP requirements. The impact assessment will be used as an input to set scope of mitigation measures. The impact assessment will give the environment, climate and social issues due importance in the decision-making process by clearly evaluating the environmental, climate and social consequences of the proposed sub-project before action is taken. Early identification and characterization of critical environmental and social impacts allows the public and the government to form a view about the environmental, climate and social acceptability of a proposed sub-project and decide under what conditions should apply to mitigate or minimize the risks and impacts. The scope of the impact assessment will depend on the screening results. The information should be collected through data collection, field survey, and consultation with local communities within the sub-project's area of influence.

The key steps of environmental, climate and social risk and impact assessment are: planning, scoping, impact assessment and consultation. The impact assessment shall clarify: (i) How will the sub-project activity give rise to an impact (for the case of climate risks and impacts, the impact assessment will clarify how will climate change adversely affect the sub-project), (ii) How likely is it that an impact will occur, (iii) What will be the consequence of each impact, and (iv) What will be the spatial and temporal extent of each impact. The assessment of impacts largely depends on the extent and duration of change, the number of people or size

of the resource affected and their sensitivity to the change. Potential impacts can be both negative and positive (beneficial).

Appropriate mitigation measures (of negative impacts) should be identified according to the nature and extent of the potential negative impacts for each phase of the sub-project, pre-construction, construction, operation and decommissioning, where applicable.

Preparation of Site-Specific Environmental and Social Management Plan (ESMP)

A site-specific ESMP describes the basic principles and activities to be carried out to mitigate potential negative impacts from the proposed sub-project. A site-specific ESMP will briefly describe the sub-project description; environmental and social background of the sub-project area, including a good map showing locations of the sub-project and site-specific activities and/or process as appropriate; the potential impacts and proposed mitigation measures; and the implementation and monitoring arrangement and budget. A generic outline of a site-specific ESMP is included in Appendix 2 – Outline of Site-specific ESMP. Public consultation is to be carried out as part of the site-specific ESMP preparation. For each sub-project, the site-specific ESMP will clearly define actions to assess and mitigate associated risks and potential impacts during site clearance and construction and to reduce the risks during operation. The site-specific ESMP will include site-specific mitigation measures, including implementation and monitoring arrangement.

Public Consultation

Public consultation shall be carried out for the preparation and implementation of the site-specific ESMP, following the SECAP requirements. The objectives of consultation are to generate public awareness by providing information about a sub-project to all stakeholders, particularly the sub-projects affected persons (PAPs) in a timely manner and to provide opportunity to the stakeholders to voice their opinions and concerns on different aspects of the project. Consultation would help facilitate and streamline decision making whilst fostering an atmosphere of understanding among individuals, groups and organizations, who could affect or be affected by the sub-projects.

Consultation is a continuous process by which opinion from public is sought on matters affecting them. The opinions and suggestions of the stakeholders would assist the PMU in taking appropriate decisions for effective environmental, social and climate risk management of the sub-projects. It would help facilitate and streamline decision making whilst fostering an atmosphere of understanding among individuals, groups and organizations, who could affect or be affected by the sub-projects.

The specific objectives of public consultation are:

a) To keep stakeholders informed about the sub-projects at different stages of implementation
b) To address environmental, social and climate risk concerns/impacts, and develop mitigation measures considering the opinion/ suggestions of the stakeholders
c) To generate and document broad community support for the sub-projects,
d) To improve communications among interested parties; and
e) To establish formal complaint submittal/resolution mechanisms (Grievance Redress Mechanism).

At least 2 stages consultation with the project affected people, project beneficiary and relevant stakeholders will need to be carried out. The first stage consultation for environmental and social impact assessment is required during the sub-project E&S screening level. Meanwhile,

the second level consultation shall be carried out once the impacts are clearly identified and the draft site-specific ESMP are prepared. If required, more than two consultations could be carried out.

Step 3. Review, Approval, and Disclosure of Site-specific ESMP

Review and Approval of Site-specific ESMP

- ***Provincial People's Committee (PPC)/PMU's review and approval.*** If a sub-project requires review and approval according to the national laws and guidelines, PPC will prepare and submit E&S reports as required for review and secure the approval from the relevant government authorities before sub-project appraisal. The PPC and/or PMU will review and approve on the E&S reports, in accordance with the procedures and process of review and provide feedback/comments.
- ***IFAD's review and clearance.*** After completing all assessments and public consultation required for the site-specific ESMP, PPC will endorse the draft site-specific ESMP prepared by the PMU and the consultants and submit to IFAD for review and approval. Upon receipt of the site-specific ESMP from PPC, IFAD will review and will: (i) provide no objection letter to the site-specific ESMP and disclose the final ESMP in the NOTUS; or (ii) request PPC and PMU to revise the site-specific ESMP to ensure its compliance with IFAD's SECAP requirements and this ESMF.

Information Disclosure

PPC shall be responsible for ensuring that all environmental assessment documents and environmental monitoring reports are properly and systematically kept as part of the project records. PPC shall prepare these documents in English for submission to IFAD and make these documents available in a form, language and at a location in which they can be readily accessed by stakeholders.

Step 4. Implementation, Supervision, Monitoring, and Reporting

CSAT will have two levels of implementation: project level and sub-project level.

At Project Level

PMU will take the lead in overseeing and monitoring project implementation and will periodically supervise and monitor the SECAP implementation performance and include the progress/results in the Project Progress Report. The PMU will report on (i) compliance with measures agreed with IFAD based on the findings and results of the E&S assessment, including the implementation of ESMP, as set out in the SECAP Review Note; (ii) the status/progress of mitigation measures; and (iii) the findings of monitoring programmes.

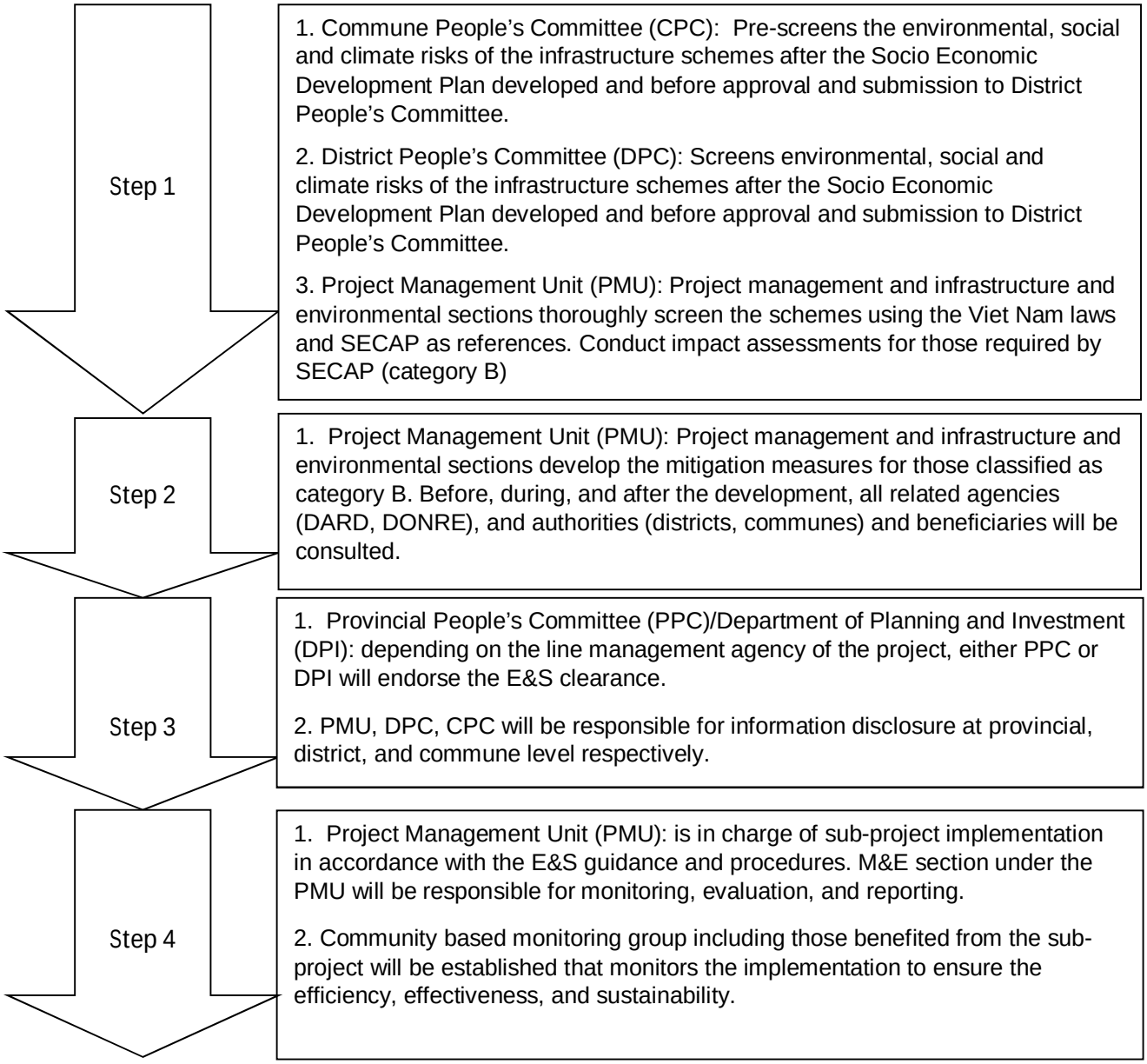
PMU will hire an E&S specialist (senior staff with the requisite skills responsible for effective and timely implementation of E&S activities, and for managing and monitoring of environmental and social impacts of sub-projects throughout the project period. Main responsibilities of an E&S specialist will include, but not be limited to: (i) enforcing compliance, including supervision and monitoring of all environment and social aspects; (ii) representing the sub-project owner for all matters related to the project E&S aspects; and (iii) be responsible for overall coordination of site-specific ESMP implementation.

Information regarding the E&S measures and performance should be periodically disclosed to the public through national and provincial media and newspapers. Depending on the capacity of PMU, an Environmental and Social Management Consultant (EMC) may be hired to assist the E&S team in performing E&S related tasks.

At Sub-project Level

During project implementation, the sub-project owner is responsible for ensuring effective implementation of mitigation measures in the site-specific ESMPs in close consultation with local authorities and local communities. The sub-project owner will be responsible for incorporating ESMPs into bidding and contractual documents, if necessary. The results will be part of the sub-project progress report and the E&S focal point will be responsible for ensuring proper documentation of E&S activities. The key roles and responsibilities of related agencies for sub-projects screening, implementation, and M&E are presented in Table 1 below.

Figure 1. Key roles and responsibilities of related agencies for sub-projects screening, implementation, and M&E.



VI. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

A generic Environmental and Social Management Plan (ESMP) has been prepared for the climate resilient infrastructure sub-projects, detailing the mitigation measures to be adopted in order to minimize the environmental, social and climate impacts of the sub-projects that are known at this stage. This generic ESMP shall guide in the environmental and social assessment and in preparation of site-specific ESMPs for the climate resilient infrastructure sub-projects. The ESMP is included in Annex 3 – *Environmental and Social Management Plan (ESMP) for Climate Resilient Infrastructure*.

VII. GRIEVANCE REDRESS MECHANISM

IFAD requires the borrower to provide an easily accessible grievance mechanism, process or procedure to facilitate resolution of concerns and grievances of project-affected parties. In the case of the CSAT, these would be persons or groups:

i. Directly impacted, either temporarily or permanently, by the IFAD-financed infrastructure sub-projects through the loss of land, residences, crops, structures, business, assets, or access to resources; these include loss of:
   - agricultural land;
   - non-agricultural land but not residential land;
   - residential land/houses;
   - leased state/private houses/land;
   - businesses, occupations, or places of work;
   - trees and domestic animals;
   - other assets or access to those assets, either in part or in total; and
   - livelihoods due to restriction of access to protected areas.

ii. Affected by the project's activities, in respect of their interests and responsibilities in the project's implementation. This would include, but not be limited to: entitlements, compensation policy, unit prices, land acquisition, resettlement and other entitlements related to the implementation of the infrastructure sub-projects. The grievance mechanism will also be applied to concerns related to construction safety, and nuisances caused by construction; or any other sub-project related concerns from parties that are directly or indirectly affected by a sub-project, as well as those that may have interests in a sub-project and/or have the ability to influence its outcome either positively or negatively.

At the beginning of project implementation, Grievance Redress Committees will be established from village to the provincial-level, based on the existing structures that are comprised of concerned departments, mass organizations, and women's and ethnic minorities' representatives. The grievance mechanism and procedures will resolve complaints, and with the availability of local resources, resolve conflicts not only on safeguard issues but also on other issues during project implementation. The project will strengthen these existing structures and make the existence and procedures for grievance redress widely known in the communities where infrastructure sub-projects will take place, ensuring that all interested project parties are fully aware of the process and procedures.

The project grievance mechanisms will comprise (i) an informal, internal mechanism within the specific involved/affected communities concerned, and (ii) the formal mechanisms that are

in place for any cases that cannot be resolved to the satisfaction of the affected persons through the local, informal mechanism.

The local, informal mechanism takes advantage of the existing, village-level grievance redress mechanism, which comprises a group of local elders and/or spiritual/tribal leaders. These are widely accepted by local communities, particularly the ethnic minority groups. The project will empower these local Grievance Redress Committees to address any issues arising from the infrastructure sub-projects. In addition, as the local resolution of a grievance may require actions and commitments from other levels of government/government agencies, the project will facilitate the necessary linkages, communications, and follow-up between the village-level mechanisms and, as necessary, district and provincial-level authorities, line agencies/departments, and/or mass organizations (Farmer's Union, Women's Union, Youth Union).

At each project commune, one of the line agencies' or mass organizations' staff responsible for CSAT implementation will be delegated as responsible for reporting on and monitoring grievances that have been brought to the local Grievance Redress Committees. The CPCs, as the body responsible for coordination of the project at Commune-level, will delegate the person or persons to be responsible. Similarly, at the district-levels, the DPCs will delegate this same responsibility to one (or more) of the line agencies' or mass organizations' staff responsible for implementation. The responsible commune-level staff will inform the responsible district-level staff whenever a grievance is brought to the local Grievance Redress Committee. In turn, the district-level staff will inform the PPMU.

In those cases where unresolved grievances are escalated to commune, district, or provincial-level (see below), it will be the role of the person delegated at commune-level to facilitate and assist the complainant to register their grievance with the CPC. In those cases not resolved by the CPC. It will be their role to facilitate the complainant's registration of their grievance with the DPC. At district-level, it will then become the responsibility of the person delegated at district-level to assist the complainant with the registration of their grievance with the DPC. Should the case be elevated to the PPC, the district person will facilitate and assist the complainant to access and register their grievance with the PPC.

In those instances that cannot be resolved to the satisfaction of the affected persons through the local, informal mechanisms, i.e., when it is necessary to escalate the grievance/complaint to third-party, external mediation processes as the affected individual or group is not satisfied with the process, compensation or mitigation measures, or any other issue, those individuals or groups (or their representatives or village leaders) will then avail themselves of the following, escalating steps, as necessary:

- **First Stage** - Commune People's Committee (CPC): Failing resolution at the village-level, the aggrieved party will escalate their complaint to the One Door Department of the Commune People's Committee, in writing or verbally1. The member of the CPC at the One Door Department will be responsible to notify the CPC leaders and the Commune Grievance Redress Committee (chaired by the leader of the CPC) about the complaint and the reasons why it could not be resolved at the village-level. The Commune Grievance Redress Committee will meet personally with the aggrieved party and will have 30 days following the date of receipt of the complaint to resolve it.

[1] In the case of verbal claims, the Grievance Redress Committee receiving the case will record these inquiries in a grievance form (to be designed and provided by the PPMU) at the first meeting with the affected party/parties.

The CPC secretariat is responsible for documenting and keeping files of all complaints handled by the CPC, and informing the PPMU of any decision made.

- **Second Stage** - District People's Committee (DPC): If after 30 days, the aggrieved party does not hear from the CPC, or if they are not satisfied with the decision taken on their complaint, they may bring the case, either in writing or verbally, to any member of the DPC. The District Grievance Redress Committee (chaired by the leader of the DPC), in turn, will have 30 days following the receipt of the complaint to resolve the case. The DPC is responsible for documenting and keeping files of all complaints that it handles and will inform the PPMU of any decision made.
- **Third Stage** - Province People's Committee (PPC): If after 30 days, the aggrieved party does not hear from the DPC, or if they are not satisfied with the decision taken, they may bring the case, either in writing or verbally, to any member of the PPC or lodge an administrative case with the District People's Court for resolution. The PPC has 45 days within which to resolve the complaint to the satisfaction of all concerned. The PPC secretariat is also responsible for documenting and keeping files on all complaints that it handles.
- **Final Stage** - Court of Law: If, after 45 days following the lodging of the complaint with the PPC, the aggrieved party does not hear from the PPC, or if they are not satisfied with the decision taken on their complaint, the case may be brought to a court of law for adjudication. Decision by the court will be the final decision.

In this process (see Grievance Process flow chart at end of this section), the project PPMUs will:

- ensure the proper documentation of all complaints and grievances, including (i) the filing of copies at the relevant commune and district levels, and (ii) recording and maintaining individual case files in the PPMUs' PMU project files;
- assign staff to develop and maintain a database of the grievances related to the Project including information such as the nature of the grievances, sources and dates of receipt of grievances, names and addresses of the aggrieved parties, actions to be taken and current status;
- assign a person or persons to be the Grievance Focal Point in the PPMU;
- be responsible to follow up and ensure the effective and efficient handling of grievances during project implementation and beyond;
- ensure that all grievances are promptly addressed, and in a fashion that is culturally appropriate to the affected peoples;
- employ independent monitoring consultants for monitoring the progress of the complaint resolution, and to regularly review the PPMUs' case files to ensure the completeness of the recording of the details and disposition of the individual cases; and
- in order to minimize complaints to the provincial level, the PPMU will cooperate with the District Grievance Redress Committees (see below), and participate in/consult on settling of grievances.

All decisions emitted for the resolution of the aggrieved party's complaint must be sent to the aggrieved, and other concerned, parties and must be posted at the office of the People's Committee where the complaint is resolved. The decision/result on resolution will be available at commune-level after three days, and at district-level after seven days.

The grievance resolution process for the Project, including the names and contact details of Grievance Focal Points (i.e., the staff appointed at commune-level by the CPCs, at district-level by the DPCs, and the responsible person/persons in the PPMU), will be disseminated

through information brochures and posted in the offices of the People's Committees at the districts, communes, and at the PPMU.

All complaints and grievances will be properly documented and filed by the responsible Grievance Focal Points, as well as being addressed by PPMUs through transparent and proactive engagement with the project communes implementing infrastructure sub-projects. These grievance documents and reports will be made publicly accessible. All costs associated with the grievance handing process incurred by the claimant and/or their representatives will be covered by the project developer. To ensure that the grievance mechanisms described above are practical and acceptable to local authorities and communities, specific cultural attributes as well as traditional-cultural mechanisms for raising and resolving complaints and conflicting issues will be intentionally incorporated into the processes and mechanisms at village, commune, and district-levels.

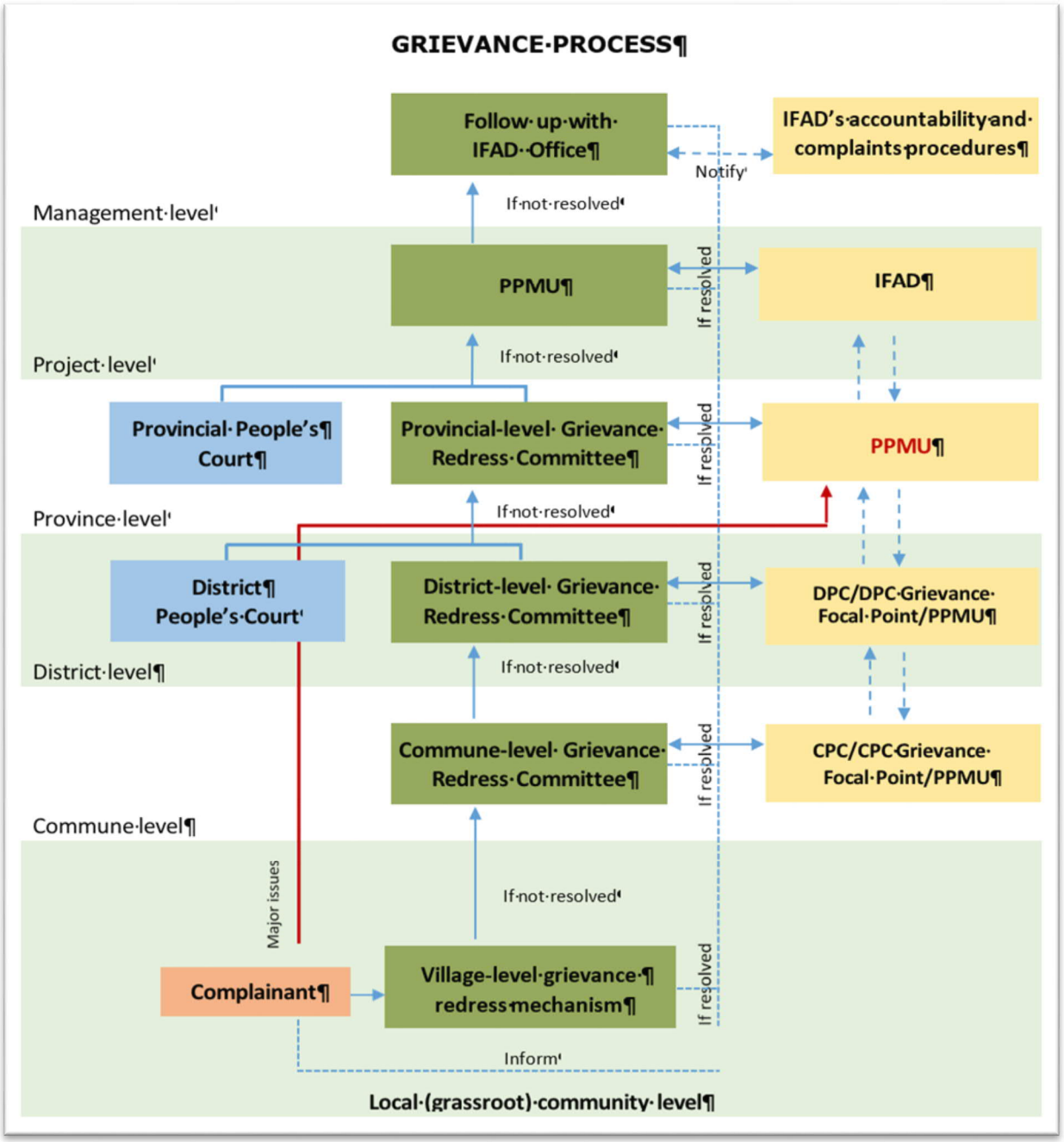
An interest-bearing, escrow account for compensation payments should be established at a commercial bank, and should be used when resolving grievances to avoid any excessive delays to the project, while ensuring compensation payment after the grievance has been resolved.

Communities and individuals who believe that they are adversely affected by this IFAD-supported project may submit complaints to the existing project-level grievance redress mechanisms or to IFAD's established complaints procedure. IFAD's accountability and complaints procedures receive and facilitate resolution of concerns and complaints with respect to alleged non-compliance of IFAD's environmental and social policies and the mandatory aspects of its Social, Environmental and Climate Assessment Procedures in the context of IFAD-supported projects. The procedure allows affected complainants to have their concerns resolved in a fair and timely manner through an independent process. IFAD may be contacted by e-mail at SECAPcomplaints@ifad.org or via its website at https://www.ifad.org/en/accountability-and-complaints-procedures.

Cost and budget. Preliminary valuation and cost estimations of compensation needs will be made during Value Chain pre-feasibility activities, and refined/verified during detailed design phase for infrastructure sub-projects. Each sub-project's design/development has an associated budget specifically for environmental/social assessments that will provide for FPIC-compliant consultation with directly affected households, groups, and communities to seek inputs on possible mitigation and avoidance opportunities, and potential compensation needs/issues. Costs will be estimated based on updated compensation unit prices of the district, reflecting the full replacement cost of all affected assets at the time the sub-project is implemented.

The PPCs of the project provinces will be responsible for funding the sub-project's site clearance, compensation and assistance costs. All costs associated with the implementation and monitoring of the grievance redress process (including training), and independent monitoring consultants cost will be taken from the IFAD funding. The flow of grievance process is presented in Figure xyz below.

Figure 2. Grievance Process



VIII. INSTITUTIONAL ARRANGEMENTS AND RESPONSIBILITIES

Provincial People's Committee (PPC) is the project owner and has the following responsibilities:

i. Oversee the project implementation including the ESMF implementation and monitoring;
ii. Be responsible to the GoV and IFAD in view of being conforming to both the GoV policies on E&S and IFAD SECAP.

Project Management Unit (PMU) is the executing agency, shall have the following responsibilities:

i. Recruit qualified and experienced staff and/or consultants to undertake the environmental, social and climate assessments consistent with the ESMF and IFAD's SECAP;
ii. Ensure timely preparation and implementation of the environmental, social and climate assessments for sub-projects (including screening of sub-projects) and the related E&S instrument (i.e. site-specific ESMPs);
iii. Submit draft environmental, social and climate assessments and related E&S instrument to IFAD for review and approval of the sub-projects;
iv. Ensure adequate public consultation with affected groups and local stakeholders is undertaken and documented;
v. Ensure that the site-specific ESMP provisions are integrated in the design as well as in the bid and contract documents for civil works;
vi. Ensure that the site-specific ESMP provisions are implemented properly and ina timely manner;
vii. Submit a report on the implementation of ESMP for integration in the semi-annual progress report of the project.
viii. Prepare and submit any E&S related documents to PPC and IFAD when required;
ix. In case there is a change in scope of sub-projects, inform IFAD for determination of environmental category. Undertake the required environmental, social and climate assessment and prepare the relevant E&S instrument based on ESMF;
x. Prepare and implement an updated site-specific ESMP or a corrective plan to address unpredicted impacts and/or non-compliance to ESMP during project implementation;
xi. Ensure that necessary regulatory environmental permits and/or clearance required by the Government are obtained in a timely manner and copies are promptly submitted to IFAD.

IFAD will be responsible for review and timely approval of the environmental, social and climate assessment for the proposed sub-projects. Technical guidance will be provided by IFAD to PPC and PMU as needed. IFAD will also be responsible for reviewing regular monitoring reports for the entire Project and officially disclosing the safeguard documents on the IFAD website. During the implementation of the Project, IFAD will:

i. Review and approve the environmental, social and climate assessments and related E&S instrument for the sub-projects submitted by the PMU;
ii. Advise PPC and PMU on the relevant E&S instrument to be prepared based on the approved categorization for sub-projects;
iii. Disclose the final ESMF and environmental monitoring reports on IFAD website upon receipt from PPC or PMU;
iv. Undertake review of environmental monitoring reports submitted by PPC/PMU and conduct regular review missions during implementation to monitor ESMF implementation for the entire project;
v. Provide guidance to PPC and PMU in carrying out responsibilities for environmental assessment and for building capacity for safeguard compliance.

IX. CAPACITY BUILDING REQUIREMENTS

Training on environmental, social and climate-related aspects will be delivered according to the level at which implementation of specific activities and actions is required. This will cover, among others:

- Requirements of the national environmental, social and climate policies, legislation and administrative frameworks, as well as requirements of IFAD's SECAP and ERNM, Climate, Land and Disclosure Policies;
- ESMF processes, procedures and institutional arrangements to develop and implement required safeguards documents;
- Sub-project screening as prescribed in the ESMF;
- Environmental, social and climate impact assessment and preparation, implementation and monitoring of site-specific ESMPs;
- ESMPs and monitoring key environmental and social performance indicators for each sub-project site;
- Reporting and monitoring implementation of site-specific ESMPs;
- Environmental and social best practices – including climate smart agriculture practices, climate proofing measures for infrastructures, dam safety, labour-saving techniques, and gender, youth and ethnic minorities empowerment;

X. ESMF IMPLEMENTATION BUDGET

The costs for implementation of activities proposed in this ESMF is **US$ 1,693,157**. This covers costs for environmental and social assessment (including the preparation of the relevant safeguards documentation and E&S instrument and hiring of dedicated environmental consultant(s) to oversee the safeguard implementation) and capacity building and training related to environment, social and climate aspects. The cost is summarized below:

Table 3. Estimated budget of ESMF implementation

Description	Total Cost (US$)
Environmental and social assessment	
Environmental and social assessment – Tra Vinh	572,586
Environmental and social assessment – Ben Tre	373,660
Capacity building & training	
Climate smart infrastructures, design and O&M – Tra Vinh	21,278
Climate smart infrastructures, design and O&M – Ben Tre	35,362
Capacity building for women, youth and ethnic minorities – Tra Vinh	11,313
Capacity building for women, youth and ethnic minorities – Ben Tre	29,250
Training and extension for CSA investments – Tra Vinh	324,854
Training and extension for CSA investments – Ben Tre	324,854
TOTAL COSTS	**1,693,157**

XI. ESMF CONSULTATION AND DISCLOSURE

Consultation

As required under IFAD's SECAP, public consultation is mandatory part of environmental assessment of Category A and Category B projects. The aim of the consultation is to gather environmental issues that stakeholders may have on the project and to ensure that valid concerns are addressed in the environmental assessment. PPC and Project Preparation Board, together with the project Design team has conducted a series of consultation from national ministries (MONRE, MARD) and institutions (IMHEN) to provincial agencies (DARD, DONRE) and district level. The consultation results were fully reflected in the SECAP and ESMF.

At the design stage, sub-projects have not been specifically identified and selected as they are based on the value chain action planning process. To this extent, during the process, PMU shall undertake at least one public consultation for each sub-project. PMU will carry out meaningful consultation with affected people and other concerned stakeholders, including civil society, during the conduct of environmental assessment for sub-projects. PMU will disclose in a timely manner, adequate information in a readily accessible form to the affected people. All the relevant views of affected people and other stakeholders arising from the consultation will be taken into account in project design, mitigation measures and the sharing of development benefits and opportunities. The environmental and social assessment for sub-projects will document the results of public consultation by providing details of the environmental issues and concerns raised by stakeholders and by indicating how these will be addressed in the project design and mitigation measures. Proofs of consultations such as attendance sheets and minutes of meetings shall be included in the environmental assessment. IFAD shall determine if adequate public consultation has been made and may require additional consultations, as necessary.

Information Disclosure

Based on IFAD requirements, the following safeguard documents to be prepared and submitted by PMY shall be posted on IFAD or PPC website:

- Final ESMF, as approved by IFAD, upon receipt from PPC/PMU;
- New or updated environmental assessment reports if prepared to reflect significant changes in the project during design or implementation;
- Corrective action plan prepared during project implementation to address unanticipated environmental impacts and to rectify non-compliance to ESMF provisions;
- Semi-annual environmental monitoring reports submitted by PMU during project implementation upon receipt.

PMU shall be responsible for ensuring that all environmental assessment documents and environmental monitoring reports are properly and systematically kept as part of the project records. PMU shall prepare these documents in English for submission to IFAD and make these documents available in a form, language and at a location in which they can be readily accessed by stakeholders.

APPENDICES

1. Sub-project screening form
2. Outline of site-specific Environmental and Social Management Plan (ESMP)
3. Environmental and Social Management Plan (ESMP) for CSAT
4. Guidelines for Dam Safety

Appendix 1. Sub-project screening form

Climate Smart Agriculture Transformation Project (CSAT) for the Ben Tre and Tra Vinh provinces in the Mekong Delta

Sub-project Screening Form

A. General Information of Sub-project

Name of sub-project:	
Location of sub-project:	
Infrastructure type:	

B. Screening for Environmental and Social Risks

Question	Yes	No
1. Does the project include construction of roads or other infrastructure, or other interventions that entail conversion of more than 50 hectares of natural forest?		
2. Does the project include any proposed interventions that are located in protected/sensitive areas, which are not coordinated with DONRE?[2]		
3. Does the sub-project include construction of dam(s) and/or reservoir(s) meeting at least one of the following criteria? - more than 15 metre high wall; - more than 500 metre long crest; - more than 3 million m^3 reservoir capacity; or - incoming flood of more than 2,000 m^3/s		
4. Does the sub-project include large-scale irrigation schemes rehabilitation and/or development (above 100 hectares per scheme)?		
5. Does the sub-project include construction of rural roads that entail a total area being cleared above 10 km long?		
6. Does the sub-project include water-based (ground and/or surface) development it is believed that significant depletion has occurred due to climate change or overutilization?		
7. Does the sub-project include drainage or correction of natural waterbodies (e.g. river training)?		
8. Does the sub-project involve significant extraction, diversion, or containment of surface water?		
9. Would the sub-project result in economic displacement[3] or physical resettlement of more than 20 people, or impacting more than 10 per cent of an individual household's assets?		
10. Would the project result in conversion and/or loss of physical cultural resources?		
11. Does the sub-project include the development of agro-processing facilities?		
12. Does the construction or operation of the sub-project cause an increase in traffic on rural roads?		
13. Would any of the project activities have minor adverse impacts on physical cultural resources?		
14. Would the sub-project result in short-term public health and safety concerns?		
15. Would the sub-project require a migrant workforce during the construction?		
16. Has the government or community guaranteed the lease of the land for the infrastructure?		

[2] "Sensitive areas" include: protected areas (national parks, wildlife/nature reserves, biosphere reserves) and their buffer zones; areas of global significance for biodiversity conservation; habitats depended on by endangered species; natural forests; wetlands; coastal ecosystems, including coral reefs and mangrove swamps; small island ecosystems; areas most vulnerable to climate change and variability; lands highly susceptible to landslides, erosion and other forms of land degradation, areas that include physical cultural resources (of historical, religious, archaeological or other cultural significance), and areas with high social vulnerability.

[3] Economic displacement implies the loss of land, assets, access to assets, income sources, or means of livelihoods (guidance statement 13).

17. Has arrangement been made to pay adequate compensation for private property that may be affected by the construction of the sub-project?		
18. Does the project include specific measures to protect against dust pollution?		
19. Does the project include specific measures to protect against noise pollution?		
20. Will tree and vegetation replanting be carried out to compensate the loss of vegetation due to construction of sub-project?		

Guidance for categorization:		
"Yes" response to any of questions 1-10	Environmental and social category is A	ESIA is required
"Yes" response to any of questions 11-15	Environmental and social category is B	Sub-project to develop a site-specific ESMP
"No" response to almost all questions 1-15 and "Yes" to any of questions 16-20	Environmental and social category is C	No further analysis is required.

**) Note that CSAT will not fund any investments that fall under Category A*

C. Screening for Climate Risks

Question	Yes	No
1. Is the sub-project area subject to extreme climatic events, such as flooding, drought, tropical storms or heat waves?		
2. Do climate scenarios for the sub-project area foresee changes in temperature, rainfall or extreme weather that will adversely affect the project impact, sustainability or cost over its lifetime?		
3. Would the sub-project make investments in low-lying coastal areas/zones exposed to tropical storms?		
4. Is the sub-project located in areas where rural development projects have experienced significant weather-related losses and damages in the past?		
5. Would the sub-project develop/install infrastructure in areas with a track record of extreme weather events?		
6. Is the sub-project investing in infrastructure that is exposed to infrequent extreme weather events?		
7. Does the sub-project have the potential to become more resilient through the adoption of green technologies at a reasonable cost?		
8. Does the sub-project have potential to integrate climate resilience measures without extensive additional costs?		

Guidance for categorization:		
"Yes" response to any of questions 1-5	Climate risk classification is High	Climate risk analysis is required for sub-project
"No" response to almost all questions	Climate risk classification is Moderate	Sub-project to develop a site-specific ESMP

Appendix 2. Outline of site-specific Environmental and Social Management Plan (ESMP)

A site-specific Environmental and Social Management Plan (ESMP) is required for all sub-projects that fall into Category B. Its level of detail and comprehensiveness is commensurate with the significance of potential environmental impacts and risks. The substantive aspects of this outline will guide the preparation of site-specific ESMPs, although not necessarily in the order shown.

A. Sub-project description

This section describes relevant physical, biological, and socio-economic conditions within the area where the sub-project investment will be made. It also describes the current and proposed sub-project investment activities within the project's area of influence. It is highly recommended to include a good map showing locations of the sub-project and site-specific activities and/or process as appropriate.

B. Potential environmental, social and climate impacts and mitigation measures

This section assesses the anticipated environmental, social and climate risks and impacts from the proposed sub-projects. It predicts positive and negative, direct and indirect impacts to physical, biological, socioeconomic conditions in the area of influence. It also describes the mitigation measures towards the anticipated environmental, social and climate impacts, explores opportunities for enhancement, identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions and specifies topics that do not require further attention, and examines global, transboundary, and cumulative impacts as appropriate.

C. Proposed site-specific Environmental and Social Management Plan

This section describes the set of mitigation and management measures to be taken during project implementation to avoid, reduce, mitigate, or compensate for adverse environmental impacts. It may include multiple management plans and actions. It includes the following key components:

- Risks and impacts identified: identifies and summarizes potential adverse environmental, social and climate risks and impacts.
- Mitigation measures: describes each mitigation measures with technical details, including the type and impact to which it relates and the conditions under which it is required.
- Monitoring: describes monitoring measures, including parameters to be measured, methods to be used, frequency of measurements, and monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and document the progress and results of mitigation
- Implementation arrangements: describes implementation schedule, institutional or organizational arrangements (who is responsible for carrying out the mitigation and monitoring measures), and estimates the costs and describes sources of funds for implementing the management plan

D. Grievance redress mechanism

This section describes the grievance redress mechanism for sub-project implementation (both informal and formal channels), setting out the timeframe and mechanisms for resolving complaints about environmental and social issues raised.

Appendix 3. Environmental and Social Management Plan (ESMP) for Climate Resilient Infrastructures

Activity/ Issue	Mitigation measures	Applicable standards/ regulations	Responsibility	Verification of effectiveness of measures
Climate Resilient Infrastructure				
Pre-construction phase				
Value Chain Action Plan (VCAP) Development	• Small-scale land acquisition: (i) eligibility criteria enforce that works are small-scale and that no schemes will be supported that require physical resettlement of >20 people and/or impacting >10% of affected households, social & environmental assessments to be carried out on proposed infrastructure investments to capture potential for such impacts; (ii) **works requiring involuntary resettlement are ineligible**; (iii) where land acquisition would result in physical and/or economic displacement of any kind, objective will be to seek agreed & negotiated resettlement and/or compensation thru FPIC processes to ensure a fair and timely compensation; • Resettlement and/or compensation policy and approach to follow to-be-agreed Compensation/resettlement Policy Framework (CRPF), which meets IFAD requirements & is consistent with GoV regulations on compensation, assistance and resettlement; • VC selection criteria & targeting mechanisms weighted to bring benefits to poorer producers and other target groups; RIMS monitoring to track (gender & socio-economic disaggregated) participatory aspects & outcomes & target group perceptions of processes & outcomes; compatible with Provinces' current land use planning & "three agro-ecological zoning"; application of criteria of social inclusion & resilience; pre-feasibility/ feasibility social & environmental assessments. See *Table 1. CSAT Social, Environmental and Climate Risk Factors and Mitigating Measures* for additional detail.	PIM, ESMP, ESMF, Loan Agreement	Land Acquisition • PPMU to ensure implementation CRPF; inform IFAD in advance of all cases; provide periodic, quarterly updates on resettlement activity to IFAD • IFAD supervision to carry out, or cause to be carried out by independent monitors, assessments of results of implementing CRPF VC Selection • PPMU to ensure selection criteria faithfully followed • DARD technical oversight/quality control (climate adaptation, CSA requirements, etc.) • DoNRE oversight (env. mgmt. & regulatory compliance) • DoIT oversight (feasibility/cost effectiveness of env. mgmt., incl. waste treatment from processing, etc.) • IFAD supervision to assess efficacy & outcomes	Monitoring reports of independent technical supervision consultants, supervision & monitoring reports of PPMU, IFAD supervision missions, RIMS

Activity/ Issue	Mitigation measures	Applicable standards/ regulations	Responsibility	Verification of effectiveness of measures
Land acquisition & compensation/ resettlement	Land acquisition & compensation to comply with the **(to be agreed)** CRPF, specifically: • Ensure free, prior and informed consent • Prepare procedures for the households who agree to donate land to donate land. • Allocate funding to compensate and support households who donate land but encounter difficulties so that they can stabilize their lives after giving land to the subproject. • Organize the demarcation of landmarks of construction sites and locations of excavated soil yards as a basis for implementation. • Support displaced households to restore their livelihoods and living conditions equal to or higher than their conditions prior to subproject implementation. • Priority in recruitment to work for the subproject if meeting the requirements.	• Land Law No.45/2013/QH13 • Decree No.43/2014/ND-CP • Decree No.44/2014/ND-CP • Decree No.47/2014/NĐ-CP • Circular No.36/2014/TT-BTNMT • Circular No.37/2014/TT-BTNMT • Decision No.52/2012/QD-TT	• District People's Committees • PPMU	Monitoring reports of independent technical supervision consultants Supervision & monitoring reports of PPMU, IFAD supervision missions
Complaints due to subproject implementation	• Prior to the commencement of site works, the contractor will develop a grievance redress mechanism (GRM) or system that will allow for receiving/recording and immediate response to and resolution of construction-relating complaints. The GRM shall be consistent with the GRM described in the section, below. • The Contractor will inform the communities in the Subproject area and other stakeholders affected by the subproject about the GRM in place to handle complaints and concerns about the subproject. • The Contractor will install notice boards at the construction sites to publicize the name and telephone numbers of the representatives of persons who are designated to receive and document complaints. • Prior to site preparation and commencement of site works, the Contractor will meet stakeholders such as district and local authorities, e.g. DONRE, DARD; officers in charge of irrigation, navigation and transport; and community leaders in affected communities to provide relevant subproject information (e.g. activities, schedules, etc.) and to ensure that various concerns that may affect stakeholders are discussed and addressed. • Inform the local communities and authorities at least 1 month	• Law on Land No.45/2013/QH13 • Law on Environmental Protection No.55/2014/QH13	• Contractor • PPMU	Monitoring reports of independent technical supervision consultants Supervision & monitoring reports of PPMU, IFAD supervision missions

Activity/ Issue	Mitigation measures	Applicable standards/ regulations	Responsibility	Verification of effectiveness of measures
	in advance the construction plan, and site-specific Environmental and Social Management Plan (ESMP).			
Construction phase				
Water pollution	• The Contractor is responsible for compliance with legislation relevant to wastewater discharges into watercourses. • Appropriate construction schedule avoiding rainy season should be prepared. • Portable or constructed toilets must be provided on site for construction workers. Wastewater from toilets as well as kitchens, showers, sinks, etc. shall be discharged into a conservancy tank for removal from the site or discharged into municipal sewerage systems; there should be no direct discharges to any waterbody. • Wastewater containing pollutants over standards set by relevant Vietnamese technical standards/regulations must be collected in a conservancy tank and removed from the site by licensed waste collectors • Domestic wastewater from site offices and toilets must be collected by specialized waste collection units or treated by on-site treatment facilities. • Water from fuel depots/equipment washing areas and concrete mixing areas must be collected into tanks and removed from construction sites.	• QCVN 08-MT:2015/BTNMT: National Technical Standard onsurface water quality; • QCVN14:2008/BTNMT: Nationaltechnical regulation on domestic wastewater; • QCVN 40: 2011/BTNMT: National technical regulation on industrial wastewater	Contractor	Monitoring reports of independent technical supervision consultants Supervision & monitoring reports of PPMU
Drainage and sedimentation control	• Material yards will be located away from water bodies and be surrounded by a bund to contain water runoff, then discharged into drainage system of the subproject. Materials and wastes will be covered to prevent rainfall, runoff or floodwater from carrying material in suspension. • Wastewater will be discharged into the environment only after the sediment has settled • Measures to control runoff, erosion, and sedimentation will include (i) drainage on the site, (ii) temporary bunds to divert runoff to temporary or permanent drainage facilities, (iii) water flow reduction barriers or steps to reduce flow velocity, (iv) water catchment sumps (sediment traps) silt aprons to capture mud, (v) build	• TCVN 4447:2012: Earth Works- Codes for construction; • Circular No.22/2010/TT-BXD on the regulation of construction safety; • QCVN 08-MT:2015/BTNMT- • National technical regulation on the quality of surface water	• Contractor	Monitoring reports of independent technical supervision consultants Supervision & monitoring reports of PPMU

Activity/ Issue	Mitigation measures	Applicable standards/ regulations	Responsibility	Verification of effectiveness of measures
	settlement tanks to facilitate settlement of suspended sediment before discharging into environment; • Works such as reservoirs, sediment collection and other protective measures will be constructed prior to construction. Structures will be of sufficient size and located to collect and accommodate all runoff from the site. • Drains, runoff, erosion and sediment controls will be monitored and maintained regularly and repaired immediately after detecting the defects. • The amount of excavated soil will be stored along the route at the locations agreed upon with the local authorities and people. At the same time, the contractor will try to avoid construction plans for earthworks in the rainy season to avoid leaching and water pollution problems. In the case of construction during the rainy season, the contractors should have appropriate construction methods to prevent local flooding such as embankments, shielding excavated land by canvas, digging temporary drainage ditches and pumping for drying the construction site and limit flooding.			
Management of stockpiles, borrow pits, quarries, excavated soils	• Drainage ditches shall be built around the excavated soil pits to avoid pollution due to water from dredged mud entering the orchards of surrounding people. • Stockpile topsoil when first opening a borrow pit and use it later to restore the area to near natural conditions. • If needed, disposal sites shall include a retaining wall. • If the need for new sites arises during construction, they must be pre-approved by the Construction Engineer. • If landowners are affected by the use of their areas for stockpiles or borrow pits, they must be included in the subproject resettlement plan. • If access roads are needed, they must have been considered in the environmental assessment. • DoNRE's Environment Officer should conduct due diligence to make sure that borrow pits and quarries are legally operating, with licensed and that sound environmental and social standards are being practiced. • Include the requirement that the contractors shall be required to buy materials from licensed borrow pit and quarry operators into the civil work contractual documents.	• Decree No.59/2015/ND-CP on solid waste management • Decree No.38/2015/NĐ-CP on management of waste and scrap materials • Circular No.36/2015/TT-BTNMT on the management of hazardous substance	Contractor	Monitoring reports of independent technical supervision consultants Supervision & monitoring reports of PPMU

Activity/ Issue	Mitigation measures	Applicable standards/ regulations	Responsibility	Verification of effectiveness of measures
	• DoNRE's Environment Officer should undertake a rapid review of quarry sites to assess if operations are in compliance with Vietnamese laws and Bank requirements prior to construction. • Include monitoring of borrow pits and quarries. • Excavated soil must be treated carefully to reduce dust and congestion which may cause nuisance and health effects to local residents. Excavation can affect public roads (such as bridge approach roads) and there must be a consultation plan with local authorities and disclosure of information to local people in advance. All excavated materials will be reused for construction works and/or backfilled at or near the construction site. Excavation, transportation and/or disposal of acid sulphate and/or contaminated soil should be taken into consideration.			
Solid waste management	• Provide bins, tanks and discarded materials collection facilities at each working locations. • Before construction, all necessary waste disposal permits or licenses must be obtained. • If possible, excavated soil and rock should be fully utilized for leveling • Measures shall be taken to reduce the potential for litter and negligent behavior with regard to the disposal of all refuse. At all places of work, the Contractor shall provide litter bins, containers and refuse collection facilities. • Solid waste may be temporarily stored on site in a designated area approved by the independent technical supervision consultants and relevant local authorities prior to collection and disposal through a licensed waste collector (for example, Province's Public Service Company). Waste storage containers shall be covered, tip-proof and weatherproof. • No burning, on-site burying or dumping of solid waste. • If not removed off site, solid waste and construction debris shall be disposed of only at sites identified and approved by the independent technical supervision consultants and included in the solid waste plan. Under no circumstances shall the contractor dispose of any material in environmentally sensitive areas, such as in areas of natural habitat or in watercourses.	• Decree No.38/2015/NĐ-CP on solid waste management • Circular No.36/2015/TT-BTNMT on the management of hazardous substance	Contractor	Monitoring reports of independent technical supervision consultants Supervision & monitoring reports of PPMU

Activity/ Issue	Mitigation measures	Applicable standards/ regulations	Responsibility	Verification of effectiveness of measures
	• Solid waste must be transported to an approved dump site by truck or covered container. • The collection and treatment of solid wastes must be implemented in coordination of stakeholders with local authorities.			
Chemical or hazardous wastes	• Storage of chemicals, hazardous substances and fuels on site is restricted; storing them in a safe area with waterproof lining and surrounded by a waterproof wall, minimum capacity equal to 150% of the largest storage volume. Storage areas will be located away from water sources, flood-prone areas, workers' camps and dangerous areas. • A hazardous waste management plan will be developed and implemented to ensure safe handling and storage of hazardous substances, such as diesel, waste oil, chemicals and paints. Chemicals and paints will be managed and stored in the same way as diesel and waste oil (see above). • Material safety data sheets (MSDS) will be kept in a prominent place in the same contained storage space that hazardous materials are stored and in the first aid stations. • An Emergency Contingency Response Plan (ECRP) will be in place to handle spills and ensure that clean- up materials are available on-site to control and clean up spills. The ECRP will (i) identify the positions and persons responsible for emergency response action (e.g., EHS, Contractor Site Engineer, DDIS, and Works Foremen); (ii) include an organizational diagram specifying the positions and responsible persons within the Emergency Response Team, their work and home phone numbers, and the reporting lines among them, and the actions to be taken in cases of injury, and evacuation of personnel, and a spill of oil, diesel or hazardous substance. • Ensure that clean-up chemicals and materials to absorb and remove spilled substances are available and stored next to first aid stations at construction sites and facility sites (yards, vehicle/equipment service depots). • In cases of diesel, waste oil, or hazardous substance spills, the spilled material will be collected as quickly as possible and placed in drums. The spilled area will be cleaned in a timely manner to prevent potential contamination of surface	• Circular No.36/2015/TT-BTNMT on the management of hazardous substance	Contractor	Monitoring reports of independent technical supervision consultants Supervision & monitoring reports of PPMU

Activity/ Issue	Mitigation measures	Applicable standards/ regulations	Responsibility	Verification of effectiveness of measures
	and ground water and soil. Soil, clay or other materials that were "soiled" by the spill will also be collected and placed in drums. All spilled substances, materials, soil, and clay, etc., will be handled as hazardous waste and be transported and disposed by a licensed waste management company in a location approved by DONRE.			
Disturbance of vegetative cover and ecological resources	• Vegetation removal will be minimized. At the edge of the road right-of-way, vegetation to be retained will be clearly marked and dead tree trunks and hollows will be kept as much as possible as they provide habitat. • Where feasible, cleared vegetation will be chipped/mulched and reused for rehabilitating cleared areas (mulch provides a source of seeds, limits erosion, retains soil moisture and nutrients, encourages re- growth, and protects against weeds). • Work sites will be cleared in short sections to meet construction needs and be stabilized and planted immediately after construction so as to minimize the area of exposed land at any point in time and to ensure the integrity of the works. • The application of chemicals for vegetation clearing is not permitted. • No cutting down trees, hunting, trapping.	• Law on Environment protection No.55/2014/QH13	Contractor	Monitoring reports of independent technical supervision consultants Supervision & monitoring reports of PPMU
Restoration of affected areas	• Restore the original state of waste storage areas, temporary construction sites and workers' camps. • Restore vegetation cover as soon as possible using native species.	• Law on Environment protection No.55/2014/QH13	Contractor	Monitoring reports of independent technical supervision consultants Supervision & monitoring reports of PPMU
Worker and public safety	• Workers should be provided with training courses on labor safety regulations and adequate PPEs in accordance with Vietnamese legislation. • Prepare and implement an action plan to cope with risk and emergency. • Prepare emergency aid service at the construction site. • The contractor shall provide safety measures such as the installation of fences, barriers warning signs, lighting system against traffic accidents. • To ensure the safety of people and equipment involved in the construction and operation of the subproject, the subproject	• Circular No.22/2010/TT-BXD dated 03 December 2010 on the regulation of construction safety • Directive No.02 /2008/CT-BXD on safety and sanitation issues in construction agencies • TCVN 5308-91: Technical regulation on safety in construction	Contractor	Monitoring reports of independent technical supervision consultants Supervision & monitoring reports of PPMU

Activity/ Issue	Mitigation measures	Applicable standards/ regulations	Responsibility	Verification of effectiveness of measures
	owner is responsible for disposal of UXOs. The disposal of UXOs is expected to be carried out at the same time as site clearance and by the military agency. • Construction contracts to include conditions to ensure occupational health and safety; do not differentiate payment between women and men, and those who belong to local ethnic Khmer groups, for work of equal value; prevent the use of child labor, and comply with the government's labor laws and relating international treaty obligations, • Maximize employment of women and poor households during construction. • Prevent the use of child labor and ensure compliance with the government's labor laws and related international treaty obligations (awareness raising on the issue, include relevant clauses in all contracts with service providers, close monitoring of incidences of child labor by PMU)	• Decision No.96/2006/QD-TTg dated 04 May 2006 on management and implementation of bomb mine explosive material disposal. • Law on Children (Law No. No. 102/2016/QH13)		
Communication with local communities	• Maintain open communications with local authorities and concerned communities; contractors shall coordinate with local authorities (leaders of local wards or communes, leader of villages) for agreed schedules of construction activities at areas nearby sensitive places or at sensitive times (e.g. religious festival days). • Copies in Vietnamese of Environmental Codes of Practice and other relevant environmental safeguard documents shall be made available to local communities and to workers at site. • Disseminate subproject information to affected parties (for example local authority, enterprises and affected households, etc.) through community meetings before construction commencement. • Provide addresses and telephone number for the community to get in touch, that the stakeholders can receive information on site activities, subproject status and subproject implementation results. • Inform local residents about construction and work schedules, interruption of services, traffic detour routes and provisional waterway routes, blasting and demolition, as appropriate. • Notification boards shall be erected at all construction sites providing information about the subproject, as well as contact information about the site managers, environmental staff,	• Decree No.167/2013/ND-CP stipulating sanctions against administrative violations in the field of security, social order and safety; prevention of social evils; fire prevention and fighting; prevention and combat of domestic violence. • Decree No.81/2013/ND-CP on detailing a number of articles of and measures to implement the Law on Handling of Administrative Violations.	Contractor	Monitoring reports of independent technical supervision consultants Supervision & monitoring reports of PPMU

Activity/ Issue	Mitigation measures	Applicable standards/ regulations	Responsibility	Verification of effectiveness of measures
	health and safety staff, telephone numbers and other contact information so that any affected people can have the opportunity to voice their concerns and suggestions. • Ensure that persons with disabilities are not left behind (hold focus group discussions with their constituencies during the local development and value chain planning processes, prioritize support to families of persons with disabilities, raise awareness on disability inclusion among PMU and service providers, engage with organizations of persons with disabilities throughout the project's lifecycle)			
Chance find procedures	• If a contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall: o Stop construction activities in where objects/heritages are found by chance. o Delineate discovered site or area. o Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, night guarding shall be arranged until the responsible local authorities or the Department of Culture, Sports and Tourism takes over. o Notify the Construction Supervision Consultant who in turn will notify responsible local or national authorities in charge of the Cultural Property of Viet Nam (within 24 hours or less). • Relevant local or national authorities are in charge of protecting and preserving the site before deciding subsequent appropriate procedures. This will require a preliminary evaluation of the findings to be performed. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; including the aesthetic, historic, scientific or research, social and economic values. • Decisions on how to handle the finding shall be taken by responsible authorities. This could include changes in the layout (such as when finding irremovable remains of cultural or archeological importance) conservation, preservation, restoration and salvage. • If cultural sites and/or relics are of high value and site preservation is recommended by the professionals and	• Law on Cultural Heritage No.28/2001/QH10 • Law No.32/2009/QH12 amending and supplementing a number of articles of the Cultural Heritage Law • Decree No.98/2010/ND-CP detailing the implementation of a number of articles of the Law on Cultural Heritage and the Law amending and supplementing a number of articles of the Law on Cultural Heritage	Contractor	Monitoring reports of independent technical supervision consultants Supervision & monitoring reports of PPMU

Activity/ Issue	Mitigation measures	Applicable standards/ regulations	Responsibility	Verification of effectiveness of measures
	required by the cultural relic's authority, the subproject owner shall make necessary design changes to accommodate the request and preserve the site. • Decisions concerning the management of the finding shall be communicated in writing by relevant authorities. • Construction works could resume only after permission is granted from the responsible local authorities concerning the safeguard of the heritage.			

Appendix 4. Dam Safety

The project proposes to build reservoirs of <3 million m^3 total storage capacity; which by Vietnamese, IFAD, and international standards would comprise a large dam and be subject to a rigorous design, permitting and supervision process, including oversight by an independent panel of dam experts, to ensure safety. The CSAT will not finance large dams.

As defined by IFAD's 2017 SECAP Guidelines, small dams are defined as <5 m in height; medium dams are >5m and <15m; and large-scale dam/reservoirs as those with dam height >15m, more than 500m long crest, and/or with a reservoir exceeding 3 million m^3 or incoming flood of more than 2,000 m^3/s. Under Viet Nam's national standards, large dams are ≥ 15 m, or with height between 10m and <15 and a dam length of ≥500m or with designed flood discharge flow of over 2,000 m^3/s; dams of reservoirs with a total storage capacity >3 million m^3. It is uncertain during the project design if "medium", as well as "small" dams would be built. Thus for current purposes both types are treated here.

Decree No. 114/2018/ND-CP Of September 4, 2018 On Safety Management Of Dams And Reservoirs, consistent with IFAD's 2017 SECAP Guidelines establishes that the owners of dams are responsible for the safety of dam, associated works and reservoir. Article 32 further establishes that the responsibilities of the Provincial-level People's Committee also entails provision of necessary technical capacity and financial resources to ensure safe construction and operation, as follows:

1. To guide, disseminate and organize the implementation of legal documents on safety management of dams and reservoirs in their localities.
2. To take responsibility for safety of dams and reservoirs in their localities.
3. To inspect, examine and handle administrative violations of safety management of dams and reservoirs in their localities.
4. To assign and decentralize responsibilities of specialized management agencies and authorities at all levels in performing the state management of safety of dams and reservoirs managed by localities.
5. To arrange annual funding from local budget sources to spend on safety management of dams and reservoirs managed by localities under the provisions of this Decree and relevant laws.
6. To consolidate specialized units in charge of safety management of dams and reservoirs; provide professional training and retraining for participants in activities on safety management of dams and reservoirs in their localities.

For its part, IFAD requires that for construction of a new dam, the borrower is to ensure that it is designed, and its construction is supervised, by suitably qualified and experienced engineers. It also requires that the borrower adopts and implements dam safety measures for the design, bid tendering, construction, operation and maintenance of the dam and associated works. National regulations require this same due diligence on the part of the dam owner, which would be the Provincial-level People's Committee in the case of the CSAT.

For small dams (<5m), generic dam safety measures (such as ensuring adequate spillway capacity, freeboard and protection of the downstream outfall, an adequate foundation key/cut off, protection of the outlet works from differential settlement and leakage, upstream and downstream slopes appropriate to the properties of the material used for construction, adequate drainage, avoidance of unsuitable materials and adequate compaction under competent supervision) will be required as a minimum. Further, the PPMU will provide IFAD

with details of the qualifications and experience of the civil engineer responsible for supervision for its review and no-objection.

In the case that a medium dam (as defined above) is proposed for IFAD finance, it will be required that a suitably qualified and experienced independent consulting engineer, acceptable to IFAD, be engaged by the borrower to provide recommendations directly to the implementing agency on all aspects of the quality assurance stage at the key stages of the dam development, including:

- the specification for, and completion of, site investigations;
- detailed design of the dam and appurtenant works;
- preparation of the works specifications and bidding documents;
- excavation of the cut-off trench and outlet works; and
- construction of the dam wall, through to commissioning, filling and start up of the dam.

Figure 3. Guidance from IFAD's 2017 SECAP Guidelines on level of expertise required for the design and construction of dams

Classification of dam	Expertise required	
	Site investigation/design/ construction supervision	Overall technical guidance/direction
Small	Junior engineer/technician having undergone a short course in dams as part of the training	Civil engineer with > 5 years' experience of design and construction of dams
Medium	Civil engineer with > 5 years' experience of design and construction supervision of similar or larger dams	Senior civil engineer with > 10 years' experience in design and supervision of dams
Large	Full-time senior civil engineer with > 10 years' experience, with most of that experience in the design and construction of similar or larger dams	Senior civil engineer with > 15 years' experience, with most of that experience in the design and supervision of dams

The consulting engineer will meet the minimum expertise requirements detailed below, as will staff or technical supervision consultants engaged for pre-construction work and construction supervision. The consulting engineer will also review and comment on the operation and maintenance plan and emergency preparedness plan, as well the arrangements for periodic inspections. The consulting engineer's reports will be made available to IFAD during supervision missions for review and IFAD's no-objection.

To ensure compliance, IFAD will require that the loan agreement contain a covenant to ensure that dams and reservoirs are designed, constructed, operated, maintained, superintended and eventually decommissioned to the highest possible standard of safety appropriate to their size and hazard potential, to protect people, property and the environment from the harmful effects of possible failure.

Viet Nam

Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)
Climate Risk Analysis

Jim Smyle
Natural Resources Management Consultant

June 2021

Table of Contents

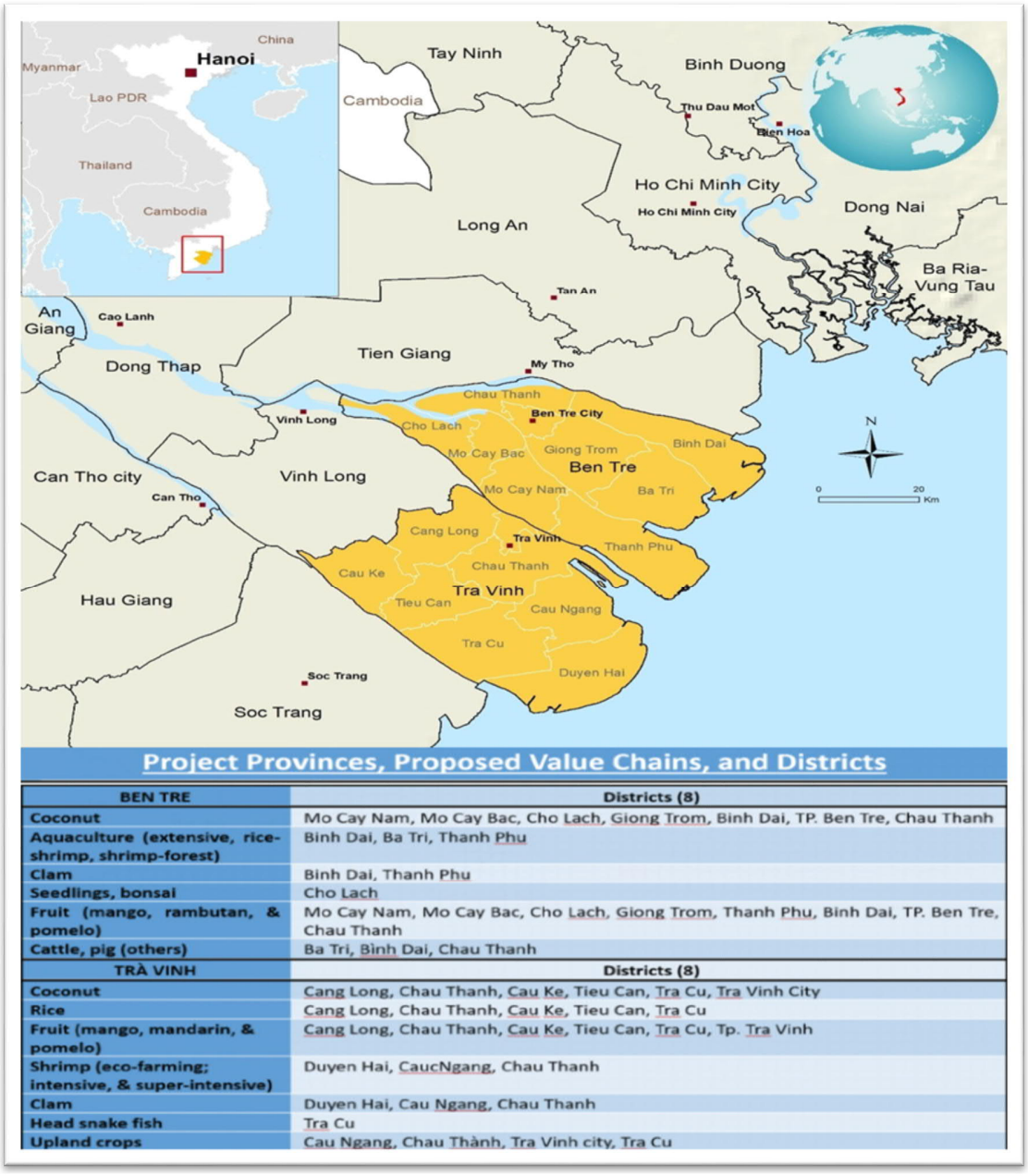
Figures

Abbreviations

AMD	Adaptation to Climate Change in the Mekong Delta in Ben Tre and Tra Vinh Provinces Project
AR5	The Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)
CC	Climate change
CCA	Climate change adaptation
CCAF	Climate Change Adaptation Fund
CRED	Centre for research on the Epidemiology of Disasters
CSA	Climate-smart agriculture
CSAT	Climate Smart Agriculture Transformation Project in the Mekong Delta
DARD	Department of Agriculture and Rural Development
DEM	Digital Elevation Model
DONRE	Department of Natural Resources and Environment
DPI	Departments of Planning and Investment
E2F	Enterprise-to-farmer extension
ENSO	El Niño Southern Oscillation
F2F	Farmer-to-farmer extension
GAP	Good agricultural practice
GIZ	German Society for International Cooperation
GMS	Greater Mekong System
GOV	Government of Viet Nam
IFAD	International Fund for Agricultural Development
IPCC	Intergovernmental Panel on Climate Change
JICA	Japan International Cooperation Agency
MARD	Ministry of Agriculture and Rural Development
MDIRP	Mekong Delta Integrated Regional Plan
MDCC	Mekong Delta Sustainable Development Programme 2020 -2025
MOF	Ministry of Finance
MoNRE	Ministry of Natural Resources and Environment
MOP-SEDP	Market-oriented, participatory socio-economic development planning
MPI	Ministry of Planning and Investment
MRD	Mekong River Delta
NGO	Non-governmental organization
PPC	Provincial People's Committee
ONI	Oceanic Niño Index
RSLR	Relative Sea-Level Rise
SEDP	Socio-economic development planning
SLR	Sea-Level Rise
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention for Climate Change
VCAP	Value Chain Action Plan
VMD	Viet Nam's Mekong Delta
WDF	Women's Development Fund

Project Location

The Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT) will be implemented in the 16 districts that comprise the provinces of Ben Tre and Tra Vinh, which lie within the Mekong Delta estuary. The Mekong Delta extends from an upstream point in Cambodia, where the Mekong River splits into two main branches – the Bassac (Hau) and Mekong (Tien) rivers, which continue branching into smaller rivers as they flow to the coast. The delta was, and continues to be, formed by the continuous deposition of alluvial sediments, transported by the Mekong River, and by marine sediments deposited by the sea. The resulting landscape is the extremely low-lying delta of the Mekong; a flat plain with abundant water. With an average elevation between 0.50 and 0.80 m above mean sea-level (MSL), it is the lowest major river delta in the world. (Royal HaskoningDHV & GIZ, 2020)



Project Provinces, Proposed Value Chains, and Districts

BEN TRE	Districts (8)
Coconut	Mo Cay Nam, Mo Cay Bac, Cho Lach, Giong Trom, Binh Dai, TP. Ben Tre, Chau Thanh
Aquaculture (extensive, rice-shrimp, shrimp-forest)	Binh Dai, Ba Tri, Thanh Phu
Clam	Binh Dai, Thanh Phu
Seedlings, bonsai	Cho Lach
Fruit (mango, rambutan, & pomelo)	Mo Cay Nam, Mo Cay Bac, Cho Lach, Giong Trom, Thanh Phu, Binh Dai, TP. Ben Tre, Chau Thanh
Cattle, pig (others)	Ba Tri, Binh Dai, Chau Thanh
TRÀ VINH	**Districts (8)**
Coconut	Cang Long, Chau Thanh, Cau Ke, Tieu Can, Tra Cu, Tra Vinh City
Rice	Cang Long, Chau Thanh, Cau Ke, Tieu Can, Tra Cu
Fruit (mango, mandarin, & pomelo)	Cang Long, Chau Thanh, Cau Ke, Tieu Can, Tra Cu, Tp. Tra Vinh
Shrimp (eco-farming; intensive, & super-intensive)	Duyen Hai, CaucNgang, Chau Thanh
Clam	Duyen Hai, Cau Ngang, Chau Thanh
Head snake fish	Tra Cu
Upland crops	Cau Ngang, Chau Thành, Tra Vinh city, Tra Cu

Figure 1. Geographic location of project (provinces& districts) and proposed value chains

Mekong River. The Mekong separates at Phnom Penh into the main northern branch of the Mekong proper, which is called the Tiền River after entering Viet Nam, and the southern branch of the Bassac River, which is called the Hậu River (Sông Hậu or Hậu Giang) after entering Viet Nam. The Tiền flows along the northern boundary of Ben Tre, and the Hậu River along the southern boundary of Tra Vinh.

Ben Tre. The Province of Ben Tre has an area of 236,062 ha, with a coastline of 65km. It is bordered by Tien Giang province to the north, Tra Vinh province to the south, Vinh Long province to the west and southwest, and the East Sea to its east. Four main rivers flow out of the province – all of which are branches off of the Mekong River – into estuaries on the East Sea, which are, from north to south, the Cua Dai, the Cua Ba Lai, the Ham Luong, and the Co Chien.

Tra Vinh. The Province of Tra Vinh has an area of 235,826 ha, with a coastline of 65km. It is bordered by Ben Tre province to the northeast, Vinh Long province to the northwest, Soc Trang province to the southwest, and the East Sea to its east. Two rivers (Co Chien and Hau Giang) and their estuaries (Cua Cung Hau and Cua Dinh An) – define the provinces northern and southern borders, respectively.

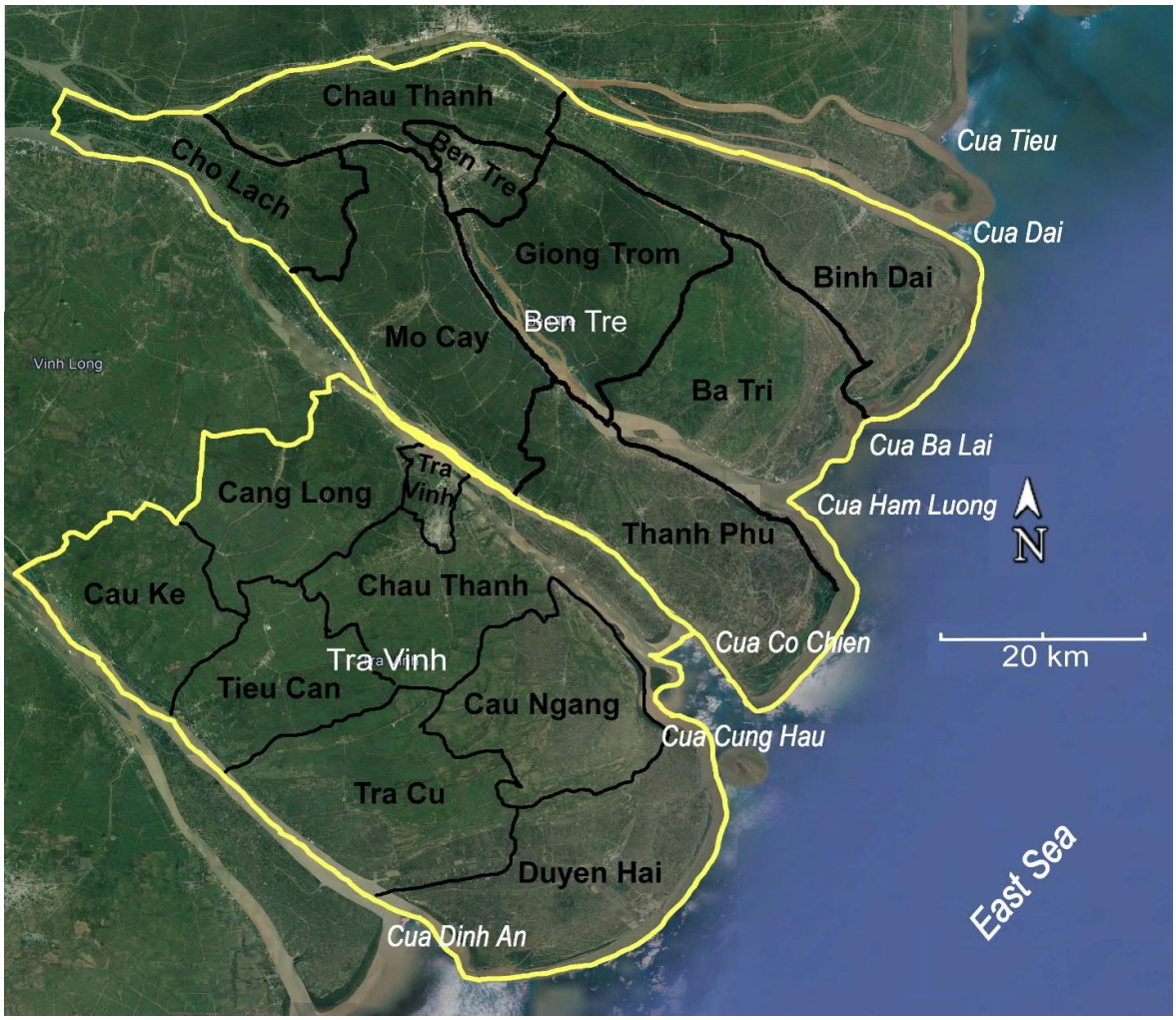


Figure 2. Project provinces and estuaries with approximate district boundaries.

A Precautionary Approach

Studies published since the last iteration of the IPCC's report (AR5), have presented evidence that suggests a greater probability than previously estimated that earth will experience medium and high-end warming scenarios (e.g., Schwalm et all, 2020). Thus climate change projections associated with the highest emissions pathway (RCP8.5) are presented here to facilitate a decision-making that is robust to these risks. Such a precautionary approach is consistent with current climate risk assessment practice among major, multilateral financers in Viet Nam (i.e., see World Bank Group & Asian

Historical, current, and future climate trends

(Sources: DONRE/Ben Tre. 2020, and DONRE/Tra Vinh. 2020, unless otherwise noted.)

Temperature

Temperatures in the project provinces are high the year around. Average temperatures throughout the year shows little variation, with differences between the hottest and coolest months being only some 3^{O} to 4^{O}C. The highest temperatures occur in April and May. There are slight differences in average temperatures between the coastal areas and areas further inland. The coolest (least hot) period is from December to February. In the coastal areas the ameliorating influence of the sea provides for minimum temperatures around 23ºC and above. On occasion, due to high pressure troughs pushing cooler air southward, the lowest annual temperatures may occur in March. (DONRE/Ben Tre, 2020).

The average annual temperature during the period from 1986 - 2016 was 26.9^{O}C[1]. Since the weather in the area is affected by sub-equatorial tropical radiation, the temperature is generally considered to be relatively stable and homogeneous year-round. Average daily temperatures during the past 10 years (2010 - 2020) have ranged from 25ºC to 30ºC. The month with the lowest average temperature is January (24ºC-26ºC), while the month with the highest temperature is April (28- 33ºC). According to data recorded at Cang Long station, variability in between monthly, average temperatures has increased significantly over the past decade, with differences now ranging from 1ºC to 3ºC. (IFAD, 2020a)

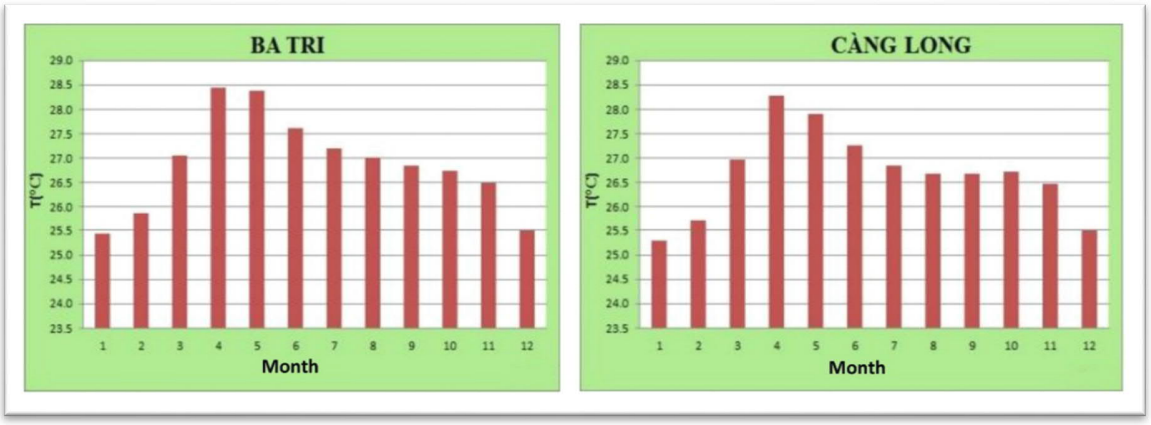


Figure 3a. Avg. monthly temperatures Ba Tri (Ben Tre) Figure 3b. Avg. monthly temperatures Cang Long (Tra Vinh)
Source: DONRE/Ben Tre, 2020

Current trends in annual average temperature, Ben Tre. Figure 4 shows the trends in average annual temperature at the Ba Tri station, in Ben Tre, from 1980-2019. In this period, the average annual

[1] Temperature data for Tra Vinh and Ben Tre provinces comes from the Cang Long National Meteorological Station (Tra Vinh) and the Ben Tre Provincial Hydrometeorology Station (Ba Tri).

temperature increased at a rate equivalent to 0.014ºC/yr. In the period from 2006-2018, annual average temperature tends to increase at a faster rate, as compared to the period from 1980-2005. The highest annual average temperature during the period was in 2015 (27.5ºC), and the lowest in 1996 (26.5ºC). (DONRE/Ben Tre, 2020).

Current trends in annual average temperature, Tra Vinh. Figure 5 shows the trends in average annual temperature at the Cang Long National Meteorological Station in Tra Vinh for the period from 1980 - 2018. In this period, the average annual temperature increased at a rate equivalent to 0.012ºC/yr. The highest annual average temperature during the period was in 1998 (27.5ºC), and the lowest in 1982 and 1986 (26.5ºC). (DONRE/Tra Vinh, 2020).

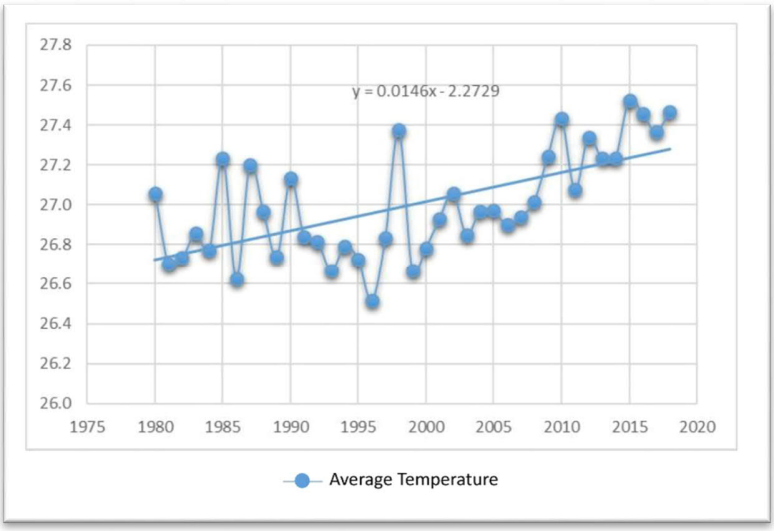


Figure 4. Trend in mean annual temperature, Ba Tri Station, Ben Tre, from 1980-2019

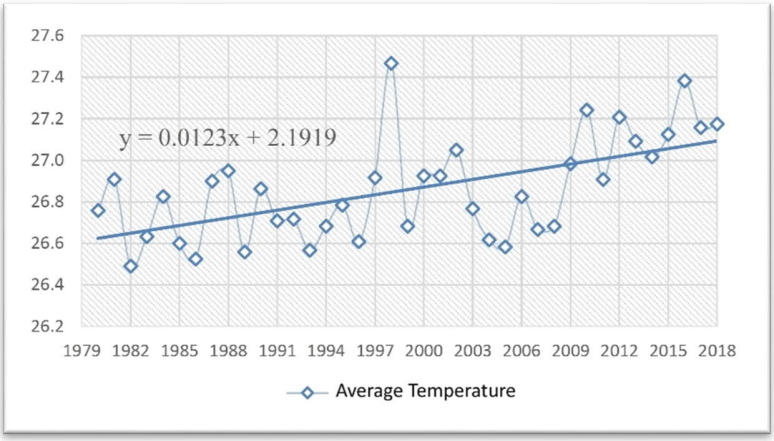


Figure 5. Trend in mean annual temperature, Cang Long National Meteorological Station, Tra Vinh, from 1980-2019

Predicted future trends in temperature, Ben Tre. Ben Tre's 2020 update of the provincial climate change plan (DONRE/Ben Tre, 2020) applied both the RCP 4.5 and RCP 8.5 scenarios[2] for making predictions for the years of 2025, 2030, and 2050 as compared with the base period of 1986-2005. The results from the two scenarios concur that average annual temperature in Ben Tre will tend to increase, with temperature variation in the RCP8.5 tending to be around 0.1 to 0.3^{O}C higher than that of RCP4.5. The report does not provide the predictions for 2100.

An increase in the average annual temperature (RCP8.5) of:

- 2025 – +0.7 to +0.8^{O}C (same with both RCP4.5 and RCP8.5)
- 2030 – +0.8 to +1.0^{O}C
- 2050 – +1.3 to +1.6^{O}C

An increase in the annual average minimum temperature is also predicted, as follows (RCP 8.5):

- 2025 -- +0.7 to +0.8^{O}C
- 2030 -- +0.9 to +1.0^{O}C
- 2050 -- +1.3 to +1.7^{O}C

The annual average maximum temperature, RCP 8.5 scenario, predictions show increases of:

- 2025 -- +0.7 to +0.8^{O}C
- 2030 -- +0.8 to +1.0^{O}C
- 2050 -- +1.3 to +1.7^{O}C

Predicted future trends in temperature, Tra Vinh. Tra Vinh's 2020 update of the provincial climate change plan (DONRE/Tra Vinh, 2020) applied both the RCP 4.5 and RCP 8.5 scenarios for making predictions for the years of 2025, 2050, 2070, and 2100 as compared with the base period of 1986-2005. There was little difference in the predictions between the two scenarios for increases in average annual temperature, but differences were more significant (e.g., 10% - 20% higher) for impacts on minimum and maximum temperatures.

An increase in the average annual temperature (RCP8.5) of:

- 2025 – +0.75 to +0.82^{O}C
- 2050 – +1.55 to +1.7^{O}C
- 2070 – +2.4 to +2.6^{O}C
- 2100 – +3.4 to +3.7^{O}C

An increase in the annual average minimum temperature is also predicted, as follows (RCP 8.5):

- 2025 -- +0.81 to +0.87^{O}C
- 2050 -- +1.6 to +1.75^{O}C
- 2070 -- +2.4 to +2.7^{O}C
- 2100 -- +3.5 to 3.7^{O}C

The annual average maximum temperature, RCP 8.5 scenario, predictions show increases of:

- 2025 -- +0.8 to +0.9^{O}C
- 2050 -- +1.6 to +1.8^{O}C
- 2070 -- +2.5 to +2.7^{O}C
- 2100 -- +3.5 to 3.9^{O}C

Precipitation

[2] Global average surface temperatures by the late 2081 - 2100 will likely increase about 1.1÷2.6°C (RCP4.5), 2.6÷4.8°C (RCP8.5) compared to the period of 1986- 2005 - https://vihema.gov.vn/wp-content/uploads/2015/12/02.-Tom-tat-Kich-ban-BDKH-va-NBD-cho-VN_2016-Tieng-Anh.pdf

(Sources: DONRE/Ben Tre. 2020, and DONRE/Tra Vinh. 2020, unless otherwise noted.)

The rainy season in the project provinces is associated with the southwest monsoon, which flows from sea to land, strengthened by the movement of the Inter Tropical Convergence Zone (ITCZ) to the south, and by westward expansion of the subtropical South Pacific High. Because of its origin, the southwest monsoon brings large amounts of rainfall over the entire Mekong Delta region. The southwest monsoon is not stable, but fluctuates in waves. Each period, lasting 5–10 days, is characterized by an onset, maintenance, and weakening phase. Around October, with the formation of a high-pressure area over the Asian continent, the ITCZ moves south and subtropical high pressure decreases and retreats to the east, causing the southwest monsoon to weaken and the northeast monsoon to form and develop.

The rainy season ends when the southwest monsoon system dissipates. The beginning and end dates of the rainy season are thus associated with the formation, development, and weakening of the monsoon system. However, rainfall remains difficult to predict, due to the complex interactions between many different weather systems. Besides, rainfall is strongly influenced by local conditions. This means that the begin and end dates of the rainy season may differ from the onset and cessation dates of the southwest monsoon season. In practice, the rainy season often begins later than the southwest monsoon and ends later.

Ben Tre – Current Precipitation. Based on data from five representative rain gauges (i.e. in Ba Tri, Chợ Lác, Bình Đại, Ben Trai, and Ben Tre) with complete records for the period from 1980 to 2019:

- Average annual rainfall ranges from 1,200 to 1,500 mm/yr. Rainfall tends to decrease as one moves inland from the sea.
- Highest monthly rainfalls occur (see Figure 6) in July (average of 299.2 mm), August (average of 216 mm), September (average of 209.4 mm), and October, which has the highest monthly rainfall (average of 366.2 mm).
- Most commonly, rainfall occurs during small thunderstorms; however, heavy thunderstorms, when they occur, usually do so during the southwest monsoon season.
- The distribution of rainfall within the province varies by area:
  - In the coastal area, the average annual rainfall is approximately 1,500 mm.
  - The mid-province experiences an average annual rainfall from 1,200 mm to <1,500 mm.
  - The upper (north-western) region the province has an average annual rainfall of <1,200 mm.
  - During the early rainy season (June), and during month of heaviest rainfall (October), rainfall depths are similar throughout the province
- The occurrence of dry spells during the rainy season is not uncommon. Known as the "Ba Chấn drought", they occur in the period around mid-July, though it may start as earlier, in June. These generally last for 3 to 5 days, though in some places it can last for more than 10 days, causing drought as it coincides with a hot and sunny period. For rainfed farmers, it can have a severe impact. In the mid-province region is where the longest occurrences are experienced, lasting in some locations for over 20 days.
- The dry season lasts for 5 months, with the lowest monthly rainfall totals occurring in January, February, and March. Dry season accounts for 10 to 20% of total annual rainfall.

Tra Vinh – Current Precipitation. Based on data from four representative rain gauges with complete records for the period from 1980 to 2018 (Cang Long, Tra Cu), 1986-2018 (Tra Vinh), and 1994-2018 (Ben Gia):

- Average annual rainfall ranges from 1,430 mm/yr to 1,640 mm/yr.
- Highest/Lowest monthly rainfalls occur (see Figure 7):

- Can Long: Highest rainfall months are September (253mm) and October (296 mm), and the lowest are January, February, and March where rainfall averages less than 15mm/month.

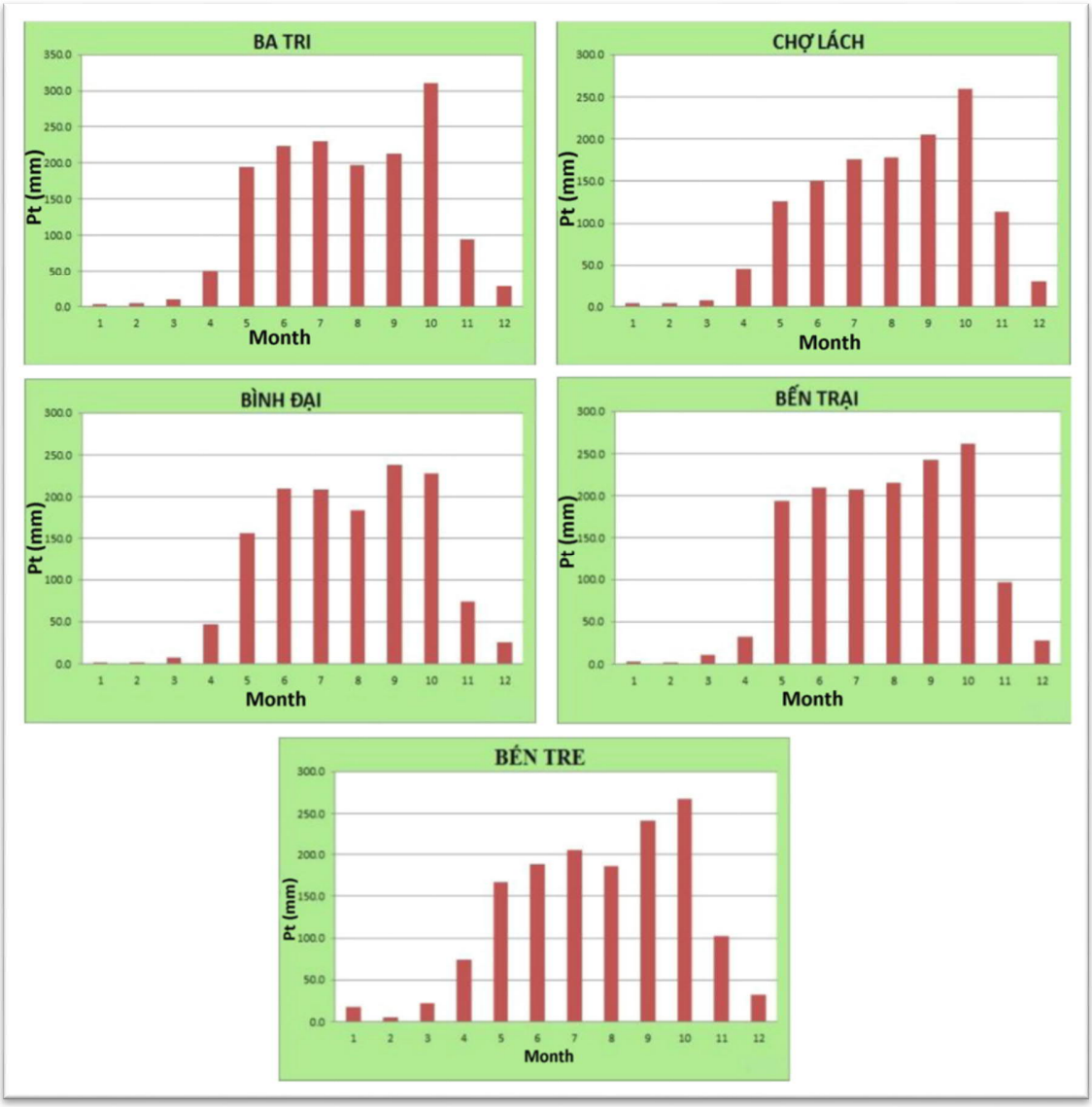


Figure 6. Ben Tre Province – average monthly rainfall total (mm) from 5 representative rainfall gauges

- Tra Vinh: Highest rainfall months are September (240 mm) and October (235 mm), and the lowest are January, February, and March where rainfall averages less than 15mm/month.
- Tra Cu and Ben Gia: Highest rainfall months are July through October, averaging over 250mm/month, and the lowest the lowest are January, February, and March where rainfall averages less than 15mm/month. See Figure 7.
- The distribution of rainfall within the province varies by area, with the highest rainfall totals are found in the districts of Cau Ke (inland district, western corner of the province) and Duyen Hai (coastal district) (ranging from 1,700-1,756mm/yr), and lowest in area of Tra Vinh City (about 1,420mm).

- The occurrence of dry spells during the rainy season is uncommon. From June to October there is almost no occurrence.

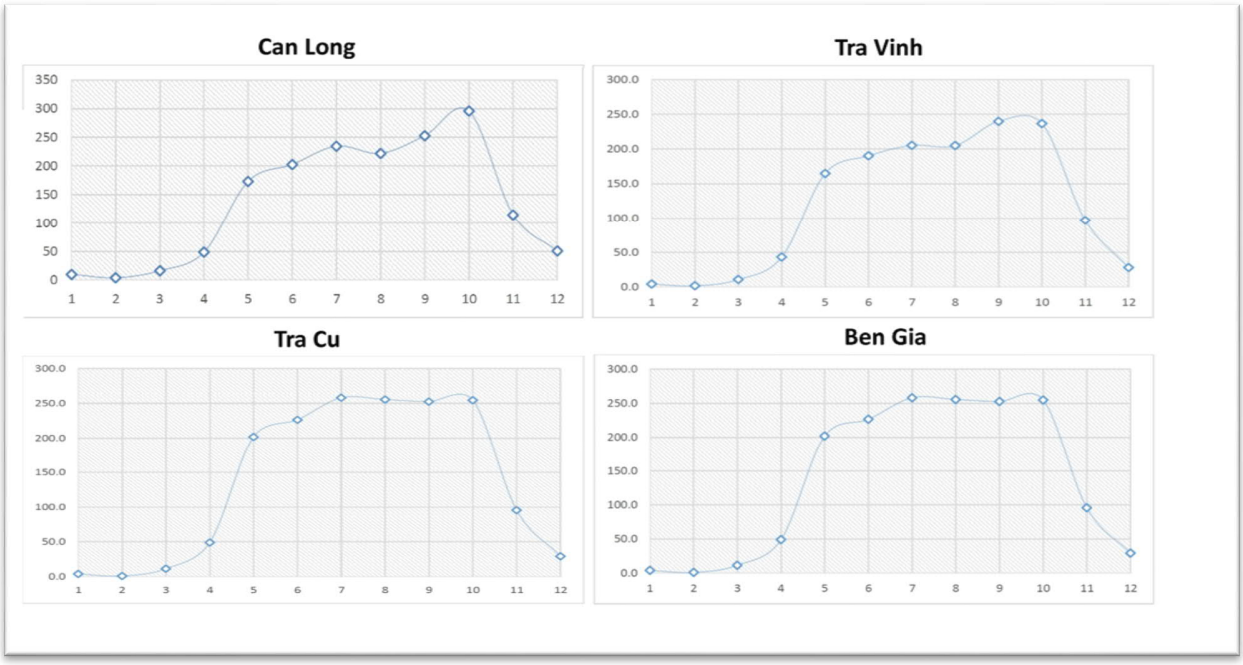


Figure 7. Tra Vinh Province – average monthly rainfall total (mm) from 4 representative rainfall gauges

- The dry season lasts for 5 months, with the lowest monthly rainfall totals occurring in January and February. Dry season accounts for 10 to 15% of total annual rainfall.

Ben Te – Current trends in precipitation. Two distinct trends in annual rainfall totals can be observed in Ben Tre Province:

- A marked increasing trend. Forty years of record (1980-2019) from the Ben Tre station – located in Ben Tre city, about 45 km inland, in the north central portion of the province – reveal a clear trend of increasing rainfall, equivalent to about 5.5mm/yr over the period. The highest annual rainfall total during the period was 2,096mm (1999) and the lowest was 861mm (1990). The standard deviation of monthly rainfall ranged from 65-110mm during the rainy season and 8-82mm during the dry season.
- A slight decreasing trend. Forty years of record (1980-2019) from the Ba Tri station – located in near Ba Tri City, about 9 km inland, in the eastern portion of the province – shows a declining trend in annual rainfall totals, equivalent to about -1.48mm/yr over the period. . The highest annual rainfall total during the period was 2,238mm (2008) and the lowest was 948mm (2012). The standard deviation of monthly rainfall ranged from 8-108mm, with variance greatest in the dry season (123% -301%), and lower in the rainy season (32-83%).

Figure 8, below illustrates the trends.

Tra Vinh – Current trends in precipitation. Overall, during the period 1986-2018, annual rainfall totals have been decreasing (slightly) in Cang Long and Ben Gia (more markedly) districts. In Tra Vinh and Tra Cu, the trend has been the opposite with slight increases in the former and more significant increases in the latter. However, if one compares the 1986 -2005 period with the recent 10-year period, with the exception of the area of the Cang Long district, the remaining districts have tended to see a decrease in rainfall. The coastal district of Duyen Hai has experienced the greatest decrease, from 110-200mm/yr. In

contrast, during the more recent period, total annual rainfall has seen a 17-34mm/yr increase in the area of the Can Long Districts. See Figures 9 and 10.

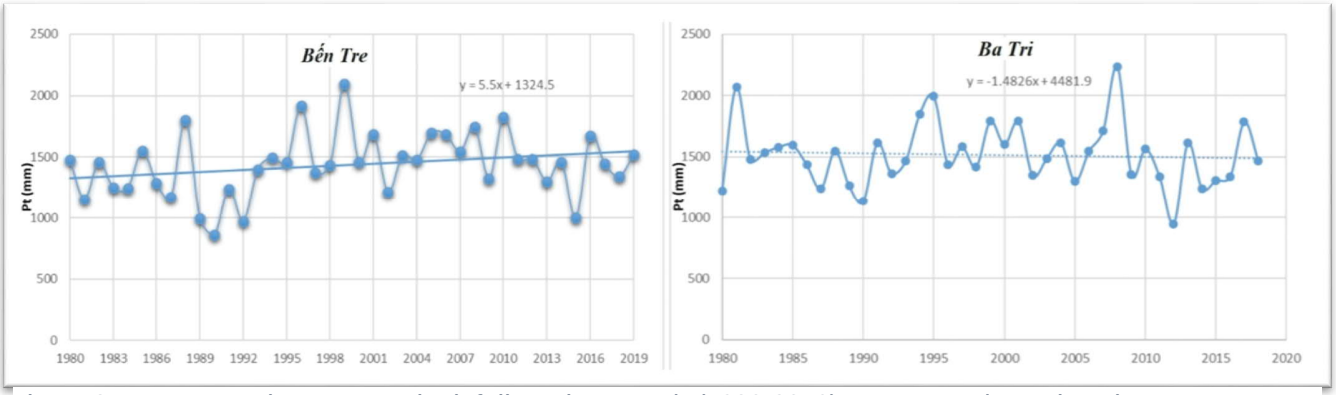


Figure 8. Ben Tre Province – Annual rainfall totals & trends (1980-2019), Ben Tre and Ba Tri stations.

Observations from the individual stations show:

- Cang Long – Over the period 1980 - 2018, annual rainfall totals have tended to decrease at an average rate of -0.05mm/yr. The largest annual rainfall was 2,041mm (2008) and the lowest observed annual rainfall was is 1,200mm (1990).
- Tra Vinh – The overall trend has been an increase of some 1.38mm/yr. The largest annual rainfall was 1,956mm (2008), and the lowest was 912mm (1990).
- Tra Cu – Total annual rainfall has been increasing at a rate of about 3.95mm/yr. The highest recorded total annual rainfall was in 1991 (2,172mm), and the lowest in 1984 (984mm).
- Ben Gia – There has been a strong decreasing trend in total annual rainfall during the period of record (1994 to 2018), which has averaged -12.9mm/yr. In the period from 2005 to 2018, the rate of decrease was -26.0mm/yr. The highest annual rainfall was in 1999 (2,303mm), and the lowest in 2015 (1,156mm).

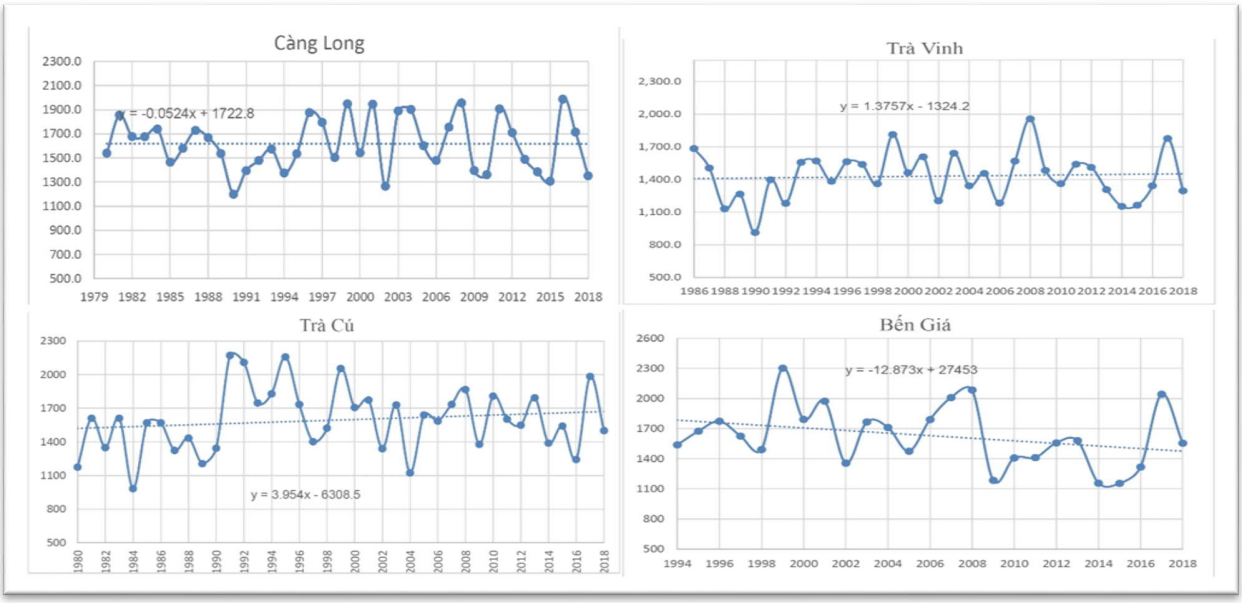


Figure 9. Tra Vinh Province – Annual rainfall totals & trends from four stations

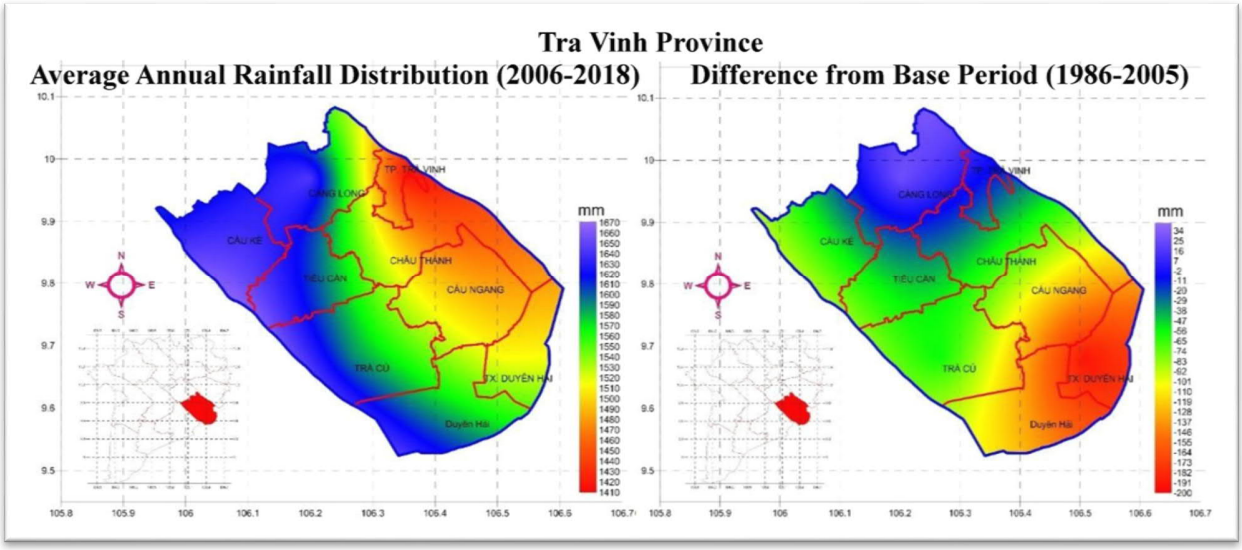


Figure 10. Tra Vinh Province – Rainfall distribution in the period 2006-2018 (L), and changes in that period as compared to the 1986-2005 base period (R)

Ben Tre – Trends in peak rainfall. Over the period 1980-2019, the 1, 3, 5, and 7 day annual maximum rainfalls showed:

- Ben Tre station – a decreasing trend of -0.28mm/yr, -0.3mm/yr, -0.12mm/yr, and -0.28mm/yr, respectively for the 1, 3, 5, and 7 day annual maximum rainfalls
- Ba Tri station – an increasing trend of 0.12mm/yr in the 1 day maximum rainfall, and a decreasing trend of -0.47mm/yr, -0.12mm/yr, and -0.19mm/yr, respectively for the 3, 5, and 7 day annual maximum rainfalls.

Figure 11 illustrates the trends at each station.

Ben Tre, Number of consecutive days without rainfall. In Ben Tre Province, both Ben Tre and Ba Tri stations showed declining trends in the number of consecutive days without rainfall, during the period of record from 1980-2018. The trend at Ben Tre station was -1.27 days/yr and at Ba Tri station was -1.69 days/yr. The year with the highest number of days without rain was 155 days (1992) at Ben Tre station,

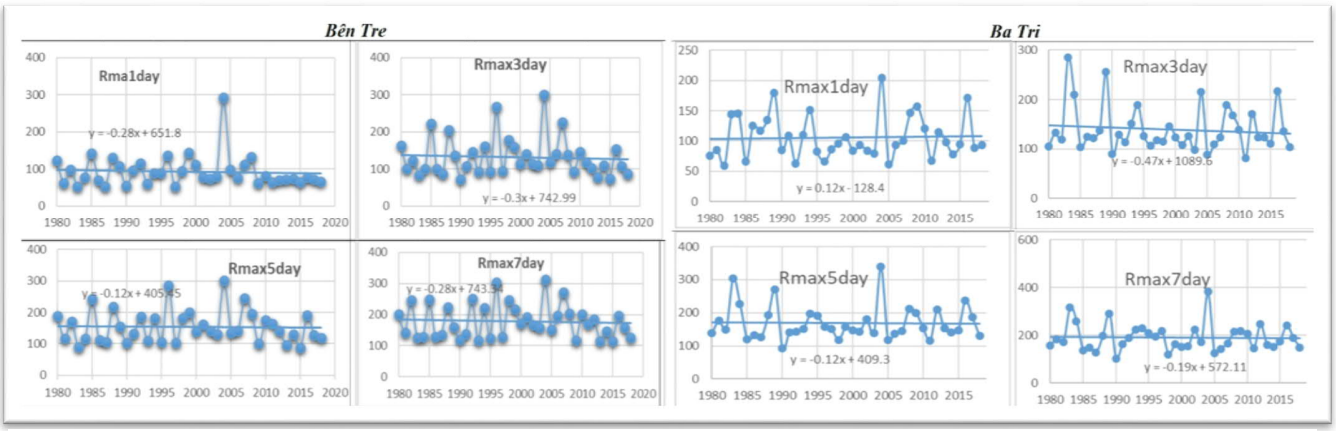


Figure 11. Ben Tre Province – Maximum 1, 3, 5, and 7 day rainfall totals during the period 1980-2019

and 183 days (1983) without rain at Ba Tri station. This information is not available for Tra Vinh Province.

Ben Tre, Number of consecutive rainy days. In Ben Tre Province, both Ben Tre and Ba Tri stations showed slight declining trends in the number of consecutive days with rainfall, during the period of record from 1980-2018. The trend at Ben Tre station was -0.15 days/yr and at Ba Tri station was -0.08 days/yr. The year with the highest number of consecutive days with rain was 22 days (2001) at Ben Tre station, and 32 days (2006) at Ba Tri station. This information is not available for Tra Vinh Province.

Sea-level Rise

(Sources: DONRE/Ben Tre. 2020, and DONRE/Tra Vinh. 2020, unless otherwise noted.)

Trends in Sea-level, Ben Tre Province. In general, sea level rise in Ben Tre appears is expected gradually increasing most significantly towards the end of the century. By 2040, according to the RCP8.5 scenario, sea level rise would be between 11.8 and 25.7 cm (medium scenario = 17.9 cm). In 2050, the rise would be between 16.1 cm and 35.1 cm (medium scenario = 24.5 cm). At centuries end, the rise is predicted to

Unit: cm

Scenario / Year		2020	2030	2040	2050	2060	2070	2080	2090	2100
RCP 8.5	High	10,3	17,4	25,7	35,1	45,5	57,2	70,5	86,1	104,9
	Medium	7,2	12,1	17,9	24,5	31,8	39,9	49,2	60,1	73,2
	Low	4,8	8,0	11,8	16,1	20,9	26,3	32,4	39,6	48,2

Figure 12. Ben Tre sea-level rise according to RCP8.5 scenario.
Source: DONRE/Ben Tre, 2020)

be between 48.2 cm and 104.9 cm (medium scenario = 73.2) cm. See Figure 12 below.

In addressing sea-level rise and its impact on inundation, the official provincial document (DONRE/Ben Tre, 2020) looks at sea level rise as a function of high tides and their influence on water level in rivers and canals, in combination with upstream peak/flood flows resulting from storms and tropical depressions that directly affect coastal districts. As such, this section focuses on tidal surge, with regional sea-level rise discussed in the next section "RSLR – Relative Sea-Level Rise (Subsidence & Sea-level Rise)", and potential inundation impacts discussed within the context of the section below on "Ben Tre, Flood Risk".

Tidal surge pass upriver into the downstream sections of the delta through both large rivers (Tien and Hau), as well as up the smaller rivers (e.g., Ganh Hao, and Bo De). The average tidal magnitude is about 3 – 4 m, and the surges are transmitted far upstream. In the dry season, a 50 cm can occur 300+km upstream in Phnom Penh. During riverine flood events, the coincidence of peak flows and high tides may result in severe flooding in the downstream reaches of the province's rivers.

Notable trends during the period of 1980-2018 – measured at Cho Lach station, 70 km upstream of the coast, i.e., measurements of tidal surge – include (see Figure 13):

- From 2000 onwards, the annual highest peak tides have tended to increase, year upon year.
- Mean annual water level, as affected by high tides, has been showing a continual increase. The average increase during the period of record has been about 0.35 cm/yr. The greatest increase was in 2011 (0.42 cm) and the lowest in 1983 (0.17cm).

- The annual recorded maximum high tide surge, has shown an average annual rate of increase of 1.26 cm/yr. The highest annual maximum was recorded in 2013 (1.98 cm) and the lowest in 1988 (147cm).
- The annual recorded minimum at low tide has shown an average annual rate of increase of 0.44cm/yr. The lowest recorded value was is in 1983 (-190cm).

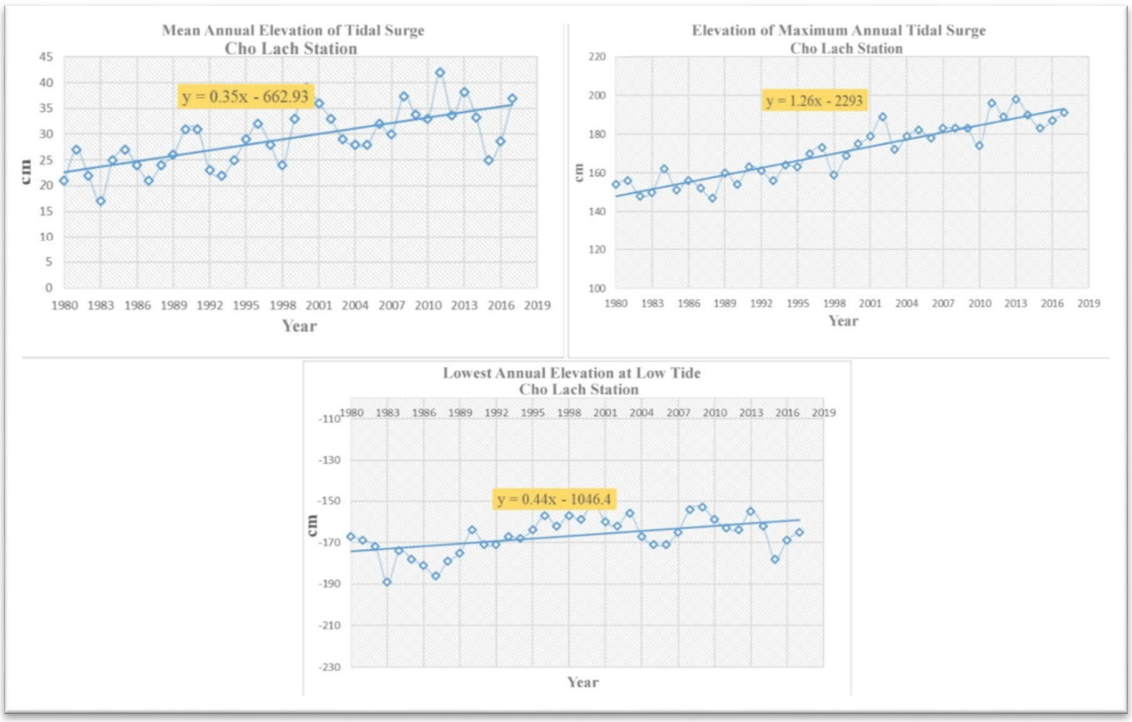


Figure 13. Trends in tidal surge, Ben Tre Province – Cho Lach Station 1980-2018

Trends in Sea-level, Tra Vinh Province. Under the RCP8.5 greenhouse gas scenario, by 2030 the average sea-level rise is predicted to be 12cm (range 8 to 17 cm). By the mid-century (2050), sea-level rise is predicted to be 25cm (range 16 to 35 cm). By 2100, sea-level rise is predicted to be 73 cm (range 48 to 105 cm). Figure 14 shows the estimated percentage of area inundated, at province-level and by districts and urban areas, in result of predicted sea-level rise under this scenario.

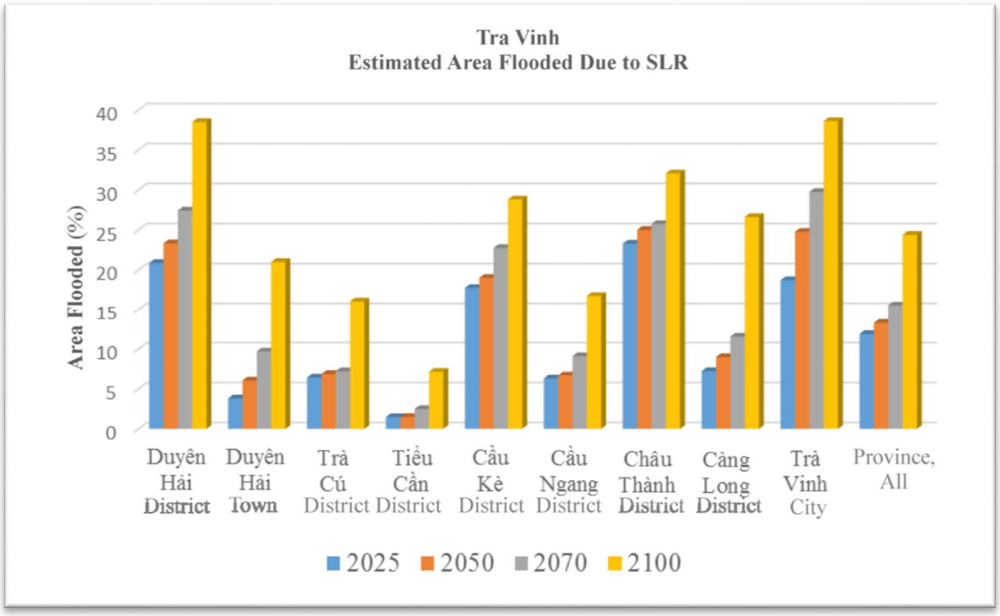


Figure 14. Tra Vinh, area inundated (% of land area) due to sea-level rises under RCP 8.5 scenario

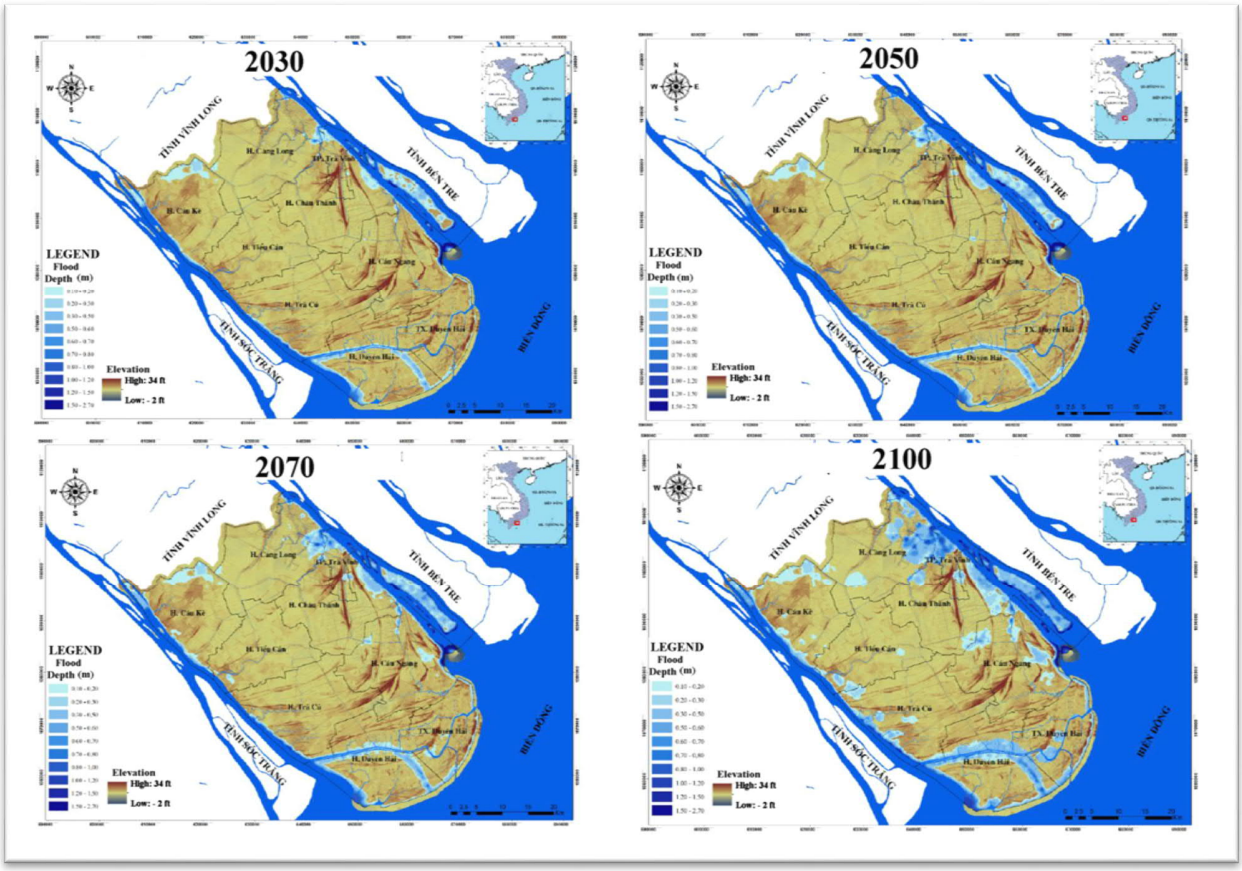


Figure 15. Sea-level rise inundation risk for Tra Vinh province (RCP8.5 scenario)

RSLR – Relative Sea-Level Rise (Subsidence & Sea-level Rise)

For the Mekong Delta (and all other deltas, worldwide) it is important to look at subsidence (and its causes) when assessing sea-level rise potential impacts; in many of the world's deltas subsidence rates may be significantly greater than the rate of sea-level rise. In the case of Ben Tre's and Tra Vinh's official 2020 climate change and risk assessments, neither factor in what is known about subsidence in the Mekong River Delta region. This section attempts to fill that gap.

Subsidence is both a natural process as well as one induced by human activity, with the latter being of primary concern due to the potential for human interventions to greatly accelerate the process. In the Vietnamese Mekong River Delta, neither the exact causal factors nor the precise interaction between those factors are well enough understood yet to allow a high-level of confidence on the why subsidence is happening or, therefore, what can be done to reduce its impacts. Still, it is quite clear that anthropogenic factors are contributing, though the extent to which the varying drivers – both natural and human-caused – are responsible in any specific location is not well understood. (GIZ, 2019)

Two anthropogenic factors that are known to play a significant role in subsidence are the loss of sediments that naturally build and replenish the delta, and groundwater extraction. Recent studies (Tamura, et al, 2020) suggest that significant decreases in sediment supply, and the ensuing erosion, likely started between 1885 and 1940, caused by the construction of a dense network of canals and dikes[3]. Since the 1990s, the Mekong River delta has also suffered a further, very large decline in sediment supply as a result of upstream hydropower dam construction and sand mining in and near river channels (Minderhoud, et al, 2019; Tamura, et al, 2020). One estimate is that the Mekong River now transports only half (50%) of the sediment load it did prior to human intervention[4], and that full build out of all the proposed dams upstream of Viet Nam could reduce that to only 5-10% of pre-human intervention levels. (GIZ, 2019)

The other factor is the excessive extraction (pumping) of groundwater. As groundwater levels drop, subsidence is induced through aquifer compaction. Not only does this result in vertical movement (downward) of the land surface, but it also causes a largely irreversible reduction in the aquifers' water storage capacity.

Assessing the combined impacts of subsidence and sea-level rise – or relative sea-level rise (RSLR) – depends on having an accurate understanding of the delta's elevation, relative to local sea-level. A recent assessment of these resulted in the alarming conclusion that Mekong delta has an extremely low mean elevation of ~0.8m above sea-level, dramatically lower than the earlier assumed ~2.6 m. These results implied major uncertainties in sea-level rise impact assessments for the Mekong delta, with errors potentially larger than a century of sea-level rise. (Minderhoud et al, 2019). However, these conclusions are disputed[5] by another recently concluded study, which assessed vertical movements at 750,000 points across the Mekong Delta, using some 180 different time series data for each point, over a four year period. (GIZ, 2019)

The results of this latter, more data intensive study come with a series of caveats over how the findings should be interpreted and used (see text box below "Land Subsidence in the Mekong Delta – a few

[3] Dikes prevent overbank flooding that deposits sediments into floodplains each year, building them up and extending deltas seaward. Overbank flooding also recharges groundwater, thus dikes also reduce groundwater replenishment. Canals both drain surrounding soils, resulting in their compaction/subsidence but also redirect water (and the sediments they carry) into new areas (e.g., to irrigate rice lands), which among others, further impacts the seaward growth of the delta and leaves the coastal zone further vulnerable to erosion.

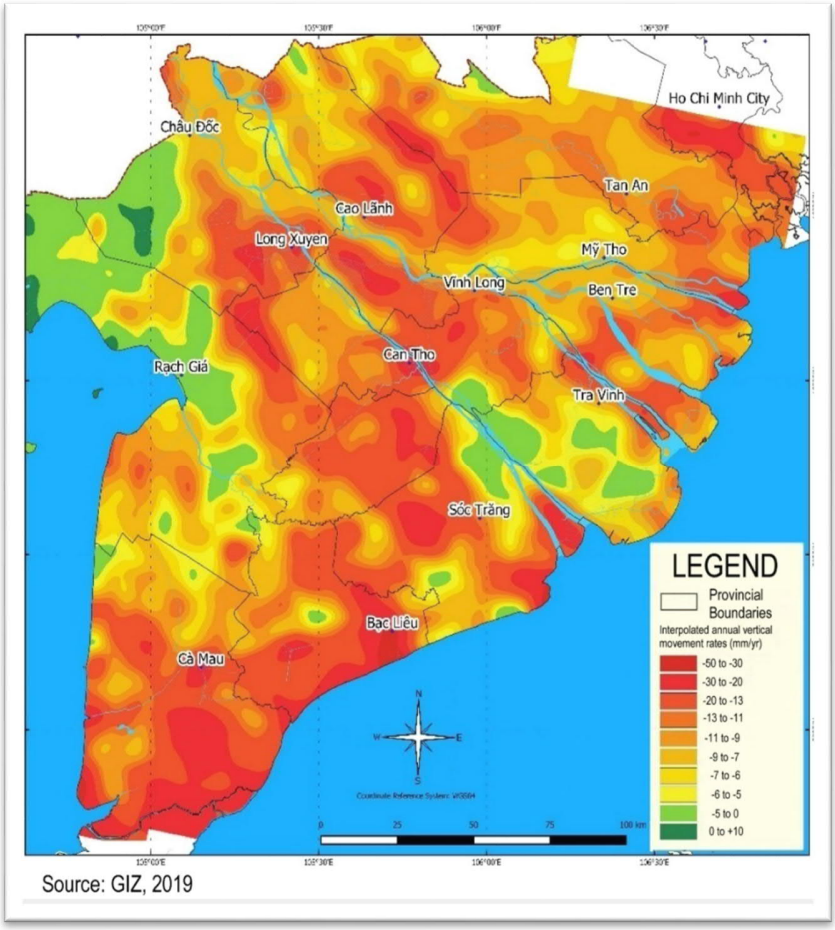
[4] The same source estimates that the aggregate impact of the upstream dams already completed, with those under construction and planned in China, Laos, Thailand, and Cambodia will be a reduction of 90% to 96% in sediments compared to pre-dam times.

[5] The study pointed out that the Minderhoud et al assessment used a digital elevation model (DEM) based on elevation points from a national topographical map, so that the model appeared to be too low in relation to known land heights in Ca Mau. Specifically, that the average land height in 2010 was about 1.2m while the DEM of Minderhoud had values around 0.45m. To further check the Minderhoud model, the 0.75m difference at the known point was added across the DEM to reach a height consistent with known heights in the delta. A cross check in some other places (e.g. Long Xuyen) showed that the adjusted DEM was still significantly lower than local data.

caveats"), especially as regards any future predictions based on its findings[6]. Among its more robust conclusions are:

- The data clearly indicates the magnitude of the problem across the Delta, and the observations confirm alarming subsidence rates that are multiples of the rate of sea-level rise.
- It is of particular concern that the time series at almost all data points show a straight linear trend. This means land subsidence does not show signs of slowing down. As the Delta is only just above sea-level, this will ultimately lead to a high risk of inundation in large parts of the Delta unless actions are taken to reverse this trend and slow land subsidence considerably.
- The Mekong Delta sinks at an average rate of about 10 mm/yr, bringing it closer to sea-level, which currently is rising at 4 mm/yr in the south of Viet Nam.
- Many scientists expect that the rate of sea-level rise will increase over the next decades. Both trends result in an increased relative sea-level.

Figure 16. Land subsidence rates in the Mekong Delta, a simplified interpolation



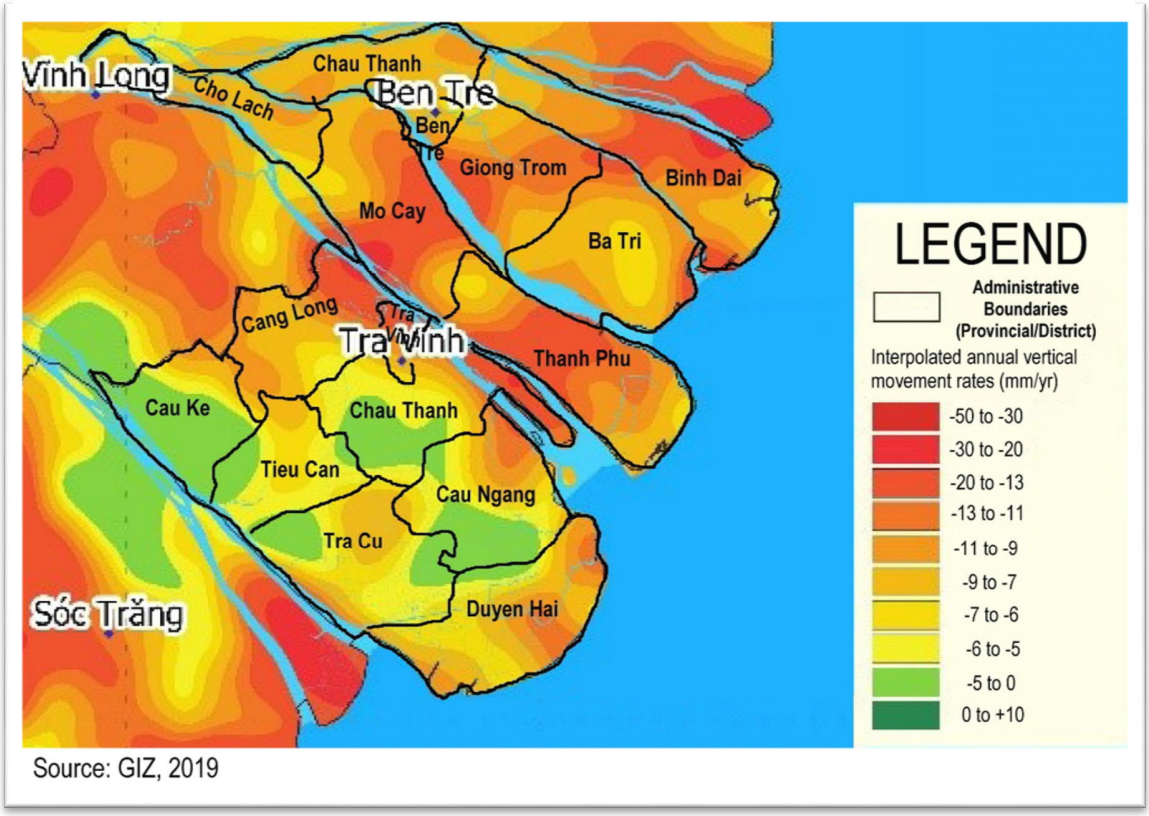
- The average subsidence rate of the Delta as a whole is comprised of the rate for agricultural and urban areas (and others), and the rates for different forms of land use, which vary considerably. Many urban areas are subsiding at rates of 30-50 mm/yr, which is much faster than, for example, rice paddies.
- Forecasts of when certain effects of land subsidence will manifest more strongly is fraught. This is due to uncertainty over the zero reference height or "mean sea-level", which differs from one map, or DEM, to the other. However, it will be only a matter of years or decades until more serious consequences of land subsidence, in concert with sea-level rise, will increase the negative impacts that already apparent today.
- Subsidence accelerates salt water intrusion and so is affecting agriculture; and temporary floods will become more frequent and cover larger areas, impacting both urban and rural

[6] Among the caveats is that the relatively short period of observations (4 years) is only sufficient for making robust predictions for the near to medium-terms (i.e., next four years plus), but beyond that the degree of uncertainty increases with increasing time as subsidence rates can increase or decrease across time.

development. Public and private buildings as well as infrastructure stability will be compromised.

- Options to mitigate land subsidence are quite limited. Reducing or stopping groundwater usage or an increase of sediment deposits would certainly delay some effects for some years. However, since sea-level rise rates are expected to increase, this would eventually make temporary any possible gains from slowing down land subsidence. An alternative option of coping with land subsidence is adapting to it and finding ways to live with rising waters. For agriculture, this will mean switching to more salt tolerant species. Urban areas, which are sinking much faster than agricultural land, might need infrastructure solutions in the form of ring dykes, sluice gates, and pumping stations to keep water out of affected urban centres.

Figure 17. Land subsidence rates in the project provinces and districts, a simplified interpolation
(Note: district boundaries are approximate)



Bearing in mind the caveats articulated in the GIZ (2019) assessment (see text box), Figures 16 and 17 provide insight into one possible scenario of current land subsidence in the Mekong Delta and the project provinces. These imply that subsidence rates in the majority of the project area tend to be at or below the average of the 10 mm/yr suggested as the average across the delta, as well as there being others areas of both general and specific concern. Of general concern is the observation that subsidence may be of potentially greater concern in Ben Tre province, and of specific concern are the “hot spots” running from Binh Dai through Giong Trom and Mo Cay districts of Ben Tre, and in Tra Vinh, running along the Cổ Chiên River from Cang Long district, through Tra Vinh City and into Chau Tanh, and to a lesser extent in Duyen Hai district.

MONRE's most recent "Climate Change and Sea Level Rise Scenarios for Viet Nam" (2016) report for the project region[7] provides projections of SLR through the 21st century, under the RCP8.5 scenario[8] (Figure 18). If one were to use the GIZ (2019) figures as a worst case scenario for the combined impacts of subsidence and sea-level rise, in 2050 the RSLR implied within the project area might range from (i) 16cm to 43 cm in the "low subsidence" zones (0 to -6 mm/yr); (ii) 39cm to 74cm in the "moderate subsidence" zones (-7 to -13 mm/yr); (iii) 45cm to 1.25m in the "high subsidence" zones (-13 to -30 mm/yr), and (iv) 1.15m to 1.85m in the "very high subsidence" zones (-30 to -50mm/yr)[9].

Figure 18. RCP8.5 SLR scenario for project region (MONRE, 2016)

Regions	The timeline of the 21st century (units = cm)							
	2030	2040	2050	2060	2070	2080	2090	2100
Cape Ke Ga, Binh Thuan to Ca Mau Penninsula	12 (8 ÷ 17)	18 (12 ÷ 26)	25 (16 ÷ 35)	32 (21 ÷ 46)	41 (27 ÷ 59)	51 (33 ÷ 73)	61 (41 ÷ 88)	73 (48 ÷ 105)

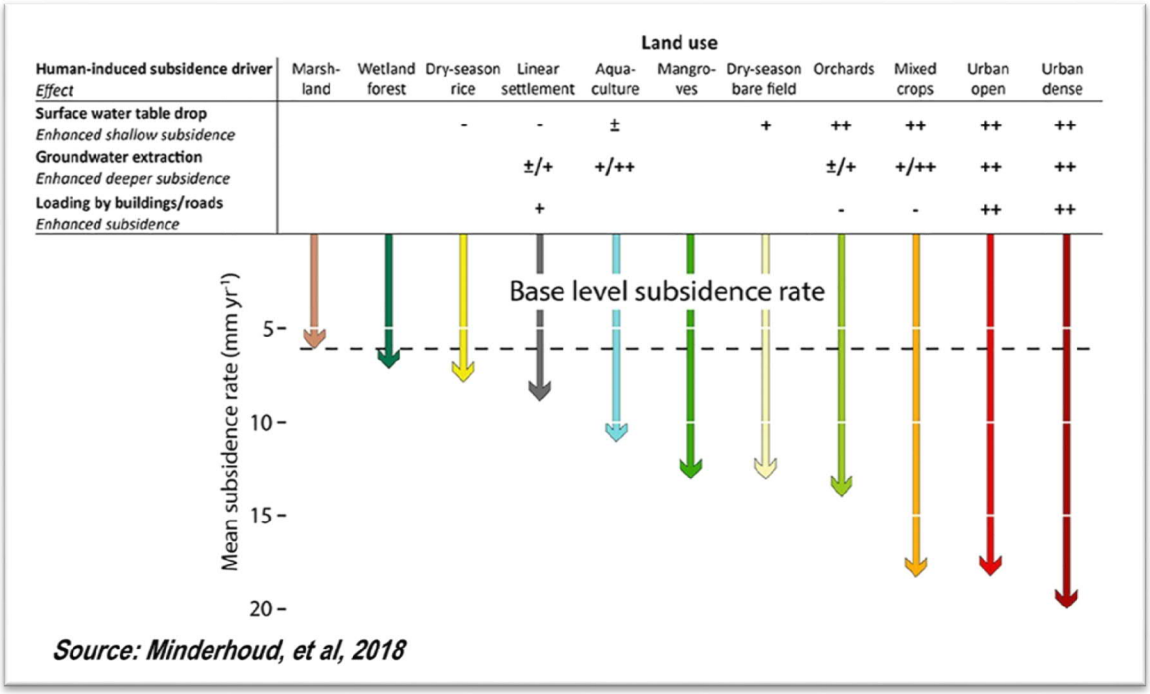


Figure 19. Estimated impact of subsidence drivers, and mean subsidence rate for the period 2006–2010 per land-use class.

[7] Defined by MONRE (2016) as the southeastern coast from Cape Ke Ga in Binh Thuan Province to the southern tip of the country in the Ca Mau Peninsula; a some 420km stretch of coastline, of whose length about ¾ comprises the Mekong Delta.

[8] The RCP4.5 and RCP8.5 are largely the same until mid-century

[9] MDIRP estimates "Mean sea level rise is currently…about 3.5-4 mm/year, and the average rate of land subsidence is roughly 3 cm/year….At such rates, 35-40 cm relative sea level rise…by 2030 in much of the Mekong Delta, and more than 1m by 2050…" Royal HaskoningDHV & GIZ. 2020

Another layer of complexity to add into the discussion are the current and future impacts of land use on subsidence. Figure 19[10], summarizes findings from recent work (Minderhoud et al, 2018) to analyze historic land use and changes over time to estimate the impacts of land use and land use change on subsidence. The analysis identified the main drivers of subsidence as being the lowering of the water table, groundwater extraction, and surface loading from construction of buildings and other infrastructure. Based on the mean observed subsidence rates, the authors were able to rank land-use classes. As there are time lags in the impacts of land-use change on subsidence, the estimates were made based on areas that maintained the same land use for a period of 18 years (1988–2006). A clear trend was apparent between anthropogenic impact on the natural system and the mean subsidence rate of a land use class. The lowest mean subsidence rates were found for natural, undeveloped areas, i.e. marshland and wetland forest, and highest rates for areas with high anthropogenic influence, i.e. mixed-crop agriculture and densely urbanized areas. More anthropogenic impact thus results in higher subsidence rates. The lowest subsidence rate of 6 mm/yr occurred in undeveloped marshland. Noteworthy here are the authors' conclusion that due to the strong relation between land-use history and subsidence, knowing land-use history can enable the making of predictions of future subsidence rates and/or the impacts of proposed developments. This could provide an important policy, planning, regulatory, and risk management tool.

Land Subsidence in the Mekong Delta
A few caveats

The GIZ (2019) study clearly shows that point estimates of subsidence are not uniformly distributed, and that there are strong, very local variations. But, as well, there are similar patterns of subsidence across large areas. Many urban areas show large negative vertical movements, while many rural areas subside at a lesser rate. However, there are exceptions to this, as well. The observed variations at localized levels might reflect reality but they may also result from inaccuracies of the method applied. The Figure 16 map has "smoothed" the results on the assumption that the too high or too low values might have been measurement errors. While this produces a "cleaner" result that may reveal subsidence patterns more clearly, it may also be incorrect and provide a false impression of uniformity. The high variability among point readings may indeed been an actual reflection of reality, showing that very pronounced local differences in ground movement do exist.

Also, to use subsidence data for forecasting how high land will be in the future requires knowledge of how high the ground is now. Currently, it is difficult to find reliable height references in the Mekong Delta. The geodetic reference points or coordinate control points are themselves subject to an unknown amount of land subsidence, and with rising sea levels, the traditional reference of "mean sea level" becomes a dynamic value. The Government is working on this so that in the future there will be a zero-height value, independent of the sea level and sinking land.

Saline Intrusion

Due to tidal movement, the low-lying flat topography and the very dense network of canals, the Mekong Delta is prone to salinity intrusion. In discussing salinity, two figures should be kept in mind: (i) 0.25 g/l[11], and (ii) 4 g/l. The former is considered the upper limit for domestic and industrial water supply (Royal HaskoningDHV and GIZ, 2020), and the latter is the concentration at which rice and other saline sensitive crops are affected (Tamura, et al, 2020).

A Note on Measure of Salinity

In the Ben Tre Provincial climate change plans salinity is reported in "parts per thousand", abbreviated as "$^0/_{00}$". The Tra Vinh plan uses grams/liter (g/l), which itself is equivalent to "parts per thousand". As "g/l" is the more common in other research and reporting sources, this paper follows the convention of "g/l".

[10] Mean subsidence rates were derived from areas with stable land use over the period of 1988–2006. In Figure 18 the estimated impact of each subsidence driver is ranked: minimal (–), low (±), moderate (+) and high (++). All classes experience a subsidence rate of at least 6mm/yr. Higher subsidence rates are associated with increased impact of anthropogenic subsidence drivers.

[11] This is the WHO standard. Viet Nam, however, in coastal areas has adopted a standard of 1 g/l. In general, <0.6 g/l is regarded as good quality drinking water; 0.6 – 0.9 g/l fair quality; 0.9 – 1.2 g/l as poor quality; and >1.2 g/l as unacceptable.

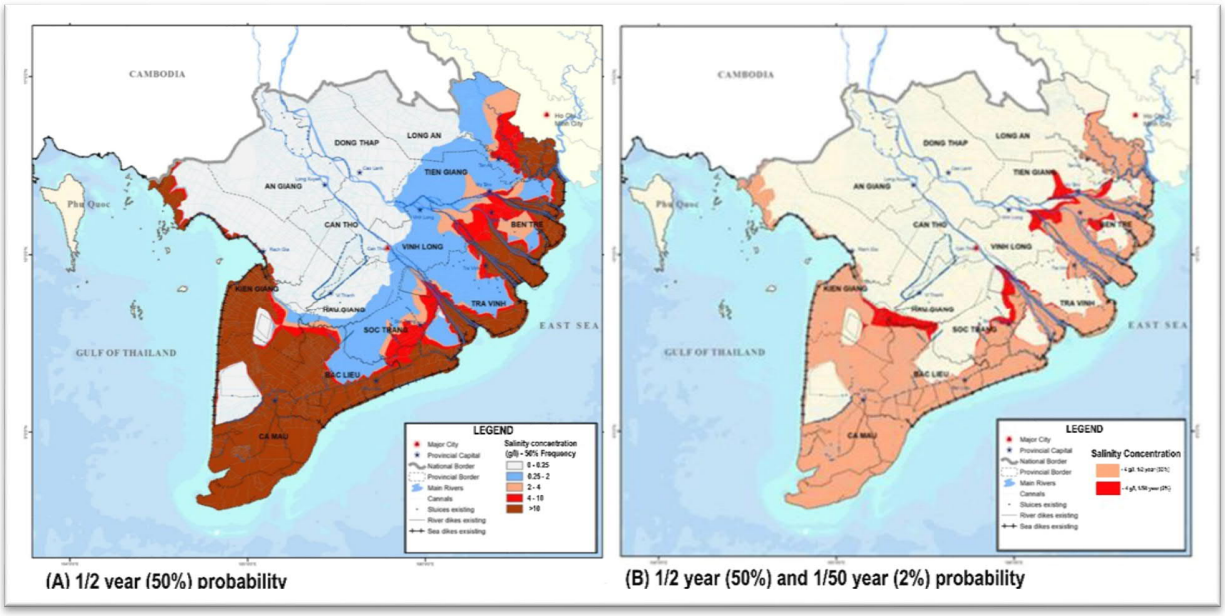


Figure 20. Salinity intrusion in an average year (A), and in an average and a high year (B).

Source: (Royal HaskoningDHV and GIZ, 2020)

Figure 20a, below, shows the spread of salinity intrusion in a near-normal year, with a return period of 2 years, based on model simulations. It suggests that a maximum annual salinity of 4 g/l will intrude about 45 km inland in the Hau river, and about 50-55 km inland in the estuary branches of the Tien river. For large areas in the coastal provinces the maximum salinity levels are over 10 g/l. Under more extreme conditions, with lower river discharges in the dry season, the salinity intrusion will increase. Figure 20b shows the difference in salinity intrusion between a high and an average year using the 4 g/l isolines as an indicator. Compared to the flows in the average dry season, the high scenario's 20 to 30% reduction in dry season flow volumes results in salinity intrusion progressing about 15 km further upriver on both the Hau and Tien river; affecting significantly greater areas of the project provinces. (Royal HaskoningDHV and GIZ, 2020),

Further dam building, sea level rise and land subsidence can be expected to further aggravate salinity intrusion. Since the saline and brackish conditions are determining of agricultural and aquaculture potential, unless salinity control measures are taken or alternative sources of fresh water are accessed, many farmers in the coastal zone can be expected to use groundwater either as a supplementary source for fresh water, and/or to dilute the salinity content of brackish water for irrigation usage. As groundwater pumping is a main cause of land subsidence, this can be a dangerous development in extremely low-lying areas. (Royal HaskoningDHV and GIZ, 2020).

Ben Tre, Saline Intrusion[12]. The distance to which a certain salinity level Sg/l can intrude upstream is called "the salinity intrusion length". This length is dependent on the tidal intensity at high tide and the river flow regime upstream. For purposes of the provincial monitoring, the salinity intrusion lengths of salinity 1 g/l and 4 g/l are recorded, being respectively the threshold salinity affecting humans and crops, especially wet rice. Figure 21 shows the characteristics of saline intrusion in the project area.

[12] Source: DONRE/Ben Tre. 2020, unless otherwise noted

Currently, the maximum intrusion length of the monthly average salinity of 1 g/l in the worst month of the year (April) can reach 55-57 km from the coast. The monthly average for the 4 g/l salinity is 33-37km, with the highest intrusion lengths as much as 50-57 kilometers. The trends that are being perceived are, in general, negative (i.e., salinity levels and intrusion lengths are increasing:

- An Thuan station, about 8 km inland on the Ham Luong river, observation from 1996-2019 show that monthly averages, for the months from February to July, are increasing every year at a rate of about 0.09g/l/yr. Salinity levels are highest in March. The highest annual salinity reading for this station was 31.5g/l, in 2016, and the lowest was 22.2 g/l in 2000.
- Ben Trai station, about 45 km inland on the Co Chien river, observations from 1997-2019 show that monthly averages for the months from February to July, are decreasing every year at a rate of about -0.04g/l/yr. Salinity levels are highest in March. The highest annual salinity reading for this station was 29.3 g/l, in 2016, and the lowest was 22.3g/l in 2019.
- Binh Dai station, about 13km inland on the Cua Dai River, observation from 1996-2019 show that monthly averages, for the months from February to July, are increasing every year at a rate of about 0.09g/l/yr. Salinity levels are highest in March. The highest annual salinity reading for this station was 29.4g/l, in 2005, and the lowest was 17.5g/l in 1997
- Huong My station, in the Cung Hau estuary (Ham Luong river), observation from 1996-2019 show that monthly averages, for the months from February to July, are increasing every year at a rate of about 0.16g/l/yr. Salinity levels are highest in March.
- Across all salinity monitoring stations, 2005 and 2016 were the years with the highest salinity readings; and 1997, 2000 and 2019 were the years with the lowest.

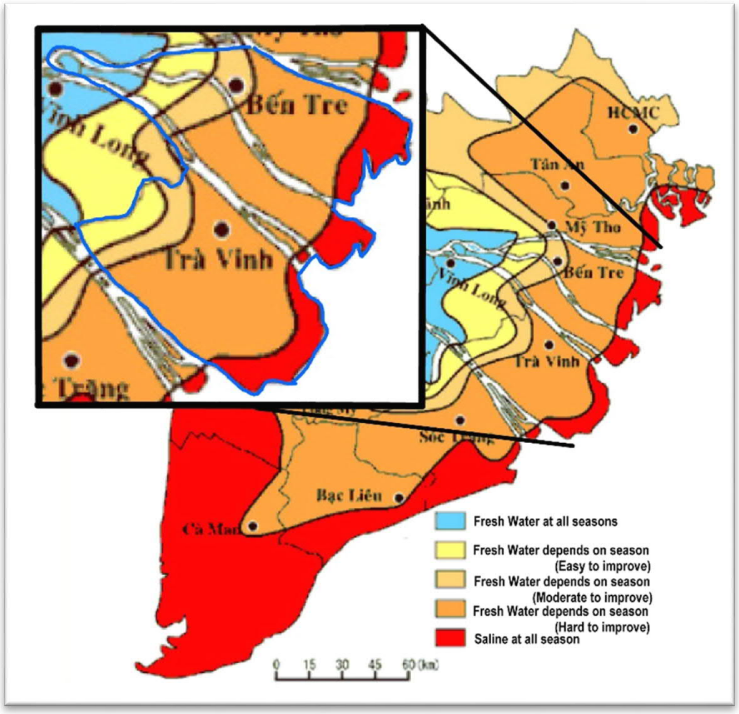


Figure 21. Characteristics of saline intrusion in project area
Source: GIZ, 2019

Ben Tre, future predictions of saline intrusion. See Figure 22. For purposes of projections, the drought year of 2016 was taken as the base year for comparisons, due to the resulting severe saline intrusion. In 2016:

- The period of saline intrusion lasted from the beginning of January to the end of June, with the highest level of salinity estimated to have occurred in the Mekong River in mid-April at stations in Ben Tre.
- On the Cua Dai River estuary area is where the maximum salinity (27.4g/l) was encountered. The lowest salinity levels were at Binh Dai, about 0.5 g/l; salinity levels at low tide there range from 0.5 - 7.3 g/l.
- At the Binh Dai station, located about 13 km inland near Loc Thuan, the maximum salinity was about 18.5 g/l.

- The boundary for 4 g/l of salinity was about 50km from the Cua Dai estuary, and the 1 g/l boundary was about 60km from the river mouth; the 1 g/l salt boundary reached the Cho Lach area.
- On the Ham Luong river, at An Thuan station (about 8km inland), salinity calculations showed that the maximum salinity during the 6 month dry season in 2016 was 32 g/l. During low tide, salinity at the station decreases to between 1 and 7.4 g/l. Moving upstream from An Thuan, the maximum salinity decreases; in the area of Giong Trom (about 20 km inland) it declines to 16.2 g/l; and about 44km inland, at My Hoa, the maximum salinity was about 12.2 g/l.
- On the Co Chien River, the maximum salinity during the 2016 dry season was 30 g/l, encountered at Ben Trai station in the Co Chien estuary (Cua Co Chien). About 20km upstream, in the Huong My area, the maximum salinity was 17 of 30 g/l. The maximum salinity at the province boundary with Vinh Long (at Khanh Thanh Tan) was about 9.2 g/l; the 1 g/l salinity boundary was about 1 km inside the Vinh Long province boundary.

Projections for 2025 (RCP8.5):

- Projections of saline intrusion for RCP4.5 and RCP8.5 in 2025 are essentially the same.
- On the Cua Dai River, the calculated results for 6 months (from January to June) at the estuary area, the maximum salinity is 28.2 g/l. At Binh Dai station (13 km inland) a significant decrease in salinity is predicted, to 19.3 g/l.
- On the Ham Luong river, the maximum salinity during the dry season, at An Thuan station, is predicted to be 32.8 g/l. At a point about 5km above An Thuan (13km inland), the maximum salinity would decrease to 27.9 g/l. Continuing upstream to the Giong Trom area, the maximum salinity is predicted at 17.3 g/l; and at My Hoa area, the maximum salinity predicted is 12.9 g/l.
- On Co Chien River, the maximum salinity at the estuary (Ben Trai station) is 31.2 g/l. About 20km upstream, in the Huong My area, the maximum salinity is predicted to be 18.2 g/l. At the provincial boundary with Vinh Long, at Khanh Thanh Tan, the maximum is 9.8 g/l.

Projections for 2030 (RCP8.5):

- Projections of saline intrusion for RCP4.5 and RCP8.5 in 2025 are essentially the same.
- On the Cua Dai River, the calculated results for 6 months (from January to June) at the estuary area, the maximum salinity is 29.1 g/l. At Binh Dai station (13 km inland) a significant decrease in salinity is predicted, to 20.1 g/l.
- On the Ham Luong river, the maximum salinity during the dry season, at An Thuan station, is predicted to be 33.3 g/l. At a point about 5km above An Thuan (13km inland), the maximum salinity would decrease to 28.7 g/l. Continuing upstream to the Giong Trom area, the maximum salinity is predicted at 18.5 g/l; and at My Hoa area, the maximum salinity predicted is 13.5 g/l.
- On Co Chien River, the maximum salinity at the estuary (Ben Trai station) is 32.1 g/l. About 20km upstream, in the Huong My area, the maximum salinity is predicted to be 19.1 g/l.

Projections for 2050 (RCP8.5):

- Projections of saline intrusion for RCP4.5 and RCP8.5 in 2050 diverge.
- On the Cua Dai River, the calculated results for 6 months (from January to June) at the estuary area, the maximum salinity is 32.0 g/l. At Binh Dai station (13 km inland) a significant decrease in salinity is predicted, to 22.8 g/l.
- On the Ham Luong river, the maximum salinity during the dry season, at An Thuan station, is predicted to be 34.0 g/l. At a point about 5km above An Thuan (13km inland), the maximum salinity would decrease to 30.3 g/l. Continuing upstream to the Giong Trom area, the maximum salinity is predicted at 19.4 g/l; and at My Hoa area, the maximum salinity predicted is 14.8 g/l.

- On Co Chien River, the maximum salinity at the estuary (Ben Trai station) is 32.9 g/l. About 20km upstream, in the Huong My area, the maximum salinity is predicted to be 19.8 g/l. At the provincial boundary with Vinh Long, at Khanh Thanh Tan, the maximum is 11.6 g/l.

Tra Vinh, Saline Intrusion[13]. In Tra Vinh, the greatest salinity levels usually occur in April or May, during the period of low flows in the Mekong River, when tides can push larger volumes of saline water inland and tidal surges move further upstream from the estuaries. See Figure 23. Monitoring of salinity, which focuses on the period of January through June of each year, during the period from 2007 – 2018 showed the following trends as regards average annual salinity:

- Tra Vinh station – the average annual salinity showed a slight tendency to decrease, at rate of --0.19g/l/yr. The average salinity level at the station is 2.4g/l. The year with the highest average salinity occurred in 2010 (3.2g/l); an active El Niño year with a prolonged, 5 month drought, during late 2009 and 2010. The lowest average salinity was in 2014 (1.0g/l). The highest average salinity occurs mainly in March (5.9g/l), and lowest in June (0.1g/l). The annual maximum salinity is also experiencing a decrease, declining at a rate of -0.06g/l/yr. See Figure 23. For the period, the average annual maximum salinity is 10.6g/l. The highest annual maximum occurred in 2016 (14.6g/l), and the lowest was in 2014 and 2018 (8.1g/l).
- Hung My station[14] – The annual maximum salinity is declining at a rate of -0.21g/l/yr. See Figure 23. For the period, the average annual maximum salinity is 15.98g/l. The highest annual maximum occurred in 2016 (19.6g/l), and the lowest was in 2014 (11.2g/l).

[13] Source: DONRE/Tra Vinh, 2020, unless otherwise noted

[14] Average annual salinity and its trends were not reported for this station.

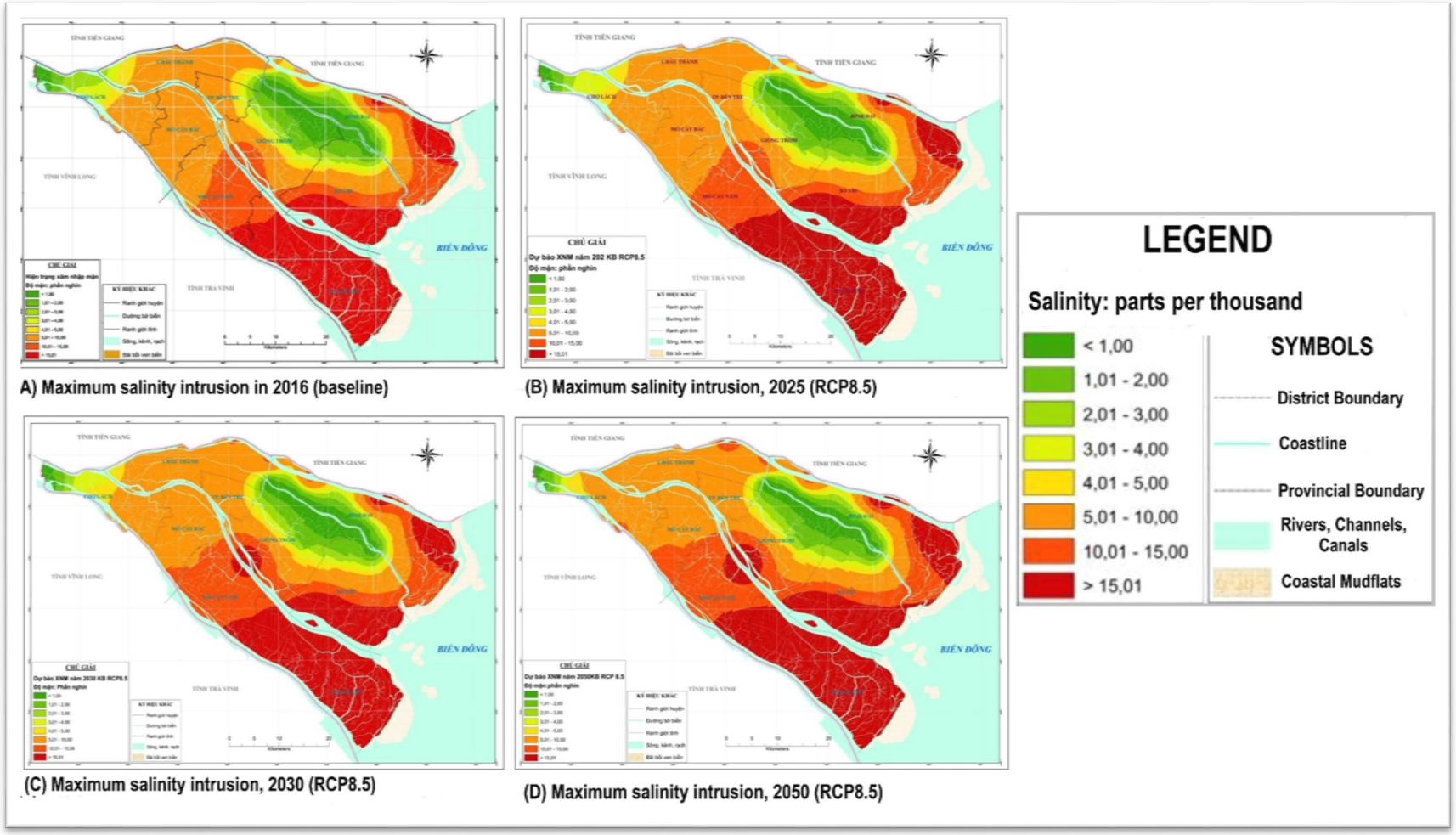


Figure 22. Ben Tre Province, RCP8.5 predictions for maximum salinity levels in 2025, 2030, and 2050; as compared with 2016.

Source: DONRE/Ben Tre, 2020.

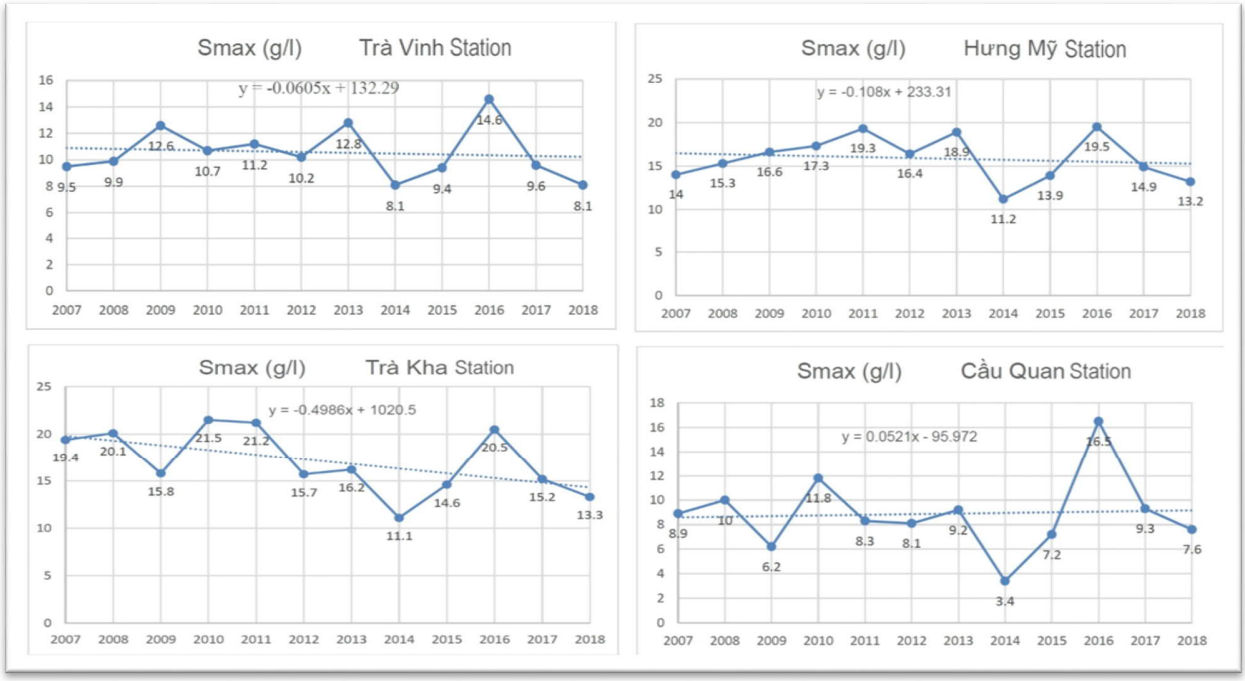


Figure 23. . Annual maximum salinity values observed at 4 stations in Tra Vinh, with trend between years.

Source: DONRE/Tra Vinh. 2020

- Tra Kha station – the annual, observed maximum showed a slight tendency to decrease, at rate of -0.07g/l /yr. The average salinity level at the station is 5.3g/l. The year with the highest average salinity occurred in 2010 (7.0g/l). The lowest average salinity was in 2014 (3.2g/l). The highest average salinity occurs mainly in March and April (11.5g/l), and lowest in July (0.2g/l). The annual maximum salinity is declining at a rate of -0.50g/l/yr. For the period, the average annual maximum salinity is 17.1g/l. The highest annual maximum occurred in 2010 (21.5g/l), and the lowest was in 2014 (11.1g/l).
- Cau Quan station – the annual, observed maximum showed a slight tendency to decrease, at rate of -0.1g/l /yr. The average salinity level at the station is 1.9g/l. The year with the highest average salinity occurred in 2016 (3.2g/l); 2016 was also a drought year. The lowest average salinity was in 2014 (0.3g/l). The highest average salinity occurs mainly in March (6.1g/l), and lowest in January (0.1g/l). The annual maximum salinity is increasing slightly over time, at a rate of 0.05g/l/yr. See Figure 23. For the period, the average annual maximum salinity is 8.9g/l. The highest annual maximum occurred in 2016 (16.5g/l), and the lowest was in 2014 (3.4g/l).

See Figure 24 for a map of saline intrusion in Tra Vinh in 2016, a drought year in which the length of saline intrusion was extreme.

Tra Vinh, future predictions of saline intrusion. Simulations for saline intrusion in Tra Vinh province demonstrate how closely related this phenomena is to the combination of sea level rise and reductions in dry season flows, which will extend saline intrusion length further inland.

As with Ben Tre province, 2016 is the base year for comparison as regards future impacts of saline intrusion with climate change. In 2016, the localities with the highest salinity levels (16 – 24 g/l) were in Duyen Hai District and Duyen Hai Town. Further inland in Duyen Hai district, and in parts of Cau Ngang district, and Long Hoa commune, in Chau Thanh district salinity levels reached 8-16 g/l. The 3-4 g/l

salinity boundary line extended almost all the way through the province, with only some areas in Cang Long district having levels of 1-2 g/l.

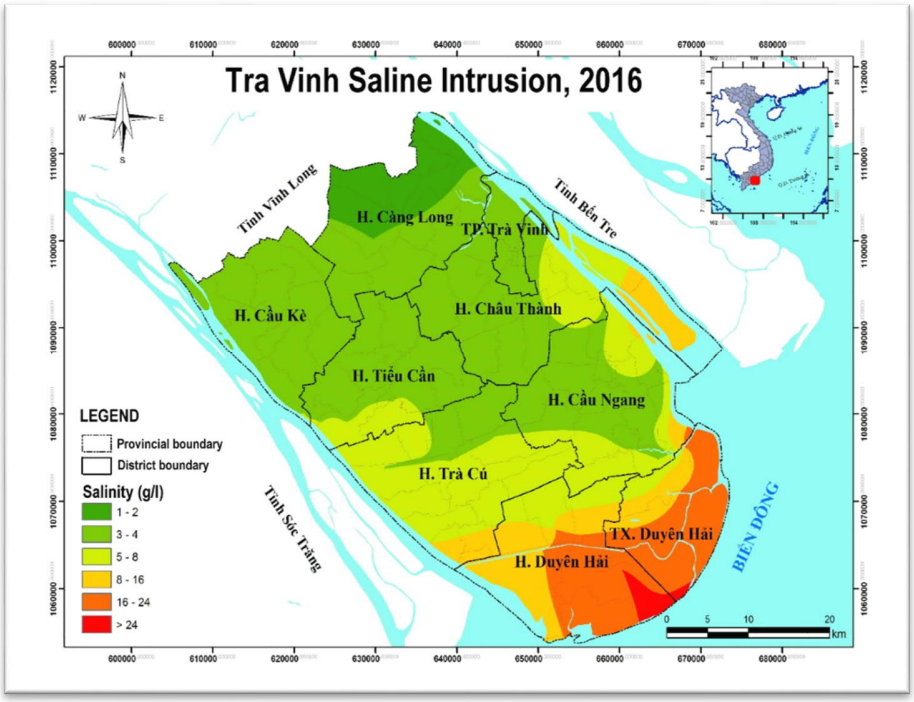


Figure 24. Map of saline intrusion in 2016 in Tra Vinh.

Source: DONRE/Tra Vinh. 2020

Under RCP 8.5 scenario, the increase of saline intrusion is predicted to:

- 2025 – increase from 0.02-0.76 g/l, with the scenario of a sea level rise of 12cm in 2025. This is the same as is predicted under RCP 4.5.
- 2050 – increase from 0.03 to 0.81 g/l; again, the same as in the RCP4.5 scenario.
- 2070 increase from 0.04 - 0.82 g/l.
- 2100 – increase of 0.85 g/l.

Flood Risk

The coastal zone of the Mekong Delta is prone to flooding by storm surges and waves. For example, one storm in 1997 killed some 3,000 people and had a devastating impact on infrastructures. In the past, there was a degree of natural protection conferred by a wide belt of mangroves along the coastline and into the estuaries, which attenuated wave impacts for all but the largest storm surges. At the same time, up until only several decades ago, coastal flood risks were relatively low due to the low? density of the population in the coastal zone. Nowadays, however, agriculture and aquaculture have encroached and are now in very close proximity to the coastline and the mangrove belt has become much narrower, less dense and has party disappeared. This means that while the exposure has increased, the natural protection against coastal flooding has significantly decreased. Therefore, a coastal dyke has been partly constructed along the shores of the East Sea – in Long An, Tien Giang, Ben Tre, Tra Vinh and Soc Trang provinces.

Ben Tre, Flood Risk. The provincial flood risk assessment was based upon assessing potential impacts during the two typical months during the rainy season – October and November – when the highest average river flows are recorded during any one year. The base year was 2018. See Figure 25, which provides an overview of the results of the RCP8.5 scenario on flooding in the province. In general, the impacts predicted are not large, and are distributed among districts. The most impacted are predicted to be Cho Lach, Giong Trom, Ba Tri, Binh Dai, Chau Thanh. and Thanh Phu. The calculation results show that

the most inundated area is Thanh Phu, but in terms of the percentage flooded by district area, Cho Lach district has the largest percentage of flooded area with about 18% of the district area.

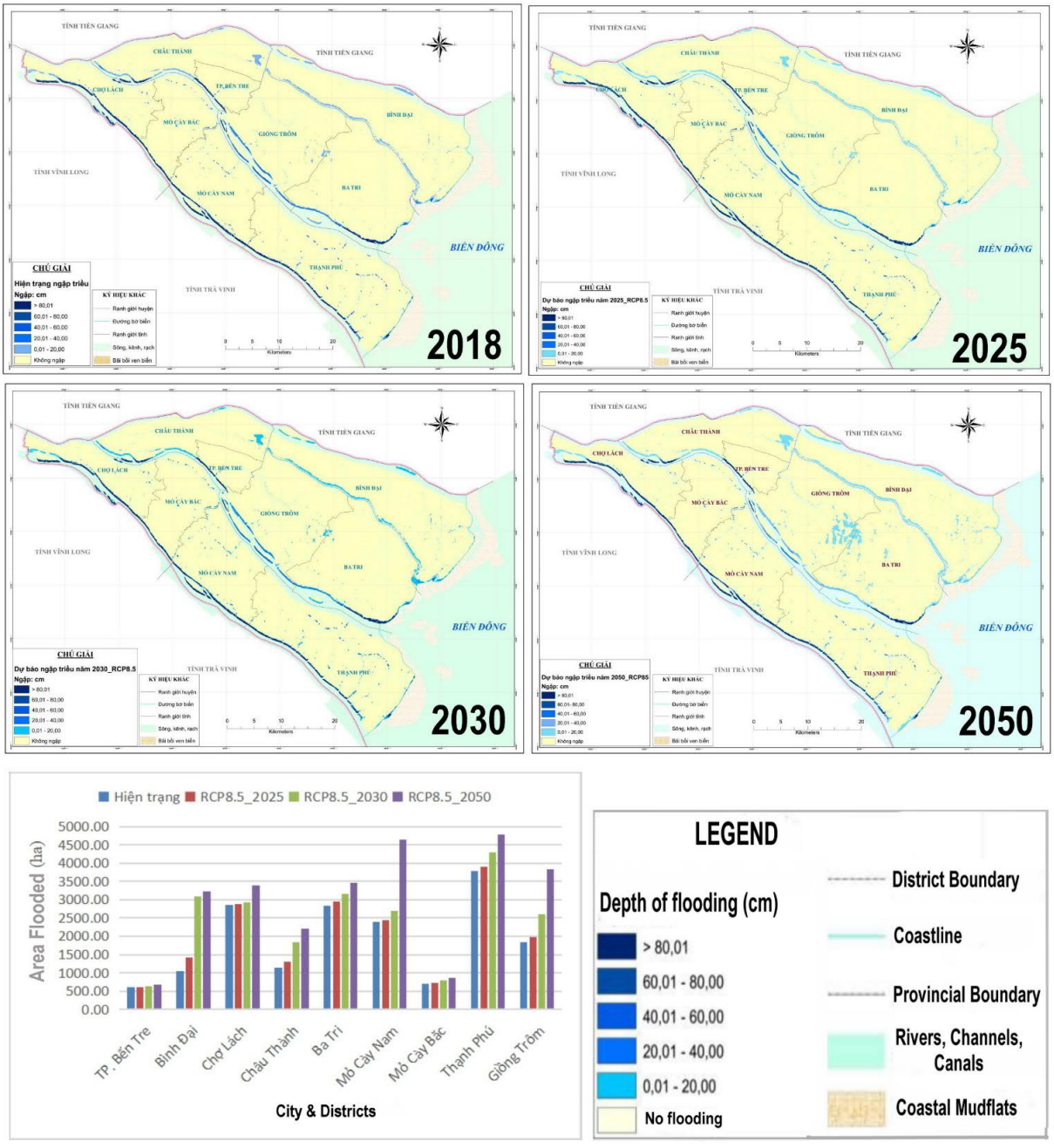


Figure 25. Ben Tre Province, RCP8.5 predictions of flood impacts as compared with 2018.

Source: DONRE/Ben Tre, 2020.

Tra Vinh, Flood Risk. The areas with the highest risks are those adjacent to the major rivers, outside of river dykes, along the coast, and in low-lying areas inland. According to the results of the 2016 baseline scenario, currently the areas most subject to flooding are:

- Chau Thanh district: 7,355 ha or 20.4% of total land area

- Duyen Hai district: 5,377ha or 18.4% of total land area
- Tra Vinh City: 5,377 ha or 17.2% of area
- Cau Ke district: 4,203 ha or 17.1% of area
- Cang Long and Cau Ngang districts with at risk areas constituting about 6% of total area..

Under the RCP8.5 scenario, the areas most impacted by flooding are the same areas as would be severely affected by sea level rise. These are: Chau Thanh district, Duyen Hai district and Duyen Hai City, Tra Vinh City, Cau Ke district, and Cang Long district. Figure 26 presents the predicted area that would be impacted.

Location	Total Area (ha)	2025		2050		2050		2050	
		(ha)	%	(ha)	%	(ha)	%	(ha)	%
Châu Thành	33,485	8,397	23,30	9,016	25,02	9,279	25,75	11,558	32,08
H.Duyên Hải	30,047	6,122	20,89	6,839	23,34	8,042	27,44	11,283	38,50
Trà Vinh City	6,804	1,213	18,74	1,604	24,78	1,927	29,77	2,500	38,62
Cầu Kè	24,664	4,378	17,76	4,689	19,02	5,609	22,76	7,107	28,83
Càng Long	30, 010	8,397	23,30	9,016	25,02	9,279	25,75	11,558	32,08

Figure 26. Tra Vinh – RCP8.5 scenario predictions of total area, by district and city, subjected to flooding.
Source: Tra Vinh, Department Of Natural Resources And Environment, 2020

Flood risks estimates by other sources. The World Resources Institute's AQUEDUCT Water Risk Atlas provides a different type of baseline for flood risk. Whereas the provincial assessments focused on impacts by area, AQUEDUCT's methodology measures the percentage of the population expected to be affected by flooding in an average year, accounting for existing flood protection standards. Flood risk is assessed using hazard (inundation caused by river overflow or storm surge), exposure (population in flood zone), and vulnerability. The existing level of flood protection is also incorporated into the risk calculation (WRI, 2019).[15] By these measures, current flood risks are "high" in the majority of the project areas, with portions of Tra Cu and Tieu Can districts classified as "extremely high risk". Figures 27 and 28 show the AQUEDUCT classifications for riverine and coastal flood risk.

[15] The indicator represents flood risk, not in terms of maximum possible impact, but rather as "average annual impact". The impacts from infrequent, extreme flood years are averaged with more common, less noteworthy flood years to produce the "expected annual affected population." Higher values indicate that a greater proportion of the population is expected to be impacted by the floods on average.

Future scenarios can be projected utilizing WRI's AQUEDUCT Floods tool. For purposes of this assessment, the 100 year return period[16] flood is utilized to look at riverine flood hazard at mid-century (2050), under a "Business as usual/Pessimistic scenario (RCP8.5, SSP 3). Coastal flood hazard is looked at with those same criteria and scenario, but also factors in subsidence and sea-level rise (high scenario)[17]. Figure 29 presents those results. Comparing these with the RCP 8.5 scenarios presented in the provincial climate change plans, the WRI Aqueduct Floods tool suggests that a higher level of flood risk might be considered. The principal differences between the two are the (i) factoring in of subsidence, which is not done in the provincial estimates, and (ii) possibly the use of the 100 year event versus the provincial baselines, whose statistical probability is unknown.

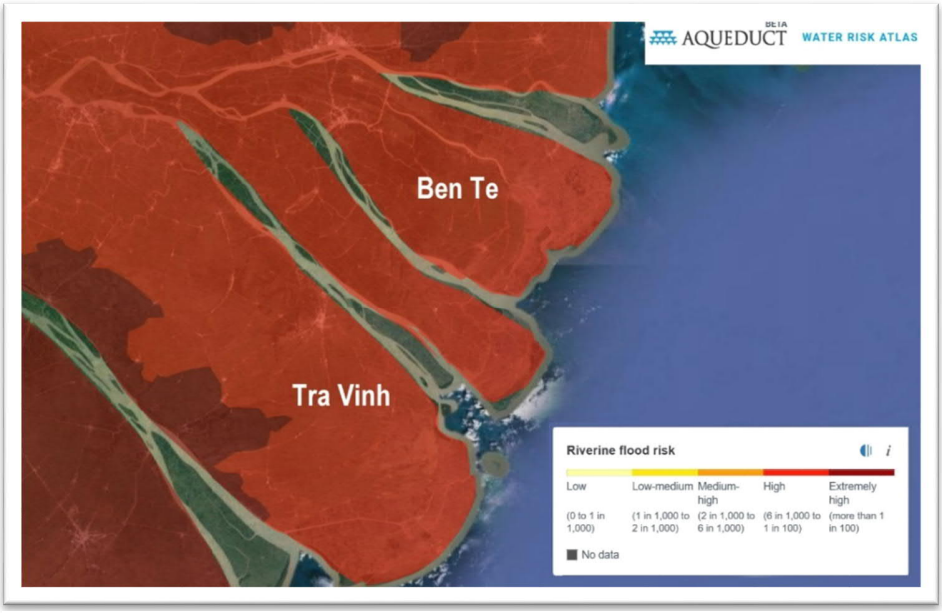
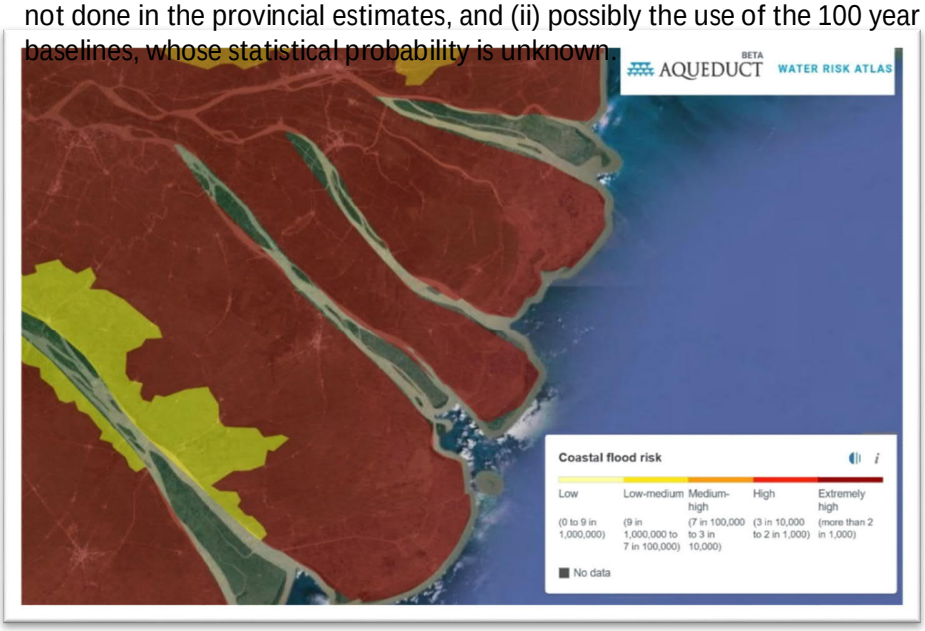


Figure 27. Riverine flood risk by impacts on population

Source: WRI AQUEDUCT, 2019



Water Resources

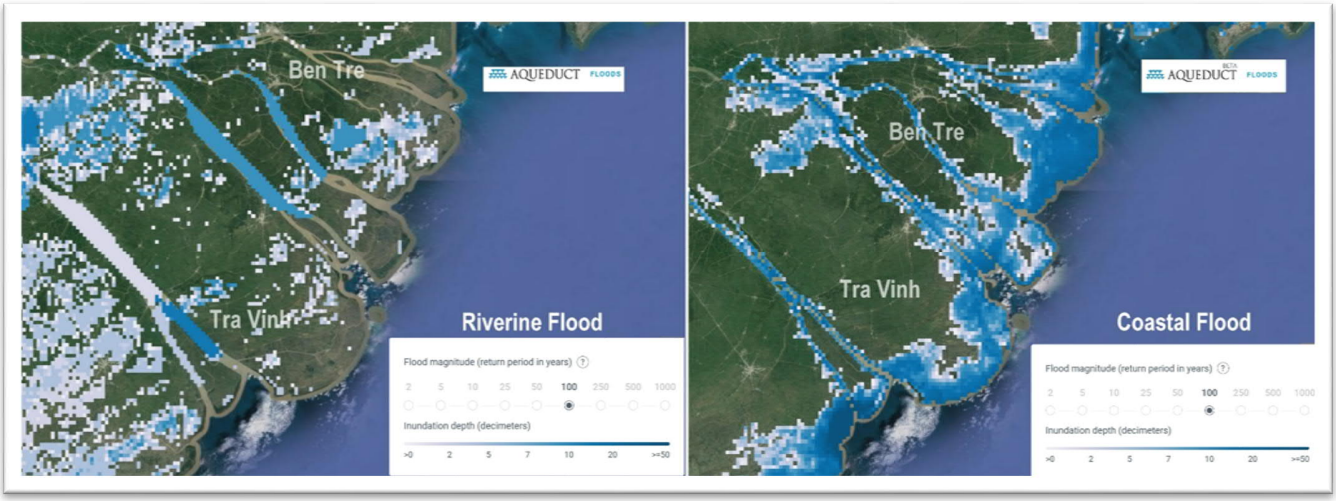
(Sources: DONRE/Ben Tre. 2020, and DONRE/Tra Vinh. 2020, unless otherwise noted.)

[16] The 1%, or 100 year return period, flood event is commonly chosen for purposes of assessing risk (e.g., for purposes of flood insurance) and for designing flood protection and drainage works. Where catastrophic loss of life may result, others utilize much lower probability design standards, e.g., in The Netherlands where the 0.01% probability, or 10,000 year return period event is used. The WRI Aqueduct Floods tool allows up to a 0.1 probability, or 1,000 year event.

[17] Derived from the RISES-AM project

Figure 29. Ben Tre and Tra Vinh RCP8.5 2050 scenario, predictions of areas subjected to riverine and coastal flooding in result of the 1/100 event.

Source: WRI AQUEDUCT, 2020



In addition to and by climate change and sea level rise, the Mekong Delta is strongly affected by Viet Nam's upstream neighbors, whose activities exercise significant influence on water resources, and the river's ecosystem. The ability for Viet Nam themselves influence these factors is extremely limited. As such, the practical approach requires anticipating that which is unavoidable, and focusing on adaptation, mitigation, and how to minimize problems and impacts, while taking advantage of opportunities and strengths.

Surface water. Flow in the Mekong river flow exhibits large variations throughout the year, and from year to year. The annual flood season occurs in the period July-November, and accounts for 90% of the total annual flow. The low flow season runs from December to May and provides only 10% of the total annual flow. The lowest flows generally occur in the months of March and April. Usually a single flood peak occurs between late September and early October. In years with relatively high floods there may be two distinct flood peaks. The flood inundation depth may reach up to 3-4 meters in the upstream provinces of An Giang and Dong Thap.

The source of surface water for Ben Tre province is the Mekong River (Tien River), which divides into four branches running through the province to the sea: My Tho (83 km long), Ba Lai (59 km), Ham Luong (71 km) and Co Chien (82 km) rivers. All the rivers flow from the northwest to the southeast. The Ham Luong River is the largest of these, carrying the largest volume of water within its average width of 1,200 to 1,500 meters and depth of 12 to 15 meters. At its mouth, its average width is about 3,000 meters wide.

In addition to the four main rivers, the province also has an extensive network of rivers, canals, and ditches that interconnect. They provide for both transportation and irrigation. There are literally hundreds of these, including over 60 ranging from 50 to 100m wide.

For Tra Vinh, surface water supply comes from two major rivers: (i) the Hau River, which is the boundary between Tra Vinh and Soc Trang province, runs for 43km through the province and entering the sea at the Dinh An estuary. Its width averages from 2.5 - 3.0km; depth is 7-13m, with areas as deep as 45m. It is an important source of fresh water for the province. Flow during the year averages 1,154 to 12,434 m^3/hr, and (ii) the Co Chien River, a major branch of the Mekong River, runs through the province for a

distance of 45km. The average width is 0.8 - 2.5km, and the average depth 4 - 14m. Flow during the year averages 1,814 to 19,540 m^3/hr.

There are also several major tributaries (e.g., Cai Hop, An Truong, Can Chong rivers) and canals (e.g., Tan Dinh, Bong Bot, Tong Long canals). In total there are over 600 km of large canals, with another 2,000 km of primary and secondary canals that essentially cover the entire province, supplying irrigation water in the dry season, and serving as drainage in the rainy season. Despite this abundance of surface water resources Tra Vinh still experiences shortages of fresh water, especially in the dry season.

Surface water resources in both Ben Tre and Tra Vinh are significantly affected by saline intrusion, and inland rivers and canals affected by saline water and alum. (Royal HaskoningDHV and GIZ, 2020)

Groundwater. In general, groundwater in the Mekong Delta is widely distributed through seven aquifers[18] whose water storage capacity is moderate; and in the fresh water aquifers, with a quality that generally is suitable for drinking and consumption. Brackish groundwater reserves far exceed freshwater reserves. The aquifers in which water quality is relatively good, are exploited at depths ranging from 50 - 450m.

Groundwater exploitation is via numerous registered and unregistered private tube-wells (usually at depths of 80–120 m or more) and by regulated water supply plants accessing groundwater in the deeper aquifers (100 to over 300 m). Most of the groundwater in the Mekong Delta is extracted from confined aquifers with low to very low natural recharge rates. All but one (the deepest) aquifer in the Mekong Delta have been sufficiently researched to allow for drawing general conclusions on geological and hydrogeological characteristics of each strata. (Royal HaskoningDHV and GIZ, 2020)

Water Supply "Unfavorable"

Of note is the categorization within the Mekong Delta Integrated Regional Plan's (Royal HaskoningDHV and GIZ, 2020) water supply zoning, which assigns sub-regions within the Delta to categories indicative of the favorability of their water resources and water quality for drinking water supply. Both Ben Tre and Tra Vinh fall into the lowest category: "Category III: Water resources are unfavorable with problems mainly connected to salinity and insufficient flow. Main direction for water supply: interprovincial raw water supply combined with limited use of groundwater and application of desalination technology (brackish water or saltwater)."

Groundwater in Ben Tre's is not a major supply source for the province, which is much more heavily reliant on surface water resources. Fresh water availability from surface water, however, is diminishing in the dry season due both quantity (e.g., dry season flows) and quality (e.g., saline intrusion) issues, such that increasingly there is a need to access supply from either groundwater or rainwater captured during the rainy season and stored. (JICA, 2016).

Groundwater is found in seven aquifers, with average depths ranging from 17m to 378m, and an average thickness from 17m to 93 m (Minh, 2017). In general they all consist of fine to coarse sand, gravel, and pebbles. Because of direct interconnection with surface recharge areas (e.g., sand dune areas) and/or surface waters, the shallow groundwater tends to be of low quality. (Tuan and Koontanakulvong, 2019).

The seven aquifers can be characterized as:

- Shallow, unconfined groundwater under sand dunes. The area of sand dunes is about 12,200 ha, capable of yielding 844 m^3/day /km^2, but highly vulnerable to contamination from surface activities.
- Shallow groundwater (<100m) in a Pleistocene complex, consisting of 2 layers, that underlays the entire province. The first layer is at a depth of 30 - 50m, with a water bearing strata less

[18] Holocene (qh), Upper Pleistocene (qp3), Upper-middle Pleistocene (qp2-3), Lower Pleistocene (qp1), Middle Pliocene (n22), Lower Pliocene (n21), and Upper Miocene (n13) aquifer

than 10m thick. The second layer is at a depth of 60 - 90m, with a water bearing strata more than 10m thick. This aquifer is being used for potable water supply in rural areas.

- Deeper groundwater (> 100m), comprising an upper Pleistocene complex with water-bearing strata at a depth of 290 - 350m. The unit's depth extends to 395m. The lower is a Miocene complex that extends below 400m, with the most important water-bearing strata at a depth of 410 - 440m, with an average thickness of 18m. The water quality in the deeper aquifer is relatively good.

Estimates of the groundwater volumes that can be exploited are 213,727 m^3/day of fresh groundwater, and 5,511,282 m^3/day of brackish groundwater. Most existing wells extracting water from the shallow aquifers at a depth of 0 to 200m. Some 2,637 wells that pump more than 200 m^3/day are registered. (Minh, 2017).

In a recent report (JICA, 2016), DONRE is reported to have assessed groundwater potential for domestic and aquaculture water supply in Ben Tre Province. The report is quoted as having reported: "Groundwater quality in fresh water aquifers can be used to supply water for drinking and domestic purposes if treated for problems of hardness, iron, and to bring sulfate ions and cadmium to within accepted regulatory limits. In aquifers with brackish to saline water, the accepted quality standards for aquaculture are exceeded for NH_4 (ammonium ion), Cd (cadmium), Phenol, and pH in the Upper Miocene aquifer….the data indicates that groundwater supply potential in Ben Tre is low compared to other provinces in the Mekong Delta, but could still be an important source to meet the individual water supply needs at a small and medium scale. Brackish/saline groundwater water potential was considered good for meeting supply needs for the aquaculture sector."

Regarding the use of brackish groundwater for aquaculture, JICA (2016) notes that as the aquaculture areas lie outside of the dike systems, brackish water is available years around. However, as freshwater is required for mixing in order regulate the saline concentration in the shrimp pond, there are only three options for obtaining that: reserve rainwater in a pond, acquire freshwater from a canal when available, or pump groundwater. However, groundwater pumping in these coastal areas is presently prohibited due to the risk of land subsistence, and therefore aquaculture households must secure water from rain or from canals.

Groundwater in Tra Vinh lies within the same seven aquifers as Ben Tre's. Of the seven aquifers, the shallow groundwater aquifer, noted above, is of greatest interest for groundwater production; though in Tra Vinh its depth is greater, between 60 and 160m (Minderhoud et al, 2017). It underlies a wide area of the province, contains a relatively large supply of good quality water and so is an important source of supply for domestic and productive purposes.

In contrast to Ben Tre, groundwater is a major source of water supply domestic, aquaculture, and industrial purposes in Tra Vinh. Official figures DONRE figures (2018) showed that there were a total of 121 permitted wells pumping over 61,620 m^3/day of groundwater; however, "unofficial" wells are known to far exceed permitted wells in both number and volumes of water pumped. A 2010 estimate (Sanh, 2010) placed total pumping at 245,920 m^3/day, with 82% of the total from unregulated wells, About 80% of the pumping in 2010 from registered wells was abstracted from the Middle Pleistocene (>200 m), whereas the unregulated wells drew about 35% of volumes from the Upper Pleistocene (<100m) and 60% from the Middle Pleistocene. There is still no clear understanding of groundwater use patterns or distribution across the province. A more recent study (Tuan and Koontanakulvong, 2019) estimated that in the dry season of 2016, groundwater pumping was about 346,300 m^3/day, with Duyen Hai, Tra Cu and Cau Ngang districts accounting for about two-thirds of the total.

The same study reported that:

- Dry season pumping for groundwater in the coastal and near coastal areas was associated with the aquaculture farms pumping freshwater to balance salinity; with these utilizing an average of about 42m^3/ha during the entire season. Groundwater was also found to be the main irrigation source for annual crops such as watermelon, pepper, and onion from January to April; using about 30m^3/ha/day.
- Most households using groundwater do so from their individual wells. An estimated 80% of households in coastal zone rely upon groundwater for domestic use, with that percentage dropping to 44% in northern part of the province where most groundwater is brackish and saline. In the middle province (inland and coastal), the percentage of households reliant on groundwater was estimated at 83% and 73% percent, respectively. Coastal households daily consumption was 3x the rate of households in the north (3.8m^3/HH/day vs 1.15m^3/HH/day)
- Total groundwater consumption is concentrated in the coastal districts (Duyen Hai, Tra Cu and Cau Ngang), which represent almost 60% total groundwater usage in the province.
- Results of groundwater modelling showed that abstraction of groundwater always exceeded recharge, explaining the observed rate of decline groundwater – about 50cm/yr – between 2007 to 2016.

Groundwater pumping is of particular concern and interest due to it being identified as a major cause of land subsidence. Modelling of subsidence led to the conclusion that more than two-thirds of detected land subsidence might be caused by groundwater pumping. These conclusions, however, are more of a first approximation. Volumetric pumping data on groundwater abstraction in the Mekong Delta are not systematically collected nor, yet, are all wells known and registered. Thus estimations are educated guesses at best. It can be safely assumed that groundwater extraction is not evenly distributed throughout the Delta or the project areas, thus the nature of the local drivers of land subsidence, as well as their individual weight and importance, may vary strongly and so it also unclear whether the modelling results are applicable in all locations. (GIZ, 2019). However, in response to concerns about subsidence from overexploitation of groundwater resources, government has banned the abstraction of groundwater from some areas of the Mekong Delta from 2020. Tra Vinh province has issued its own regulations that list specific areas and aquifers in which all wells must be registered, and where new wells or further drilling are prohibited. All districts and cities in the province are included in the list. (Tra Vinh PPC, 2020)

Water Risk. Increased economic development and urbanization in the Mekong Delta is leading to increased demand for water supply and drainage, increased water resource exploitation, and increased pollution. It is not considered likely that the existing fresh water sources can provide a stable and sustainable source to meet the increased demand. This, in addition to threats to water security posed by sea-level rise and subsidence, climate change, and upstream development impacts. (Royal HaskoningDHV and GIZ, 2020). Figures 30a and 30b, below, shows the estimates from the AQUEDUCT Water Risk Atlas (WRI, 2019), of baseline water stress[19] in the project area and predicted water stress in 2040[20] under the RCP8.5 scenario, respectively. Both baseline and project estimate that water stress for the project provinces will be low, this in terms of water quantity. More concerning are: (i) seasonal

[19] Baseline water stress measures the ratio of total water withdrawals to available renewable surface and groundwater supplies. Water withdrawals include domestic, industrial, irrigation, and livestock consumptive and non-consumptive uses. Available renewable water supplies include the impact of upstream consumptive water users and large dams on downstream water availability. Higher values indicate more competition among users.

[20] Future water stress, over baseline, is an estimate of competition for water resources, defined as the ratio of demand for water by human society divided by available water.

variability (Figure 31a, for baseline[21], and Figure 31b for future[22]), which predicts that by 2030 (RCP8.5), variations in seasonal water supply (wetter or drier) will become significantly greater within the next decade; and (ii) that current risks associated with water quality[23] are extremely high, i.e., that water would be unfit for use due to high percentages of

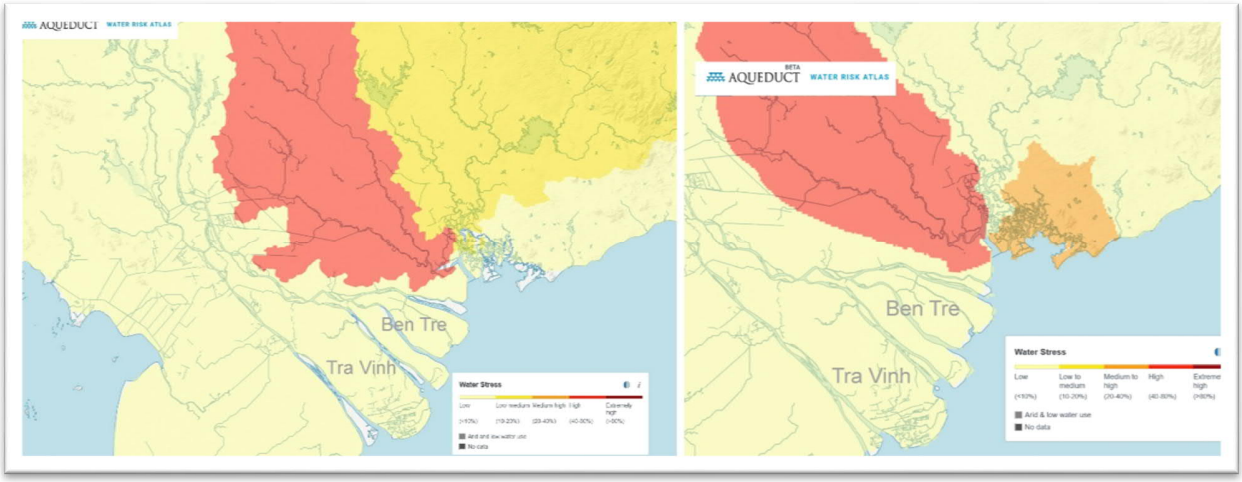


Figure 30a. Baseline water stress (RCP8.5)

Figure 30b. Projected water stress in 2040

Source: WRI, 2019

[21] Baseline seasonal variability measures the average within-year variability of available water supply, including both renewable surface and groundwater supplies. Higher values indicate wider variations of available supply within a year.

[22] Future seasonal variability (SV) is an indicator of the variability between months of the year. Increasing SV may indicate wetter wet months and drier dry months, and higher likelihood of droughts or wet periods. Within-year coefficient of variance between monthly total blue water are used as an indicator of seasonal variability of water supply. Coefficients of variance were calculated between months for each year, then estimated projected change in seasonal variability as the 21-year mean around the target year over the baseline period mean.

[23] This is an aggregate index based upon: (i)) the percentage of domestic wastewater that is connected to a sewerage system, but that is not treated to at least a primary treatment level, and (ii) coastal eutrophication potential based upon the potential for riverine loadings of nitrogen (N), phosphorus (P), and silica (Si) to stimulate harmful algal blooms in coastal waters.

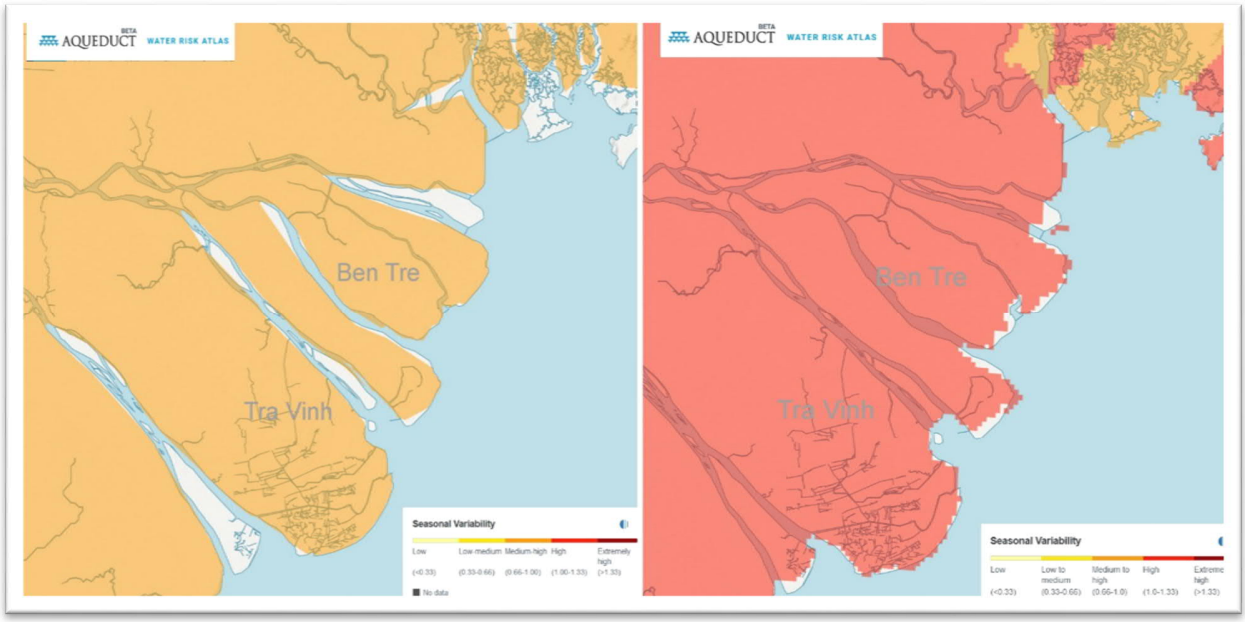


Figure 31a. Baseline seasonal variability

Figure 31b. Projected seasonal variability,2030 (RCP8.5)

Source: WRI, 2019

point source wastewater being discharged without treatment, as well as additional point-source and nonpoint-source pollution to potentially degrade the environment (Figure 32). Given the concerns about fresh water shortages in some areas (especially coastal zones), and heavy reliance in Ben Tre on surface water, water quality degradation is a factor of great concern.

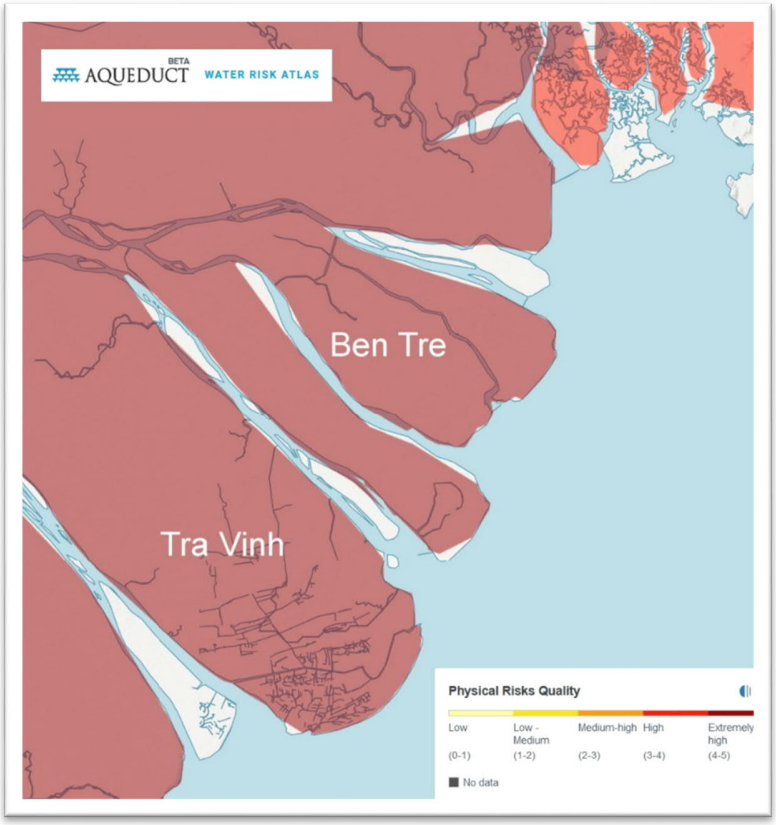


Figure 32. Physical risk from water quality, current.

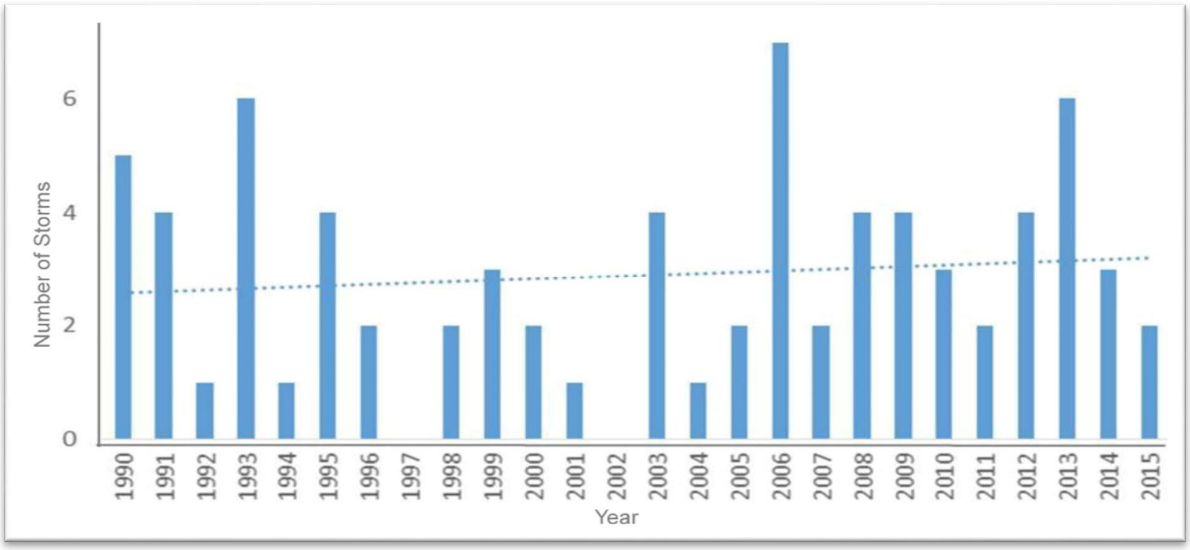
Source: WRI, 2019

Storms and tropical depressions/cyclones

Current situation, as per statistics for the period 1959 to 2015, an average of 12 storms and tropical depressions (tropical low pressure) occurred annually in the East Sea. About 45% of the storms form within the East Sea itself, and the other 55% form further out in the Pacific Ocean. An average of 7 of these affect Viet Nam, with 5 making landfall and/or directly impacting the mainland. The areas of the country with the greatest frequency of storm activity and tropical lows are the central coast, between 16^{O}N and

Figure 33. Development of tropical depressions and typhoons (1959-2014)

Source: DONRE/Ben Tre, 2020 & DONRE/Tra Vinh, 2020



18^{O}N, and the north coast (from 20^{O}N and northward has the highest frequency of storms and tropical depressions in the entire coastal strip of Viet Nam[24]. The number of tropical cyclones occurring in the East Sea is tending to increase slightly, while the number of storms that affect or land on the Vietnamese mainland does not have a clear trend (Figure 33).

Data from 1959 to 2015 indicate the severity of storms and tropical depressions in the East Sea, and their frequency of landfall, is relatively stable. However, the inter-annual variability in the number of storms is high. There are years

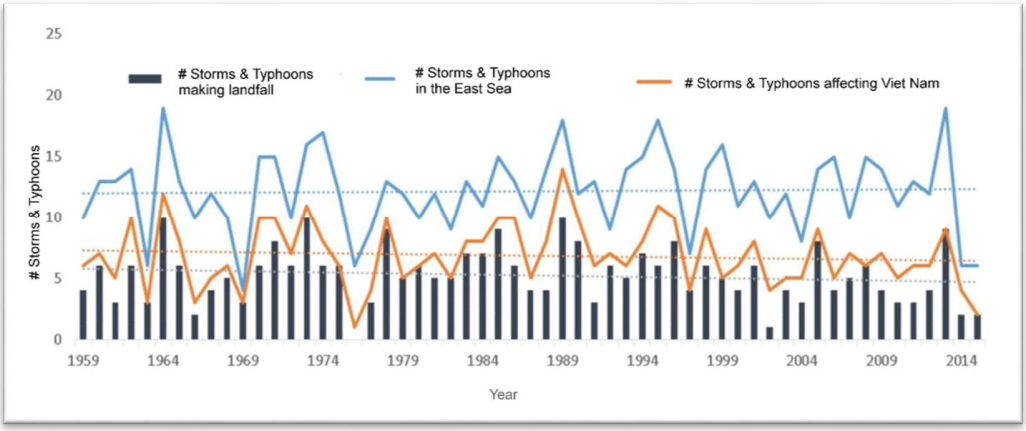


Figure 34. Development of typhoons with maximum wind speed exceeding Category 12 (Beaufort scale) in Viet Nam's East Sea (1990-2015)

Source: DONRE/Ben Tre, 2020 & DONRE/Tra Vinh, 2020

with as many as 18 or 19 storms and tropical depressions occurring in the East Sea (1964, 1989, 1995, and 2013), and other years with as few as 4 to 6 (1963, 1969, 1976, 2014, and 2015). In recent years, the number of storms that develop hurricane force winds (12 on the Beaufort scale) has tended to increase slightly (Figure 34). Also, hurricane season is trending towards a later ending date and storm paths are tending to shift further south, with more storms hitting the southern region in recent years. In

[24] The project area lies between approximately 9.48^{O}N and 10.33^{O}N

recent years there have been a few anomalous events, including in Typhoon Pakhar that made landfall in southern Viet Nam in March 2012 with the strongest wind intensities recorded to date; Typhoons Son Tinh and Hai Yan, both in October 2012, that made landfall in the north at the end of the typhoon season; and 2013, in which the highest number of storms and tropical depressions made landfall (8 storms and 1 tropical depression).

Future predictions. The IPCC reports that no particular trends could be definitely identified in storms in the 21st century. Their models do suggest that storm intensities will likely increase by 2- 11%, and that rainfall within a radius of 100km from the storm eye will also likely increase by about 20% in the 21st century. The results from high resolution modelling (MRI model, CCAM and PRECIS) of tropical depressions and typhoons, derived for the East Sea, are consistent with the IPCC report. According to the RCP8.5 scenario, by the end of the century, the tropical depressions and typhoons affecting to Viet Nam will likely reduce in frequency, and the projected number of tropical depressions and typhoons in the East Sea will decrease at the beginning of the typhoon seasons (June - August). Thus, the tropical depressions and typhoons will likely occur toward the end of the typhoon season, which is a period in which typhoon activity mainly occurs in the South. The number of weak and moderate typhoons will likely decrease, while the number of strong typhoons will likely increase, when compared with the baseline period.

Coastal and Riverbank Erosion

Figure 35. Coastal erosion & accretion over last 30 years.
Source: Royal HaskoningDHV and GIZ, 2020

Coastal erosion. Currently coastal erosion is widespread throughout the Mekong Delta region, and progressing rapidly at numerous locations, on 5-10 year time steps (see Figure 35). For the most part, Ben Tre and Tra Vinh, over the past 20 years have seen net accretion rates (i.e., have been growing) of 1-10m/ year. (MARD, 2016). This trajectory, however, is not expected to maintain itself. The fact that accretion still takes place near the river mouths is no indicator of coastline stability. The sediment outflow from the rivers has been substantially decreased, weakening one of the main drivers of the natural delta building process. The main factors which are accelerating the erosion processes along the coast:

- Sea-level rise, as exacerbated by land subsidence due to overuse of groundwater for, among others, aquaculture.
- The ongoing, gradual loss of mangrove forest, with its associated sediment trapping capacity. Besides the 'natural' loss of mangroves to sea-level rise (i.e., the mangroves cannot naturally keep up

with the rate of habitat loss from SLR), there also the decrease of the width of the mangrove belt due to encroachment. This loss of wave breaking and sediment trapping capacity severely aggravates erosion.

- Reduced sediment influx from upstream catchments due to dam building.

(Royal HaskoningDHV and GIZ, 2020; MARD, 2016)

Like the provinces of Bac Lieu and Soc Trang, which were aggrading before 2002 at rates of 16–24 m/year and are now eroding at rates of 11-16m/year, Ben Tre and Tra Vinh are predicted to reverse course and aggrade through much of the 21st century. Of the external drivers assessed to make this prediction, climate change impacts coupled with the impact of hydropower on sediment inflows were expected to present the strongest adverse impacts on coastal erosion. Under a 2050 scenario with high climate change and high hydropower expansion, all six of the coastal provinces along the East Sea were predicted to experience rates of erosion between 34 to 44m/year, representing rates of erosion double anything experienced over the past 40 years. See Figure 36.

Riverbank erosion. The Hau and Tien rivers, which define the northern border of Ben Tre and the southern border of Tra Vinh, and their branches are dynamic river systems with continuous erosion and sedimentation processes. How these processes proceed have been modified by the confinement of the rivers within a system of river dykes, road construction along the rivers, and revetments and slope protection that have reduced or blocked the rivers' natural meanders. The river processes driving the erosion, though, are still present and are scouring the hardened banks – especially in the flood season when flow velocities are higher.

Sand mining is also recognized as a main contributor to riverbank erosion. The deep pits left behind by sand mining trap much of the sand (and other bed load) transported by the river. Subsequently, the eroding capacity of the rivers directly downstream of these pits is increasing. This results in scouring of the riverbed and banks, and substantially increases the risk of riverbank erosion and bank protection failure. (Royal HaskoningDHV and GIZ, 2020).

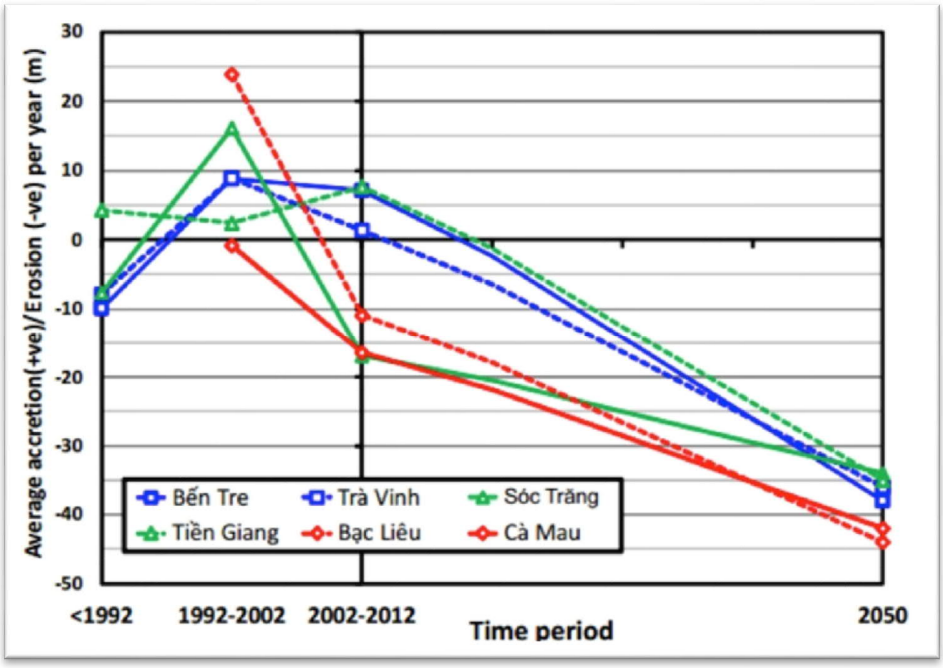


Figure 36. Current & projected rates of coastal erosion in the six East Sea coastal provinces.

Source: MARD, 2016.

Recent analysis (Khoi et al, 2020) concluded that between 1989 to 2014, the regional and local drivers and the hydrological characteristics of each region were responsible for river bank erosion and accretion. In the river-dominated zone, the levels of erosion and accretion were from medium (1–5 m/year) to high rates (> 5 m/year), with erosion processes commonly occurring along the Mekong River branch (Tien River). In the tidal-dominated zone, the river banks were quite stable, and erosion processes, with medium levels, mainly occurred at river segments near estuaries, with the exception of the Ba Lai estuary in Ben Tre. In the coastal zone, erosion and sedimentation took place alternatively, at a rapid rate. The main erosion mechanisms were toe-scour and lower slope erosion in the river-dominated zone. In the tidal-dominated zone, the mechanisms were tidal fluctuation-related soil collapses and monsoon-influenced erosion in the coastal zone. Figure 37 shows the dominant erosion and accretion process over the 35 years prior to 2014 along the major rivers, demonstrating the degree of variability in erosion/ accretion processes along rivers. Figure 38, shows erosion both riverine and coastal erosion "hot spots" in both provinces.

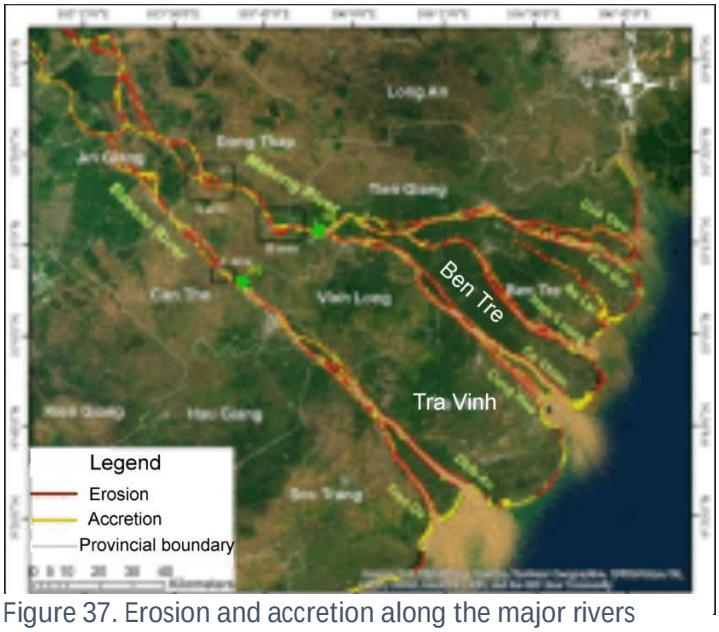


Figure 37. Erosion and accretion along the major rivers through the project area (1989-2014)

Source: Khoi, et al, 2020.

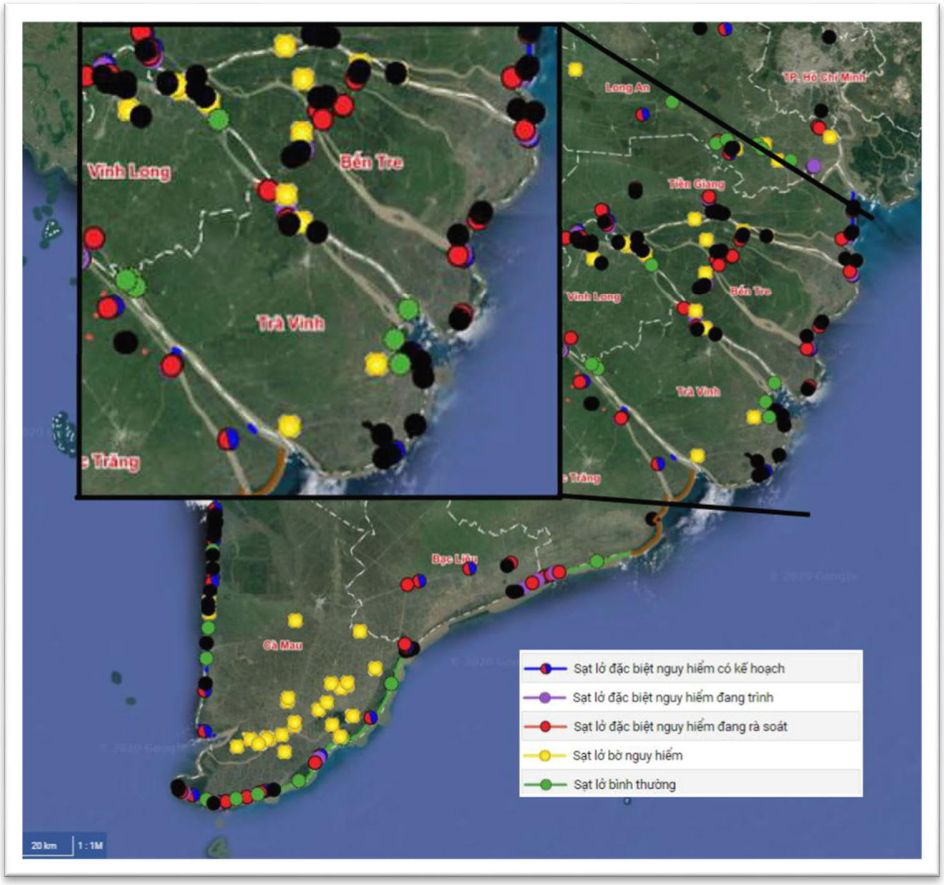


Figure 36. Riverbank and coastal erosion sites.

Source: (Royal HaskoningDHV and GIZ, 2020).

Natural Disasters & Climate/Weather-related hazards

Germanwatch ranks Viet Nam as 6th (up from 9th in 2019) globally, in terms of countries most affected by extreme weather events, and socio-economic impacts from those, during the period from 1999 to 2018[25]. (Eckstein, et al, 2020). The two main disaster types with the highest occurrence countrywide are flooding, with 64 occurrences (48% of disasters recorded), and storma, with 61 occurrences (46%). Flooding and storms are also the deadliest disaster types in Viet Nam. Between 2000 and 2018, floods killed 2,798 people (59% of fatalities recorded) while storms resulted in 1,804 fatalities (38%). During this period, the deadliest disaster event was a flood in 2000, that killed 460 people. This flood was also the disaster event that affected the most people in Viet Nam with an estimated five million. The disaster types affecting the most people in Viet Nam are also flooding and storm, with 17,566,168 (46% of people affected) and 16,777,007 (44%) affected people, respectively. Figure 39 provides a "disaster density" map, showing the countrywide distribution and incidence of disaster between 2000 and 2018. (CRED, no date).

With its relatively flat and low terrain, and more than 700 km of shoreline, the Mekong Delta is a land with a long history of being affected by natural disasters related to water and climate. Today, extreme climatic events are further exacerbated by climate change, sea level rise, dam construction and operation upstream of the Mekong River basin, and interventions in the Mekong Delta such as groundwater extraction, mangroves degradation and development of some inappropriate infrastructure. These dynamics contribute to making the Mekong Delta one of world's areas most vulnerable to climate change.

In the Mekong Delta the most common natural disasters include:

- Extreme river floods (e.g., 2000, 2001 and 2011)

[25] 226 total events, resulting in over 4,700 deaths, US$2.02 billion (PPP) losses, equivalent to about 0.5% of GDP.

- Storms and storm surge (e.g., 1997 hurricane 5)
- Drought (e.g., in 1998, 2016, 2020)
- Severe saline intrusion occurs at the same time as drought (e.g. 1998, 2016, 2020)
- Coastal and riverbank erosion
- Local heavy rains and flooding due to rain (damage to crops and local flood).
- Heat wave (damages crops and affects vulnerable groups).
  (Royal HaskoningDHV and GIZ, 2020)

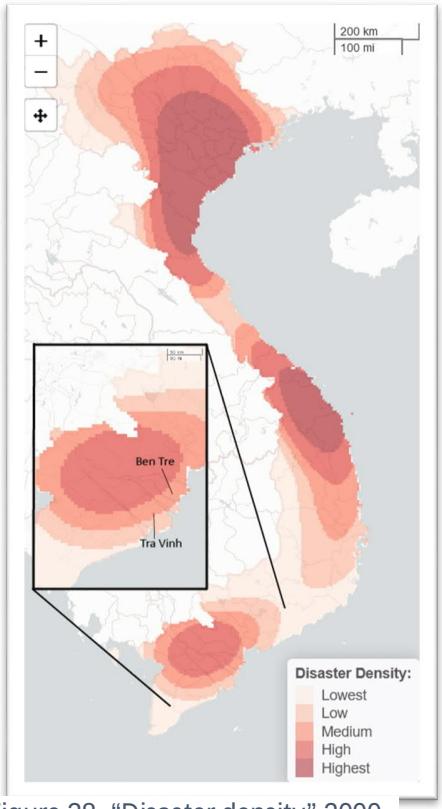


Figure 38. "Disaster density" 2000 – 2018

Source: CRED, no date)

According to the International Disaster Database (EM-DAT) of the Centre for Research on the Epidemiology of Disasters (CRED), between 1997 and 2019 there were 11 major natural disasters[26] reported, which impacted the provinces of Ben Tre and Tra Vinh. Of these 5 were caused by tropical storms or typhoons, three were the result of heavy rainfall, three were droughts[27], and one was an epidemic. In terms of frequency, Ben Tre and Tra Vinh have experienced, on average, about one natural disaster every two years since 1997. Missing from the database is the 2020 drought in the Mekong Delta, reported to have been the worst on record for the Mekong Delta, which also gave rise to saline intrusion that surpassed the 2016 record for worst to date. According to MARD, however, the agricultural sector successfully overcame both the saltwater intrusion and drought, deploying a number of solutions such that agricultural production losses were estimated to be only about 7%-8%. These included the timely prediction of the coming drought and saline intrusion, which allowed producers to adjust their seasonal cropping calendar and structure, in

Year	Disaster Type	Location	Origin	Impacts (entire affected area)			
				People Affected	People Left Homeless	Total Affected	Total Damages (2019 USD, '000)
1997	Storm	Ben Tre, Tra Vinh (Mekong Delta-wide)	Tropical storm Linda	697,225	383,045	1,081,127	$ 748,576
1998	Storm	Ben Tre (northern Mekong Delta, South Eastern Region	Typhoon Faith and Tropical storm Gil	81,635	3,010	84,645	$ 23,526
2001	Flood	Ben Tre, Tra Vinh (Mekong Delta-wide)	Monsoonal rain	1,570,270		1,570,270	$ 121,283
2004	Epidemic	Tra Vinh (1 of 10 provinces, nation-wide, significantly impacted	Viral disease	51		51	NA
2005	Drought	Ben Tre province	Drought, El Niño	410,000		410,000	$ 55,140
2006	Storm	Ben Tre, Tra Vinh (Mekong Delta-wide)	Typhoon Durian (Reming)	975,000	250,000	1,226,360	$ 578,297
2006	Flood	Ben Tre, Tra Vinh (country-wide)	Monsoonal rain				NA
2013	Flood	Ben Tre, Tra Vinh (Mekong Delta, South Eastern, and South Central Coast regions)	Mosoonal rain and Typhoon Usagi				NA
2015	Drought	Ben Tre, Tra Vinh (Mekong Delta, South Eastern, South Central Coast, Central Highlands regions)	Drought, El Niño	1,750,000		1,750,000	$ 7,280,861
2019	Drought	Ben Tre, Tra Vinh (Mekong Delta-wide)	Drought, El Niño	685,558		685,558	NA

Source: EM-DAT, CRED / UCLouvain, Brussels, Belgium / www.emdat.be / Accessed 01/30/2021

Figure 37. Major natural disasters reported in the project provinces between 1997 and 2019. Note that "impacts" refer to the entire area affected, and not just the project provinces.

[26] Note that two occurred in 1998.

[27] The EM-DAT does not include "saline intrusion" amongst the natural disaster categories that are tracked, however it is likely that in those years where drought is recorded that, at least of late, it could be assumed that saline intrusion would also have been aggravated by the drought phenomena.

line with the expected availability (quantity and quality) of water resources in each sub-region. (MARD, 2021)

Figure 41a. shows observed storm frequency, country-wide, from 1960 to 2017, which demonstrates that relative to the rest of the country, the Mekong Delta and the project provinces have had a relatively low frequency of storms. A more recent analysis (Kim, et al, 2019) assigns a current typhoon hazard rating of low to medium typhoon hazard for the project provinces. See Figure 42. Still, as can be appreciated from Figure 39, "low" in this context still translates into frequent and damaging typhoons,

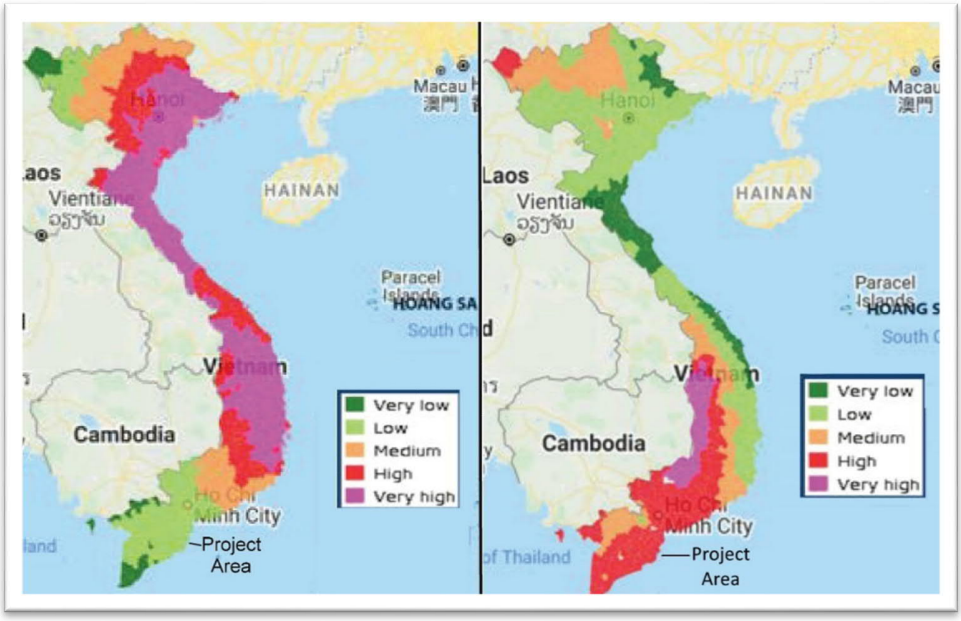


Figure 39a. Storm frequency (1960-2017) Figure 41b. Annual drought susceptibility (1985-2015)

Source: UNDRR, 2020

tropical storms, and heavy monsoonal rains (i.e., a total of 8 events, or about once every three years). Figure 41b. provides an indicator of drought susceptibility, based upon observed drought frequency in the period from 1985 to 2015. Here the Mekong Delta and project provinces figure as "hot spots" with a high annual drought susceptibility. (UNDRR, 2020)

Drought. Understanding drought in the context of the Mekong Delta, and especially the project provinces, requires a discussion beyond meteorological drought, i.e., that drought which occurs when dry weather patterns dominate an area. For purposes of this discussion, the focus is primarily on meteorological and hydrological drought, leading to agricultural drought. (see Box "Definitions of Drought")

The occurrence of meteorological drought historically has not been as much a concern in the Viet Nam's Mekong Delta (VMD) as it has been upstream in the Greater Mekong System (GMS). Figure 43 shows the occurrence of meteorological drought (defined here as a dry year with less than 80% of mean annual rainfall) between 1995 and 2009. In this 15 year period, at no time did the VMD experience an annual rainfall total that was even 10% less than its long term average. Looking at 1998, when severe drought was experienced in the VMD, meteorological drought was not an issue for the VMD. It was, however, very much an issue in Cambodia, Laos, Thailand, and China. This underlines the relative importance of rainfall patterns across the Greater Mekong System (GMS) vs localized rainfall within the VMD and/or project provinces.

Hydrological drought within the project provinces is a result of meteorological drought upstream of the VMD, coupled with competition for water Mekong water resources with upstream neighbors from China down, into the neighboring upstream Vietnamese provinces with their extensive areas of two-season and three-season, irrigated rice production. The construction of new hydropower dams and water storage

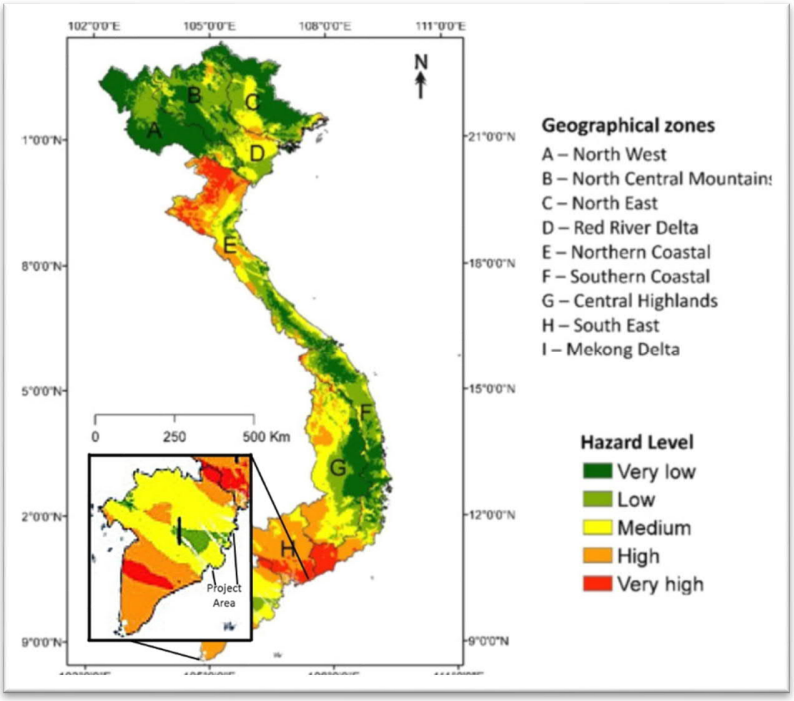


Figure 40. Typhoon hazard.

Source: Kim, et al, 2019.

in reservoirs in the Mekong basin, as well as the re-filling of reservoirs after droughts, are in themselves important causes of water shortages (hydrological drought) in the Mekong Delta, especially at the beginning of the flood season. This exacerbates both the problem of water availability for crops and the impacts of droughts. (Royal HaskoningDHV and GIZ, 2020).

The 2019/2020 drought is a particularly good illustration of hydrological drought, with the combination of a dry year across a portion of the river basin and impacts of upstream dams and extractive usage. The drought of 2020 has been characterized as the worst since 1926. (Chau, 2020). According to MARD (Huu, 2020), what occurred to cause the drought was a late onset of the rainy season, "with the result rainfall 8% lower than normal at 1,240 mm". It is difficult to comprehend that an 8% decline in total annual rainfall from the average, coupled with a delay in the onset of the rainy season, would alone be sufficient to trigger "the worst drought since 1926" without other major, causal factors that were rather much further upstream.

Across Southeast Asia, in 2019, monsoon rains, which usually start in late May failed to arrive. Dry conditions, driven by the El Niño weather phenomenon, and likely exacerbated by climate change, persisted well into July. Water levels in the Mekong River dropped to their lowest in more than 60 years. (MRC, 2019) The situation was

Definitions of Drought

Meteorological drought: A period where rainfall is significantly below the long-term average. Precise definitions of meteorological drought are highly region-specific.

Hydrological drought: Depletion of surface and subsurface water resources, usually due to low rainfall, although there may be other contributing factors. Hydrological drought is an important concept in irrigated systems. Meteorological drought in the headwaters of a catchment can result in hydrological drought downstream where local rainfall is normal.

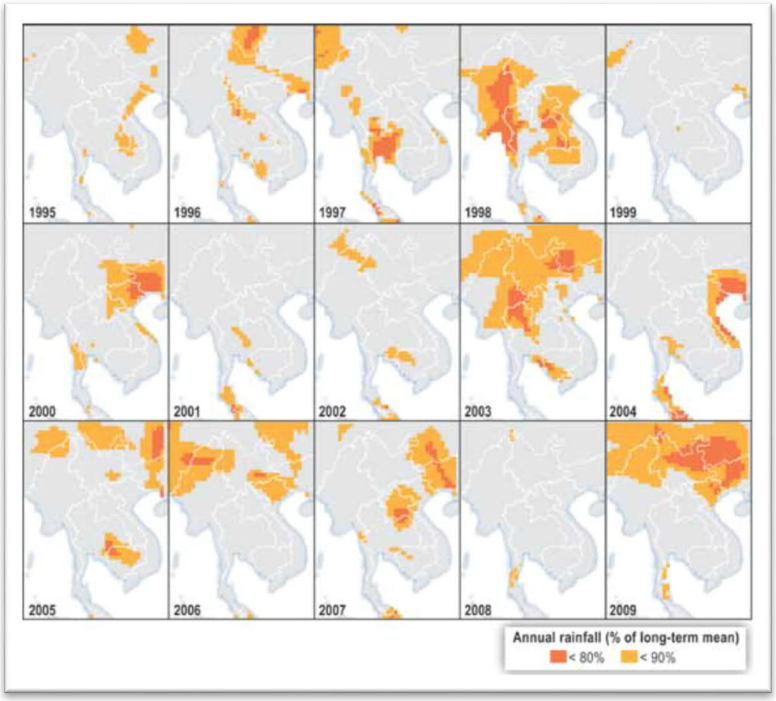
Agricultural drought: A period when soil water is insufficient to meet crop water requirements, resulting in yield losses. Since the impacts of rainfall deficits depend on the types of soils and crops, and cumulative addition and removal in consecutive cropping seasons, agricultural drought can be a very local phenomenon.

Socioeconomic drought: Any situation where water demand exceeds water supply.

Ecological drought: A prolonged and widespread deficit in naturally available water supplies — including changes in natural and managed hydrology — that create multiple stresses across ecosystems.

Source: Johnston, et al 2012 and author

Figure 41. Occurrence of dry years across GMS (1995-2009)
Source: Johnston, et al. 2012



made worse by hydropower dam operators upstream, in China and Laos, withholding water for their own purposes. One dam (Jinghong Dam) some 35 km north of the border with Thailand in China, halved its water releases during two weeks in July of that year and this is believed to have contributed in large part to the historically low water levels in the Mekong River. (Lovegren, 2019) The controversial Xayaburi Dam in northern Laos, which began operations in October 2019, is also seen as a contributing factor. Thus the effects of climate change on weather (rainfall, drought) interact with dam construction and operation in China and the Lower Mekong Basin countries, as well as with the other widespread, anthropogenic changes in the Mekong river basin and delta (e.g., diversion of water for irrigation). Currently, the total active storage capacity of the reservoirs in the Mekong Basin is about 16% of the total annual runoff. This expected to increase to 22% by 2030.

In general, reservoir operations for hydropower – the main purpose of most of the upstream dams – are expected to lower annual peak floods and increase dry season flows, the latter as a function of dams' releases through the dry season for hydropower generation[28]. Dam operation for hydropower is considered to have a limited impact on the mean annual water availability downstream, but severe impacts are possible during periods of initial filling and re-filling of dams, following drought periods. Or, as in the case of the 2019/2020 drought, ad hoc decisions by dam managers to reduce water releases at critical times. This points to another important factor: the status and effectiveness of cooperative international reservoir management in protecting downstream water users, especially during periods of scarcity and water stress. (Royal HaskoningDHV and GIZ, 2020)

In terms of impacts within the project provinces of the 2020 drought, Ben Tre province was one of the five provinces to declare an emergency in 2020 after salinity levels in rivers and canals surpassed the record levels of 2016. Ba Tri District was the hardest hit within the province. (Huu, 2020). According to the Ministry of Agriculture and Rural Development (MARD), about 41,900 ha, or 2.7% of the total area of winter-spring rice in the area were affected by saline intrusion, of which Tra Vinh lost 14,300 ha. Most of the damaged rice area was planted after December 2019. In addition, 25,000 ha of fruit crops were affected in the Mekong River Delta (MRD) by the 2020 drought, with 11,000 ha becoming unproductive, mainly in the Ben Tre, Tien Giang, Vinh Long, and Long An provinces. (USDA/FAS, 2021). Approximately 96,000 HHs in the area did not have access to fresh water during the salinity period, compared to about

[28] This, without consideration of any potential, future impacts of climate change.

210,000 HHs affected in 2016, the last severe incidence of saline intrusion. Hydrometeorological observations recorded that salinity intrusion in the Mekong Delta during the 2019-2020 dry season occurred nearly three months earlier than average, at higher levels, and for a longer period than the 2015-2016 drought, with 4 grams/liter saltwater reaching upstream from 57 to 135 kilometers from the coastline. (USDA/FAS, 2021). Salinity remained at a very high level for over 4 months. According to MARD, thanks to proactive reaction, the damage level in the dry season 2019-2020 was significantly decreased compared to the 2015-2016 season resulting from (i) a better disaster and climate risks management planning by the provinces, (ii) enhancement of the forecasting system that early informs people on salinity intrusion, (iii) investment in climate and salinity resilient infrastructure and varieties taking lessons learnt from the 2015-2016 drought and salinity intrusion, and (iv) undertaking agricultural transformation that is better adapted to salinity (e.g. crops (rice..) to aquaculture)[29]. These lessons learnt well inform CSAT design in view of planning, climate proof infrastructure investment, and agricultural transformation.

A final, general note on drought. Because the question of the El Niño Southern Oscillation's (ENSO) impact on rainfall and drought is often cited as a factor, the results of a recent study (Vinh et al, 2020) are useful to introduce here. The study, which analyzed data from 102 monitoring stations across the VMD from 1989 to 2017, concluded:

- The ENSO has a strong impact on rainfall characteristics in the MRD, and these are correlated Oceanic Niño Index (ONI)[30].
- ENSO processes significantly impacted rainfall regime characteristics, especially the dates of onset and cessation of the rainy season, and season length.
- Total annual rainfall and dry season rainfall are also correlated with ENSO processes, but with lower reliability (e.g., correlation with ONI has R^2 on the order of 0.46). Some La Niña years exhibited significantly lower total rainfall than El Niño years.
- In La Niña years, dry season rainfall averaged more than 100 mm. In El Niño years, dry season rainfall usually remained less than 100 mm.
- Dry season rainfall, which could be an important source of water for domestic purposes or as supplement in horticulture, lacked the predictability needed for effective exploitation.
- No correlation was been found between maximum number of days without rain during the rainy season and ENSO processes, indicating that ENSO processes are probably not involved in droughts during the rainy season.
- The shortest rainy seasons were found in the estuary zone (i.e., in the project provinces).
- The number of consecutive days without rain averaged 96 annually, with a difference of 29 days between the largest and smallest observations.
- Although the impacts of climate change on the rain regime is complex, it can be said that the rainy season now tends to start earlier, end later, and be lengthier, though without exhibiting clear trends.

Ben Tre, Drought. From the perspective of government officials and residents of Ben Tre Province, the experience with and concern over drought is second only to that for saline intrusion. For its 2020 – 2030 Climate Change Action Plan, DONRE carried out a survey among government officials and households at all levels (commune, district, province), to estimate the number of households that have

[29] http://phongchongthientai.mard.gov.vn/en/Pages/mard-report-on-the-drought-and-saltwater-intrusion-in-mekong-river-delta.aspx?item=/en/Pages/mard-report-on-the-drought-and-saltwater-intrusion-in-mekong-river-delta.aspx

[30] An index developed by NOAA's Climate Prediction Center.

experienced the impacts of climate/weather-related and natural disaster hazards. The results are summarized in Table 1, below.

The results demonstrate that saline intrusion and drought (which go hand-in-hand) are a universal concern in the province, which clearly reflect the very recent experiences of the province. The 2019/2020 drought resulted in a salinity level of 5 g/l penetrating through Ben Tre into the upstream provinces. Agricultural sector losses were estimate at of about 2,843 billion VND, with 98% of the loss directly suffered by producers. During the period of peak salinity levels, some 86,900 households lacked potable water. Only three years prior, the 2016 drought and its resulting saline intrusion had been the worst until the 2019/2020 event. In that event, nearly 20,000 hectares of Winter-Spring rice, 500 hectares of vegetables and cash crops, and 1,275 hectares of fruit trees were damaged; and 88,200 households were left without potable water. Losses from the 2106 event were estimated at VND 1,800 billion (US$80 million). (IFAD, 2020b)

Location	Saline Intrusion	Drought	Storms	Floods	Sea-level Rise	Costal/ Riverbank Erosion
Province-wide, government officials	100%	86%	43%	14%	14%	
Province-wide, households	98%	72%	11%	2%	7%	5%
Ben Tre City	100%	96%			12%	
Cho Lach	100%	75%			21%	14%
Ba Tri	97%	68%	30%		3%	
Giong Trom	100%	86%				
Binh Dai	100%	40%	7%		7%	
Chau Thanh	91%	60%	14%			11%
Thanh Phu	100%	79%			4%	4%
Mo Cay	96%	69%	21%		8%	4%

Table 1. Ben Tre Province – survey results on household-level experience and concern regarding climate/weather-related and natural hazards. (Source: DONRE/Ben Tre, 2020)

Tra Vinh, Drought. According to its 2020 – 2030 Climate Change Action Plan (DONRE/Tra Vinh, 2020), annual drought occurs frequently. In their context, drought is defined as "10-18 consecutive days without rain", which begins to impact production.[31] The plan notes that Cau Ke, Cang Long, and Tra Cu districts are less drought-prone. For Tieu Can district, drought is more common at the beginning of the cropping season in June and July; and for the remaining districts (Chau Thanh, Cau Ngang, and Duyen Hai), when drought occurs it is more commonly in the middle of the cropping season in July and August, which timing has a much more serious impact on agricultural production.

In Tra Vinh, the saline intrusion event of 2019/2020 impacted 21,900 ha of rice, 88 ha of other crops, and 277 ha of fruit trees; 11,550 households lacked water for domestic use. The estimate of total agricultural production losses is 1,000 billion VND. This compares to the 2016 event, in which 29,068 ha of rice, 1,274 ha of other crops, 403 ha of fruit trees, and 249 ha of aquaculture were damaged; and 21,384 households lacked of water for domestic use. Total agricultural production losses were valued at 1,130 billion VND. (IFAD, 2020b)

[31] It is not clear in the document what the causal chain is, such that the lack of rainfall for 10-18 days is sufficient to cause negative impacts on agricultural production. As commercial crops are overwhelmingly irrigated, the lack of rainfall may raise irrigation demand and put pressure on limited fresh water for irrigation and/or lack of rainfall may result in increasing salinity in irrigation waters and/or may allow soil salinity levels to increase without rainfall to flush the accumulation of salts from the irrigation waters, or others. Of note, Johnston et al (2012) report that a water account estimated that in the Cambodian and Vietnamese subbasins of Mekong, more than 60% of total evapotranspiration from irrigated crops is derived from rainfall. This underscores the importance of total rainfall amounts during the dry season, given the limitations and criticality of irrigation water resources during the dry season.

Key Risk Factors

For purposes of this assessment, the time period of interest is the next 20 years. In addition to this being consistent with the 20 year economic life utilized for the project's economic and financial assessment, it is warranted by the uncertainty inherent in an assessment of this nature. The combined effects of climate change, sea level rise, upstream dam building and interventions in the Mekong Delta – such as those that contribute to concerns regarding land subsidence (groundwater extraction), enhanced riverbank erosion (sand mining), and water pollution – cannot be predicted within an acceptable degree of precision, so that the longer the projection into the future, the greater the uncertainty. Secondly, given the deep uncertainty around projections of different and possible future situations, planning, prioritization and design over the project cycle should apply the principal of preferring no- or low-regret solutions[32] in decision-making over what the CSAT would support. A 20 year planning horizon is compatible with such an approach.

In terms of assessment of future risks, the Global Facility for Disaster Reduction and Recovery's "ThinkHazard!" risk assessment tool downscales natural disaster risk ratings to the district-level in Viet Nam. (GFDRR, no date) See Table 2, below. The tools is designed raise potential natural disaster issues and concerns in the development and design of projects; providing an estimation of the probability of occurrence of natural hazards within a project area. The table below provides a risk assessment rating

Table 2. ThinkHazard! assessment of disaster risk by hazard and location (district) in project area.

Hazard	Ben Tre	Tra Vinh	Comments
River Flood	Coast Binh Dai – LOW Ba Tri – HIGH Thanh Phu – VERY LOW Mid-Province Giong Trom - LOW Ben Tre City – VERY LOW Mo Cay - LOW Northwest Chau Tanh – VERY LOW Chau Lach – LOW	Coast Duyen Hai – MED Mid-Province Cau Nang – MED Tra Cu – MED Tra Vinh City – LOW Chau Thanh – MED Tieu Can – ND Northwest Can Long – MED Cau Ke – MED	Very Low: <1% probability of potentially damaging & life-threatening event in next 10 years (return period ~ 1/1,000 yr) Low: > 1% probability of potentially damaging & life-threatening event in next 10 years (return period ~ 1/1,000 yr) Medium: >20% probability of potentially damaging & life-threatening event in the next 10 years. High: Potentially damaging and life-threatening event expected to occur at least once in the next 10 years. ND: No data
Coastal Flood	Coast Binh Dai – HIGH Ba Tri – HIGH Thanh Phu – HIGH Mid-Province Giong Trom - HIGH Ben Tre City – MED Mo Cay - HIGH Northwest Chau Tanh – HIGH Chau Lach – HIGH	Coast Duyen Hai – HIGH Mid-Province Cau Nang – HIGH Tra Cu – HIGH Tra Vinh City – HIGH Chau Thanh – HIGH Tieu Can – HIGH Northwest Can Long – HIGH Cau Ke – HIGH	Ratings same as above
Storm Surge	Coast Binh Dai – MED Ba Tri – MED Thanh Phu – MED Mid-Province Giong Trom - MED Ben Tre City – ND Mo Cay - MED Northwest	Coast Duyen Hai – MED Mid-Province Cau Nang – MED Tra Cu – MED Tra Vinh City – MED Chau Thanh – MED Tieu Can – ND Northwest	Low: > 2% probability of potentially damaging & life-threatening event in next 50 years Medium: >10% probability of potentially damaging & life-threatening event in the next 50 years. ND: No data

[32] Consistent with Prime Ministerial Decision 324/2020 (3 March 2020) for the implementation of Resolution 120 "Overall Program of Sustainable Agriculture Development Adapting to Climate Change in the Mekong Delta Region to 2030, with a Vision to 2045" (PSAD), which inter alia, instructs that planning and implementation should take a no regrets approach.

Hazard	Ben Tre	Tra Vinh	Comments
	Chau Tanh – MED Chau Lach – MED	Can Long – MED Cau Ke – LOW	
Typhoon	All Districts: HIGH	All Districts: HIGH	High: >20% probability potentially damaging wind speeds in the next 10 years.
Extreme Heat	All Districts: MED	All Districts: MED	Medium: > 25% probability of at least one period of prolonged exposure to extreme heat, resulting in heat stress, will occur in the next five years.

Source: GFDRR, no date.

(high, medium, low) for each of the districts within the project provinces, as regards major hazards from flooding, storm surge and storms, and heat. Of relevance for the project area, ThinkHazard! does not include either "drought" or "saline intrusion" in its assessment. Also note that the hazard rating represent a potential maximum, without taking into account any protective systems or infrastructure that may be in place (e.g., flood protection works).

CSAT exposure to key risk factors. For the CSAT, the key risk factors considered are the following:

- Saline intrusion
- Inundation, in result of relative sea-level rise (i.e., aggregate impact of SLR and subsidence)
- Drought
- Floods, River
- Heat
- Storm Surge, Coastal Floods
- Tropical storms/Typhoons
- Coastal/Riverbank Erosion
- Extreme rainfall events with localized flash flooding

Based upon the information and data sources presented in prior sections, a qualitative estimation of the physical exposure to the preceding risk factors was done for the districts and cities within the project provinces. As with the ThinkHazard! assessment, the exposure rating was estimated without consideration of significant, existing protection works (e.g., for river flood management, protection from tidal inundation and salinity intrusion, sluice gates, culverts, pumping stations, etc.) that otherwise mitigate the exposure to risk. Incorporation of those mitigatory works in a risk assessment, while highly desirable, is beyond the scope of this assessment, requiring as it would a comprehensive, up-to-date database of the protection works and their designed capacity, and sophisticated modelling and GIS capability. Additionally, a separate literature review was done to estimate the sensitivity of the proposed commodities to the relevant, individual key risk factors (i.e., salt tolerance, drought tolerance, tolerance to inundation and saturated soil conditions, heat, and high winds). Based on that review, each of the proposed value chain commodities was rated for its sensitivity to the key risk factors. The results of those assessments are found in Annex II. Value Chain Commodity Risk Assessment.

Finally, the general level of risk to the commodities' primary production systems was estimated based upon both the estimates of each production systems' sensitivity to the individual risk factors and the estimated level of exposure to those risk factors in the districts and cities where the specific commodities would be produced. The assessment also looked at the proposed commodities in light of the long term regional planning directions for water resources management as proposed in the Mekong Delta Integrated Regional Plan (Royal HaskoningDHV and GIZ, 2020), and noted which of these may not be compatible with the water resources zoning[33]. See Figure 44. Those results are found in Table 3,

[33] The long term zoning plan envisions three agro-hydrological regions that divide the delta into: (1) an upstream region with freshwater the year around; (2) an intermittent fresh/brackish water zone that has fresher water in the rainy seasons, and saltier in the dry season, with the quantity of fresh water decreasing and the salinity increasing gradually towards the coast, and which over time, will diminish as climate change

below, and Annex II. In estimating these risk levels consideration was given to ability to mitigate individual risks through such options as appropriate due diligence in siting (for example, avoidance of areas at risk from riverbank erosion or flooding in lower-lying areas, within lands protected by sea dykes, etc.). To the extent that such options were practically available, the level of estimated risk was reduced.

These results should be seen as indicative only, and taken for the purpose of illustrating the absolute

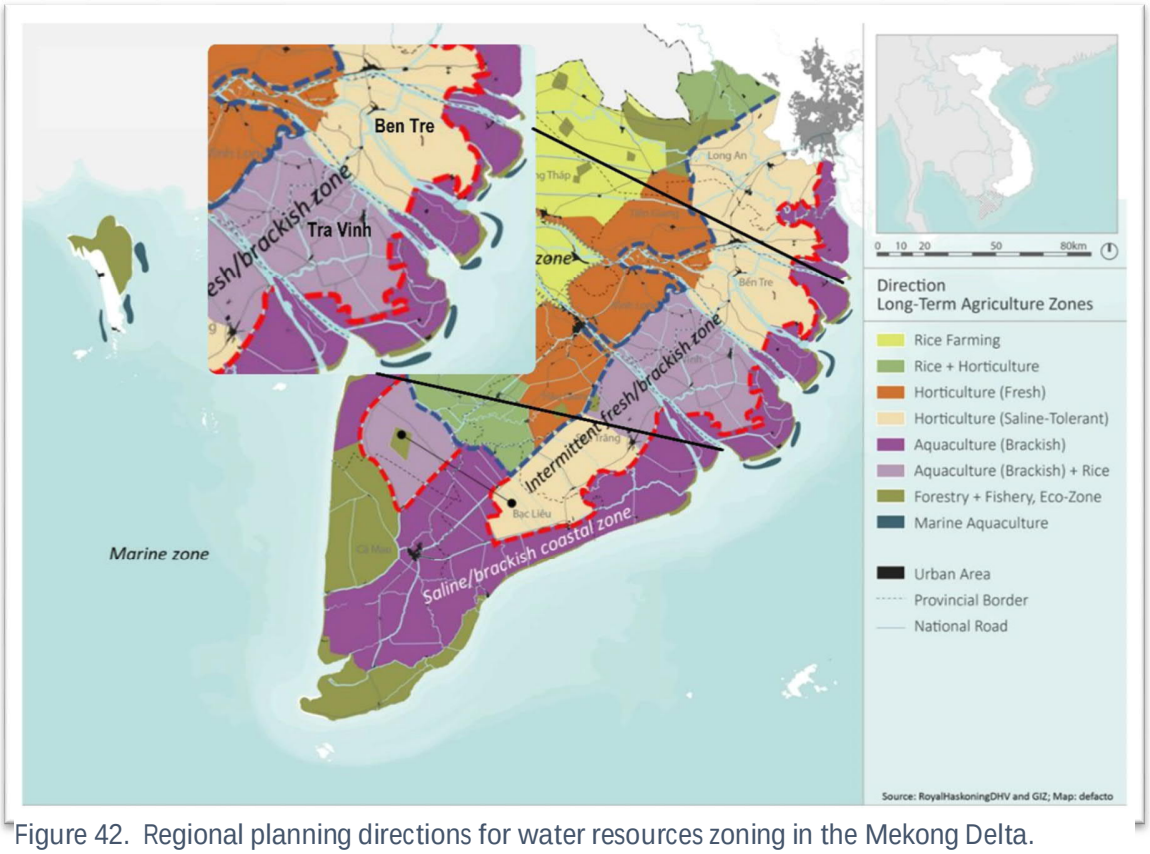


Figure 42. Regional planning directions for water resources zoning in the Mekong Delta.

Source: Royal HaskoningDHV and GIZ, 2020

importance of the appropriate due diligence being done prior to committing resources during the implementation to promote, incentivize, establish, or support the introduction, expansion, or upgrading of the prioritized, primary production systems into new, or within existing production zones. The relatively coarse resolution of available information only allows conclusions to be drawn at the level of districts as regards the likelihood and relevance of risks requiring avoidance and/or mitigation. This assessment cannot substitute for the on the ground assessments of exposure, sensitivity, and risk that must take be carried out in the course of project implementation (e.g., through a combination of participatory

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and sea-level rise cause the salinity margin to progress upstream; and (3) a saline/ brackish coastal with year around brackish water. It is envisioned that hard boundaries will be established to ensure long-term supply of fresh water all year round. To the extent that this vision is realized, areas outside of the "hard boundary" – which include the entirety of both Ben Tre and Tra Vinh – would undoubtedly undergo a very significant restructuring of their economies and land use.

Table 3. Ben Tre and Tra Vinh Provinces: Estimated level of climate change/weather risk by commodity production system by location

BEN TRE / Value Chains	Administrative Units							
	Chau Thanh	Cho Lach	Ben Tre City	Mo Cay	Giong Trom	Binh Dai	Ba Tri	Thanh Phu
Coconut	Low	Low	Low	Low / Moderate	Low / Moderate	Moderate	X	X
Aquaculture (extensive, rice-shrimp, shrimp-forest)	X	X	X	X	X	Moderate	Moderate	Moderate
Clam	X	X	X	X	X	Moderate	X	Moderate
Seedlings, bonsai	X	Low / Moderate	X	X	X	X	X	X
Fruit (mango, rambutan, and pomelo)	Low / Moderate	Low / Moderate	Moderate*	Moderate / High*	Moderate / High*	High*	X	High*
Cattle, pig (others TBD)	Low	X	X	X	Low	Low / Moderate	X	Low / Moderate
TRA VINH / Value Chains	**Cang Long**	**Cau Ke**	**Tra Vinh City**	**Chau Thanh**	**Tieu Can**	**Cau Ngang**	**Tra Cu**	**Duyen Hai**
Coconut	Low	Low	Low / Moderate	Low / Moderate	Low / Moderate	X	Moderate	X
Rice	Moderate*	Moderate*	X	Moderate / High*	Moderate / High*	X	Moderate / High*	X
Fruit (mango, mandarin, and pomelo)	Moderate*	Moderate*	Moderate / High*	Moderate / High*	Moderate / High*	X	High*	X
Shrimp (eco-farming; intensive, super-intensive-CNC)	X	X	X	Moderate	X	Moderate / High	X	Moderate / High
Clam	X	X	X	Moderate	X	Moderate	X	Moderate
Head snake fish	X	X	X	X	X	X	Moderate	X
Upland crops (TBD)	X	X	TBD	TBD	X	TBD	TBD	X

X – not proposed in this location; TBD – specific crops remain to be determined, and risk is dependant on specific crop; * - production systems that may not be compatible with the long term regional planning directions for water resources zoning (as per MDIRP (Royal HaskoningDHV and GIZ, 2020)

planning with communities and knowledgeable locals; technical assessments of proposed production areas by qualified technical staff or consultants; and specific studies, workshops, consultations, etc. with experts from government, academia, and relevant programs). In this regard, the absolute importance of involvement of local peoples cannot be understated. Their experience and knowledge of actual conditions will be one of the more robust risk mitigation tools for assessing and confirming the levels of risk associated with specific project investments, and as well they would be able contribute to the development of appropriate risk mitigation and avoidance approaches based on local knowledge and experience.

As regards exposure and risk of infrastructure, that will require assessment on a case-by-case basis. Assuming that on the primary production side that appropriate due diligence is done to ensure that the specific commodity to be produced is suited to the specific location and conditions, there will be no other option but that the design of the directly associated infrastructure investments (i.e., roads, bridges, water supply infrastructure) accommodate themselves to the location. Thus, the identification of potential risks and vulnerabilities and incorporation of appropriate siting (as possible) and engineering, and protection works as needed will have to be incorporated into the contracting, design and oversight processes. Judging from the AMD experience (IFAD, 2021d), there were no apparent

issues with design, supervision, or quality of the “climate resilient infrastructure” investments, and so the CSAT should be able to capitalize itself on that prior capacity and experience.

Climate Adaptive Capacity

Policy and legal framework. Government Resolution No. 120 (of 17 November 2017) on Sustainable and Climate-Resilient Development of Mekong Delta of Viet Nam, provides a solid policy foundation, as well as vision and guidance for the broader shift towards a Mekong Delta region that is more sustainable and resilient in the face of climate change. Key directions from the Resolution include:

- To promote sustainable and resilient utilization of water resources, centered around adapted “living actively with floods, brackish water and saltwater”
- To reduce subsidence through restrictions on excessive groundwater exploitation and sediment sand mining
- To encourage a more resilient socio-economic system that is better able to adapt to the impacts of climate change and upstream developments
- To strengthen the management and control of environmental pollution (water, soil and air)
- To strengthen biodiversity in terrestrial, coastal and aquatic ecosystems
- To stimulate the transition to renewable and clean energy generation.

The resolution also establishes the Objectives for the Year 2050 that “The Mekong Delta becomes a highly developed region of the nation, and has an advanced level of social organization; per capita income is higher than the national average and people's livelihood is secured; The share of ecological agriculture, high technology agriculture rate reaches over 80%, forest covering rate is over 9% (compared to the current rate of 4.3%), important natural ecosystems are preserved and developed. The network of socio-economic infrastructure is built synchronously and modern. Modern urban systems are built and distributed reasonably in sub-regions. Road and waterway transportation systems are developed synchronously, with inter and intra regions connectivity, and must ensure a harmonious, uniform, complementary combinations, avoiding conflicts with the irrigation and dyke systems. The irrigation infrastructure is built in harmony with the transformational model of agricultural production adapting to climate change especially in ecological sub-regions, and at the same time there must be measures to reduce risks of natural disasters for the people and the economy. Information and communication infrastructure, electricity supply network, water supply and drainage system are built synchronously coordinated cost-effective interprovincial investments are needed for water security and water resource management in the Delta”.

In March 2020 government issued the regulations for the implementation of Resolution 120, the Prime Ministerial Decision No. 324/2020 approving the “Overall Program of Sustainable Agriculture Development Adapting to Climate Change in the Mekong Delta Region to 2030, with a Vision to 2045”. This establishes targets for 2030 in order to progress on the achievement of the longer vision and objectives set up under the Resolution 120, which include economic growth targets for the agricultural sector, as well as targets for income from climate change adapted agroforestry and aquatic product processing, per capita income growth for rural areas, and reduction of greenhouse gas emissions from agricultural production reduced by 20%. Decision 324 defines strategic pillars for the Delta, which include:

- Integrated, multidisciplinary and sectoral planning – in line with the national master plan, regional planning and provincial planning – for synchronous implementation of "no regrets" solutions with interregional coordination and industry linkages.
- Sustainable agriculture sector development planning for all the three sub-regions (upper delta, middle region and coastal area) based on water resource management, land adaptability and

market demand. A production zoning scheme is defined, calling for the definition of (1) safe areas – areas safe from impacts of floods, inundation, and saline intrusion; (2) transition areas – high-risk areas with low margins of safety against floods, inundation, and saline intrusion; and (3) flexible areas – where as yet there is insufficient information and clarity on the future impacts of saline drought, waterlogging and fresh water supply.

- Restructuring the current agriculture landscape towards adapted production systems of aquaculture and fruit moving into rice production areas that will no longer be vialble for rice production.
- Diversification of the rural economy.
- Agricultural development adapted to changes in natural conditions and markets.
- Consolidation and accumulation of land to support large-scale farming households, and through organizing farm households into new types of cooperatives and enterprises.
- Prioritize the development of processing and trade in the agricultural value chain.
- Applied scientific and technological research, focusing on solving three issues: breeding, quality germplasm, and processing so by 2025, have identified high performing varieties adapted to climate change, and by 2030 have the capacity to meet domestic seed supply needs, as well as to export seed into the international markets
- Strengthen sustainable farming, minimize the use of non-organic inputs, protect the environment, and ensure food safety; increase the rate of processing value-added products.
- Develop technical support centres for specialized areas, processing industrial zones, clusters, logistics centres, cold chains and storages.

For the implementation of Resolution 120 and its regulations, all Mekong Delta Provinces were to formulate Province-level Action Plans. Both Ben Tre and Tra Vinh provinces have completed their plans (with AMD support). The Ben Tre Provincial People's Committee issued their "Province Action Plan No. 1330 For The Implementation Of Government Resolution No. 120 On Sustainable Development Of The Mekong Delta Adapted To Climate Changes" in March 2019. Earlier, the Ben Tre PPC issued a "Resolution No. 03-NQ/TU on building and consolidating major agriculture value chains in Ben Tre province for the period 2016-2020 and orientations toward 2025" (in August 2016), and in early 2017 issued the regulations for the implementation of Resolution No. 03: "Province Action Plan number 330 on Implementation of the Party Resolution No. 03 for the building and consolidating major agriculture value chains in Ben Tre province for the period 2016-2020 and orientations toward 2025".

For its part, the Tra Vinh PPC issued "Province Action Plan Number 934 On Implementation Of Government Resolution No. 120 On Sustainable Development Of The Mekong Delta Adapted To Climate Changes" in May 2018. It also issued the "Resolution No. 17-NQ/TU On Major Agriculture Crops And Livestock In Tra Vinh Province For The Period Up To 2020 And Orientations Toward 2025" (December 2017), and "Decision Number 2695 Approving The Master Plan For Transforming Structure Of Agriculture, Forestry, Aquaculture And Fisheries Productions In Tra Vinh For The Period Up To 2020 And Orientations Toward 2025" (December 2016).

A more recent, and critical piece for enabling regional progress towards a climate adapted and resilient Mekong Delta region was put in place by the Prime Minister's Decision On Establishment And Operational Manual Of The Mekong Delta Coordination Committee (June 2020). The absence of an effective coordination mechanism had been recognized as a critical impediment for a number of years. The Decision provides for coordination among the provinces, and the integration of resources for planning and implementation of the Mekong Delta Sustainable Development Programme 2020 -2025 (MDCC). Specifically, it sets up a "multi-ministerial body, established by the Prime Minister, to conduct advisory and support functions in order to assist the Prime Minister in directing, coordinating,

monitoring and supervising the region-integrated implementation of the Mekong Delta sustainable development adapting to climate change program", with the Ministry of Planning and Investment charged heading up the new body. The MDCC will concern itself with: (i) integrated socio-economic development of the Mekong Delta; (ii) sustainable development adapted to climate change; (iii) coordination of planning for the Mekong Delta Master Plan for 2021 -2030 with vision to 2050; and (iv) the other coordination and cooperation areas as specified by the Prime Minister.

Finally, it is worth noting an important regulatory advance in Tra Vinh province that resulted from AMD project support. In June of 2020 the Tra Vinh PPC issued Decision No. 2367 / QD-UBND to regulate groundwater exploitation. This is an important legal basis for controlling a principle driver of land subsidence and mitigate/reduce its impacts.

The proposed project is consistent with, and would support the implementation of the vision and priorities articulated in the national and provincial frameworks. As such, it has a solid platform for both advancing existing and further strengthening institutional and sectoral capacity for climate change adaptation. This is reinforced by the positive experience of the AMD project, which was reported to have enjoyed a high level of political commitment from GoV at both central and provincial levels and how that translated into GoV's proactive responses following the historic drought and intrusion of salinity in 2016, with the issuance of Resolution 120/NQ-CP and the "Master Program for Sustainable Agriculture Development to Adapt to CC in the MRD by 2030 and vision toward 2045", as well as MARD's Action Plan to implement the Resolution 120. These provided important legal bases for the MRD, and Ben Tre and Tra Vinh, to receive the required financial and technical support to advance on its climate change adaptation and resilience building agenda. (IFAD, 2021d)

Institutional Capacity. The Institutional capacity, experience and knowledge gained under the AMD project can be capitalized and built upon. Certain promising outcomes from the AMD (IFAD, 2021d) highlight those areas where current capacity exists for climate change adaptation. These include:

- Ben Tre and Tra Vinh were badly affected by two droughts and saline intrusions in the winter-spring season of late 2015-early 2016, and late 2019-early 2020. Despite these strongly negative events the AMD poverty reduction goals were met, and slightly exceeded. This achievement was attributed to (i) having increased agricultural productivity for some 17 different agricultural products (out of 27 attempted); (ii) improvements in household-level climate resilience capacity (as measured by a resilience index) in 24,613 project households; and (iii) increased sales volumes and selling prices of a number of different agricultural products – for example, in Tra Vinh by more than 30% – as a result of the investments in climate resilient/improved infrastructure, production organization, market connections between producer groups and PPP-supported enterprises, and product quality. These outcomes provide evidence of a significant level of institutional capacity existing among local agencies, community groups, and service providers.
- The AMD decentralized implementation to the districts and their agencies, providing them with a "learning by doing" opportunity that significantly improved their capacity to work not only with the project-supported communes, but which spilled over into non-project communes as well. This was most obvious in implementation of the commune-level "climate-informed SEDP" and the district-level "climate-informed SEDP". As the SEDP planning process is the vehicle for engaging with local communities and planning/prioritizing the coming years investments, capacity in this area is fundamental to being able to work on building climate adapted livelihood and production systems. Similarly, the project districts were able to play a lead role in implementation of the CCA action plan, and provide support to communes in implementation of the local Climate Change Adaptation Fund (CCAF) and the Women's Development Fund (WDF).

- Provincial agencies also demonstrated capacity, which was rated "satisfactory" by the AMD project completion appraisal. It noted that the provincial Departments of Agriculture and Rural Development (DARD) in both provinces – in cooperation with districts and communes, and in Tra Vinh, with universities – succeeded in selection, testing, evaluation, and documentation of CCA models, development of Value Chain Action Plans (VCAP) and agricultural sector action plans. Similarly, the provincial Departments of Natural Resources and Environment (DONRE) were able to successfully complete have completed the environmental sector plans and CCA plans for 2016-2020. The provincial Departments of Planning and Investment (DPI) successfully developed, testing, and finalized a manual for implementing climate-informed SEDPs, and provided training to districts and communes to prepare and implement the commune-level, climate-informed SEDP. This strengthened as well the provincial SEDP in Ben Tre for 2016-2020 as it was able to incorporate a bottom-up element in its CCA planning, and for the 2021-2025 SEDP, both provinces were able to incorporate inputs from the commune and district levels climate informed, SEDP planning processes. The Women's Union also demonstrated its delivery capacity by implementing the WDF in both provinces, and in both project and non-project communes; women's groups participating in the WDF were able to access technical assistance and training for climate smart agriculture.

Still it should be expected that institutional capacity risk will be significant. There are critical areas in which as yet the responsible institutions have been as yet unable to demonstrate capacity to deliver on their mandates. Of relevance to the project's (and the government's) objectives, these include:

- Implementation of policies in a number of reform areas will require long-term capacity to support, for example, groundwater protection. DONRE (at both provincial and district levels) is responsible for water resources regulation and enforcement, but has yet to demonstrate capacity to effectively engage on and mitigate the unsustainable exploitation of groundwater or to implement and enforce policies on regarding water resources management. As the CSAT envisages supporting sustainable management through the implementation and deployment of "smart solutions for water management", weakness in this area is of concern.
- In all relevant line agencies, shortages of experts and technical staff specialized in: climate change and the assessment of the effectiveness of adaptation measures, particularly at the local level (districts, commune, and village levels); communications and awareness-raising on climate change; identification and dissemination of appropriate climate change adaptation models at the community-level; and making informed decisions for the prioritization of resources for the implementation of climate change adaptation activities.
- Although Provincial DARD, DONRE, and MPI demonstrated experience in CCA elements of the AMD, the CSAT will require a high level of cross-sectoral cooperation for an integrated approach to improving resiliency in Ben Tre and Ta Vinh. Adopting a cross-sectoral and regional approach within their relatively rigid administrative systems will be a challenge. Mitigation measures will need to include oversight from the PPCs to facilitate cross-agency cooperation and inter-provincial coordination as required.
- Even though IFAD and other development partners (e.g., World Bank) have been actively supporting the development of improved practices and models, going from these to routine application still presents a challenge as they will require ongoing allocation of resources. Mitigating this risk is difficult, and likely will require parallel support to raise the profile of successful activities and significant outcomes through evaluation and dissemination of the impacts and value of these activities to high-level decision-makers at both Provincial and national-levels.

Knowledge capital. According to the CSAT Working Paper on Climate Smart Agriculture (IFAD, 2021b), there are existing, good potential CSA practices and technologies that are extent in the project areas, and which can provide a menu of options for replication and expansion. These include:

- Models of co-management of natural resources, such as water resources management in Long Son commune, Cau Ngang district, Tra Vinh that include collective planning, organization and governance for protection and use of the resources;
- Integrated cropping system models for sandy soils (arenosols) in coastal areas (Cau Ngang, Duyen Hai and Tra Cu district, Tra Vinh), Ba Tri, Thanh Phu, Binh Dai districts (Ben Tre), which include timber plants such as melaleuca and casuarina as windbreaks for protection of associated crops from winds, blowing sand, and temperature shocks;
- Rice straw fermentation for mushroom production;
- Soil moisture conservation (rice straw mulching, plastic mulching, polyethylene film) and vermicomposting for vegetable production;
- Crop, nutrient, and soil fertility management for organic, safe production and high quality produce;
- IPM-Integrated Pest Management associated with ecological technologies on farm management;
- ICM-Integrated Crop Management (site specific nutrient management, and balanced fertilization);
- Organic farming (on coconut, shrimp, rice), and production in accordance with Good Agricultural Practices (GAP) standards
- Water reservoirs (storage) and water saving techniques for farming;
- Rainwater harvesting;
- Water saving irrigation (drip irrigation on fruits, misting systems on crops), and alternate wetting and drying (AWD) on rice,
- Intercropping systems (e.g., peanut, and mung bean with corn);
- Home garden systems in coastal areas;
- Improved rice systems (1must five reductions, system rice intensification);
- Rice-shrimp intercropping and rotation systems;
- Rice-tilapia systems;
- Eco-Shrimp and organic coconut;
- Conversion of non-productive rice land to fodder for cows or to aquaculture;
- And others, see IFAD, 2012b.

Recommendations

See SECAP Section 5. Recommended features of project design and implementation

Based upon experiences and lessons from the AMD project, it will be important for the CSAT project to:

- More effectively engage relevant research institutions, independent experts and private enterprises to accelerate the identification and development of quality CCA models (technologies, methodologies, and approaches) with broader potential for replication and expansion along the salinity gradient in each province.
- Strengthen criteria for selection and development of CCA models and solutions along the salinity gradient to go beyond CCA potential and agricultural productivity and potential income, to include concerns for market potential, and adoptability by different beneficiaries (e.g., upfront capital requirements, returns to labor, labor requirements, complexity, etc.).

- Disaster risk reduction and CCA solutions should be well integrated into the SEDP and VCAPs of key value chains at all levels to ensure comprehensive solutions and resources for implementation. Such solutions should include, but not limited to, a master plan for economic development in different ecological regions, sustainable water resource management, synchronous adaptive infrastructure development, and climate smart value chain development and diversified livelihoods, capacity building, communication, and policies to encourage participation of different stakeholders.
- Increased access to finance and extension services are needed for individual households to effectively adopt CCA practices, and for broader replication. Poor and near-poor HHs should be encouraged to access diversified financing sources (e.g. loans from the WDF and other financial institutions as well as funds from GoV programs and other development organizations). Similarly, they should be supported to access agricultural extension services from the GoV agencies and other market-oriented F2F and E2F extension services.

Below are specific recommendations for the CSAT in view of planning and investment:

- Planning:
  - Practically integrate the climate informed/resilient elements into the social economic development plans from commune to district, province and region;
  - Improvement of the coordination in between sectors, provinces, and regions for better management of natural resources including underground water;
  - Enhancement of early warning disaster and hazard system that helps better management of those risks.
- Value chains:
  - Strongly taking into account of the Resolution 120, Mekong Delta Plan, and the Agricultural Transformation Plan (ATP) when identification and selection of the value chains;
  - In the cause of value chain prioritisation and selection, among indicators the climate resilience must be one of key indicators that has strong weight in selecting value chains (see more discussion in the value chain working paper);
- Infrastructure:
  - Similarly to value chain selection climate smart elements must be among the key indicators in selection of infrastructure. The smart elements might include but not limit to climate resilient, saving resource and energy, using renewable energy, and easy application and re-investment (see details in the climate resilient working paper). To this extent, the following potential infrastructure types can be included:
    - Newly constructed, rehabilitated or upgraded rural roads, bridges to production areas or linkages between collecting points/ warehouses and production areas;
    - Newly constructed, rehabilitated or upgraded small-scaled irrigation embankments or irrigation embankments cum rural roads;
    - Newly constructed, rehabilitated or upgraded small-scaled irrigation canals, sluices and sluice gates, irrigation pumping stations to supply, store and regulate freshwater for agricultural productions;

- Small-scaled multi-use reservoirs(covered by solar panels to reduce evaporation where applicable) for water supply for crop cultivation, livestock raising and domestic use;
- Newly constructed, rehabilitated or upgraded drainage canals for frequently flooded and/or alum contaminated production lands;
- Redesigned sluices and/or canals to enable the transformation from rice towards rice – shrimp productions or brackish aquaculture;
- Newly constructed, rehabilitated or upgraded small-scaled inlet and/or outlet canals, sluices and sluice gates to regulate saline/ brackish water for aquaculture productions; Redesigned sluices and/or canals to separate inlet and outlet canals and ensure circulation of water for aquaculture productions; Waste water treatment systems for aquaculture activities;
- Medium/Low-voltage electricity lines to supply power for agriculture/ aquaculture productions;
- Centre for management and development of plant varieties and seedlings;
- Collection points/ warehouse for collecting, pre-processing and packaging of agriculture products; Wholesale market places for agricultural products;
- Transit warehouses, cool/cold storages for logistics services;
- Product introduction showrooms/shops; E-commercial platform;
- Salinity and/or water quality monitoring facilities for agricultural and aquaculture production; Centre for environmental monitoring and testing;
- Pest monitoring systems for agricultural production (rice, fruit trees);
- Innovative product R&D centers to facilitate innovative ideas (product design, green and safety standards with certificates, packaging, labelling, branding,, digital marketing and commerce, etc.) for development and management of agriculture products; Smart village/commune model.
- Other public climate resilient infrastructures (to be determined during project implementation) for selected agricultural VC developments.

- Climate smart agriculture:
  - The selection of CSA models in the CSAT must base on the following aspects:
    - Productivity (food security): suitability to agricultural ecological zones at local and regional levels, yield stability/sustainability and improvement, reduction in inputs application (fertilizers, pesticides, labours, seeds), readiness for commercial production in accordance with potential value chains;
    - Adaptation: increasing adaptive capacity of production systems to deal with climate and environmental challenges
    - Mitigation: contribution to reduction in GHG (NDC) emission and ensuring financial efficiency
    - Acceptance: appropriateness to local/provincial, and national plans, strategies, sector goals and available resources in the local (financial, physical, social, natural,

and human), especially the transforming trends/orientation of Government and local

- Market and value chains: CSA has to be driven by the market demands (both quantity and quality) and potential selected value chains

- The CSA models identified must be well testified, then applicable. To this extent, the good practices of CSA identification and selection system introduced from previous IFAD projects including the AMD must be made used in the context of IFAD (this is discussed in details in the CSA working paper and the PIM).

All of the above recommendations are taking into account of the climate risks and management solutions discussed in this working paper. Further recommendations for CSAT implementation are integrated in the PDR, the working papers, and the PIM.

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Annex II. Value Chain Commodity Risk Assessment

Ben Tre Province: Proposed value chain commodities by location, estimated exposure of locations to climate change/weather risk, and sensitivity of commodity production system to climate change/weather risk

BEN TRE / Commodity	Administrative Units								Climate Change/Weather-related Risk Sensitivity* by Commodity								
	Chau Thanh	Cho Lach	Ben Tre City	Mo Cay	Giong Trom	Binh Dai	Ba Tri	Thanh Phu	A	B	C	D	E	F	G	H	I
Coconut	X	X	X	X	X	X			++	+	+	+	+	+	+	+	+
Aquaculture (extensive, rice-shrimp, shrimp-forest)						X	X	X	+	+	+	++	+	+++	+++	+	++
Clam						X		X	+	+	+	+	+	++	+++	+	+
Seedlings, bonsai		X							+	+	++	+++	+	+	++	+	++
Fruit (mango, rambutan, and pomelo)	X	X	X	X	X	X		X	+++	+++	++ / +++	++	+	+++	+ / ++	+	++
Cattle, pig (others TBD)	X					X	X		++	++	++	+	++/ +++	++	+++	+	++
Estimated Exposure to Climate Change/Weather-related Risk by Administrative Unit Low (+), Medium (++), High (+++), Very High (++++)*																	
A. Saline intrusion	++	++	++	+++	+++	+++/ ++++	+++/ ++++	+++/ ++++									
B. Inundation (SLR/subsidence)	+	++	++	+ / ++	+	++	++	++									
C. Drought	+ / ++	+ / ++	++ / +++	++ / +++	++ / +++	++ / +++	++ / +++	++ / +++									
D. Floods, River	++	++	++	++	++	++	+++	++									
E. Heat	++	++	++	++	++	++	++	++									
F. Storm Surge, Coastal Floods	++	++	+	+/++	++	++/+++	++/+++	++/+++									
G. Typhoon	++	++	++	++	++	++/+++	++/+++	++/+++									
H. Coastal/Riverbank Erosion	++	++	+	+	+	+	+	+									
I. Local heavy rains w/ flash flooding	++	++	+	+/++	++	++	+++	+									

* Low (+), Medium (++), High (+++), Very High (++++)

Tra Vinh Province: Proposed value chain commodities by location, estimated exposure of locations to climate change/weather risk, and sensitivity of commodity production system to climate change/weather risk

TRÀ VINH/ Commodity	Cang Long	Cau Ke	Tra Vinh City	Chau Thanh	Tieu Can	Cau Ngang	Tra Cu	Duyen Hai	A	B	C	D	E	F	G	H	I
Coconut	X	X	X	X	X		X		++	+	+	+	+	+	+	+	+
Rice	X	X		X	X		X		+++/ ++++	+++	+++	+	++	+	++	+	+
Fruit (mango, mandarin, and pomelo)	X	X	X	X	X		X		+++	+++	++ / +++	++	+	+++	+ / ++	+	++
Shrimp (eco-farming; intensive, super-intensive-CNC)				X		X		X	+	+	+	++	+	+++	+++	+	++
Clam				X		X		X	+	+	+	+	+	++	+++	+	+
Head snake fish							X		++	++	++	+	+	++	++	+	+
Upland crops			X	X		X	X		+++	+++	+++	+	TBD	+	++	+	++
Estimated Exposure to Climate Change/Weather-related Risk by Administrative Unit Low (+), Medium (++), High (+++), Very High (++++)																	
A. Saline intrusion	+ / ++	+ / ++	++ / +++	++ /+++	++ / +++	+++ / ++++	+++ / ++++	++++									
B. Inundation (SLR/subsidence)	++	++	++ / +++	++ / +++	+ / ++	++ / +++	++	+++ / ++++									
C. Drought	++ / +++	++ / +++	++ / +++	++ / +++	++ / +++	++ / +++	++ / +++	++ / +++									
D. Floods, River	++	++	+	++	++	++	++	++									
E. Heat	++	++	++	++	++	++	++	++									
F. Storm Surge, Coastal Floods	++	++	+/++	++	+/++	++	++	+++									
G. Typhoon	++	++	++	++	++	++/+++	++/+++	++/+++									
H. Coastal/Riverbank Erosion	++	+/++	++	+	+	+	+	++/+++									
I. Local heavy rains w/ flash flooding	++	++	++	++	++	++	++	+++									

Ben Tre and Tra Vinh Provinces: Estimated level of climate change/weather risk by commodity production system by location

BEN TRE / Commodity	Administrative Units							
	Chau Thanh	Cho Lach	Ben Tre City	Mo Cay	Giong Trom	Binh Dai	Ba Tri	Thanh Phu
Coconut	Low	Low	Low	Low / Moderate	Low / Moderate	Moderate	X	X
Aquaculture (extensive, rice-shrimp, shrimp-forest)	X	X	X	X	X	Moderate	Moderate	Moderate
Clam	X	X	X	X	X	Moderate	X	Moderate
Seedlings, bonsai	X	Low / Moderate	X	X	X	X	X	X
Fruit (mango, rambutan, and pomelo)	Low / Moderate	Low / Moderate	Moderate*	Moderate / High*	Moderate / High*	High*	X	High*
Cattle, pig (others TBD)	Low	X	X	X	Low	Low / Moderate	X	Low / Moderate
TRA VINH / Commodity	**Cang Long**	**Cau Ke**	**Tra Vinh City**	**Chau Thanh**	**Tieu Can**	**Cau Ngang**	**Tra Cu**	**Duyen Hai**
Coconut	Low	Low	Low / Moderate	Low / Moderate	Low / Moderate	X	Moderate	X
Rice	Moderate*	Moderate*	X	Moderate / High*	Moderate / High*	X	Moderate / High*	X
Fruit (mango, mandarin, and pomelo)	Moderate*	Moderate*	Moderate / High*	Moderate / High*	Moderate / High*	X	High*	X
Shrimp (eco-farming; intensive, super-intensive-CNC)	X	X	X	Moderate	X	Moderate / High	X	Moderate / High
Clam	X	X	X	Moderate	X	Moderate	X	Moderate
Head snake fish	X	X	X	X	X	X	Moderate	X
Upland crops (TBD)	X	X	TBD	TBD	X	TBD	TBD	X

X – not proposed in this location; TBD – specific crops remain to be determined, and risk is dependant on specific crop; * - production systems that may not be compatible with the long term regional planning directions for water resources zoning (as per MDIRP (Royal HaskoningDHV and GIZ, 2020)

Appendix 4 - FPIC implementation plan - Climate Agriculture Transformation Project in Ben Tre and Tra Vinh province, Vietnam (CSAT)

1. Project Background

1. The current IFAD financing amounts to US$ 43 million for 2019-2021 and would be allocated to fund one new investment project in the Ben Tre and Tra Vinh provinces in the Mekong Delta. IFAD loan funded investments will be allocated to infrastructure investments fully in line with current government policies, while IFAD and Government would endeavour to mobilise domestic and international grant resources in order to support technical assistance and capacity building for areas such as policy development, innovation and knowledge management.
2. In December 2020 IFAD carries out the design for the project namely the Climate Agriculture Transformation Project in Ben Tre and Tra Vinh province, Vietnam (CSAT). The design is based on the IFAD May-June 2020 pre-Design Report and the current COSOP 2019-2025 approved by the IFAD's senior management and endorsed by the Government of Vietnam. In addition, the Design mission also takes into consideration the points which was raised by the IFAD Project Delivery Team (PDT) and the Operational Steering Committee (OSC) and Design Review Meeting (DRM).
3. **The goal** of CSAT is to achieve sustainable and climate resilient rural transformation in Ben Tre and Tra Vinh Province that would serve as a model for the Mekong Delta. The **development objective** of CSAT is to attain an inclusive, climate change adapted rural development in Tra Vinh and Ben Tre provinces.
4. Tangible project outcomes will be generated in the areas of inclusive value chain planning, adoption of climate smart agricultural systems, climate smart infrastructure, commercial enterprise – producer partnerships and market linkages. The inclusion and empowerment of rural women and youth will be mainstreamed across the CSAT outcomes.
5. These outcomes will follow sequenced, parallel implementation routes. Regional and provincial integrated platforms/plans (SEDP, sectoral plans) that lay out landscape level agricultural development/transformation taking into account of climate change, required provincial to regional coordination in natural resource management (sand, water), and market integration; and the convergent value chain platforms that identify profitable commodities and available resources for value chain development pathways, the CSAT project will facilitate the participation and empowerment of public institutions, agribusinesses, and communities including the target group and women and youth for inclusive, climate resilient and profitable value chain investments. To this extent, all available technical and financial resources from public and private sectors will be identified/mobilised and aligned to value chain development.

2. FPIC Background

2.1. What's FPIC

6. Free, prior and informed consent (FPIC) is an operational principle empowering local communities to give or withhold their consent to proposed investment and development programmes that may affect their rights, access to lands, territories and resources, and livelihoods. FPIC is solicited through consultations in good faith with the representative institutions endorsed by communities. It ensures that they participate in decision making processes concerning a given development project (IFAD, 2015).

7. Consent should be sought in a way that is "free, prior and informed" [1]:

- **Free** implies no coercion, intimidation or manipulation.
- **Prior** implies that consent has been sought sufficiently in advance of any decision point or commencement of activities.
- **Informed** implies that information provided covers all relevant issues to make decision maker fully enlightened.

8. **Consen**t is the expected outcome of the consultation, participation and collective decision-making process by the local communities.

2.2. Where and When to seek FPIC

9. In IFAD-funded projects and programmes, the borrowing government (or grant recipient) is responsible for seeking and obtaining FPIC. FPIC is methodologically solicited through consultation and the participation of communities and local institutions at specific stages of the project cycle. In the case of CSAT, Project Management Units of two provinces in Ben Tre and Tra Vinh are responsible for seeking FPIC.

10. FPIC is not so much a safeguard principle, rather a proactive approach to identify development pathways with local communities and it is applied in two scenarios (IFAD, 2015):

- Investment projects that may have an impact on the land access and use rights of rural communities;
- Projects targeting indigenous peoples or rural areas that are home to indigenous and tribal peoples and ethnic minorities.

11. The first scenario refers to the type of investment project and the second to the type of project area and target groups. Table below outlines the FPIC requirement according to these two criteria.

Table 1. FPIC requirements based on project type and areas of intervention

Location	**Project likely to affect land access and/or use rights of**	**Agricultural and rural development projects unlikely to affect land**	**Project supporting demand-driven services to individuals**

[1] United Nations Development Group (UNDG), Guidelines on Indigenous Peoples' Issues, 2009:30

	communities	**rights** (agricultural technologies and production, value chain development, social infrastructure)	(rural finance, small and medium-sized enterprise development)
Rural areas without indigenous peoples or minorities.	YES	NO	NO
Rural areas with some indigenous peoples and minorities' communities.	YES	On a case-by-case basis	NO
Indigenous peoples territories or tribal areas	YES	YES	YES

Source: IFAD, 2015

12. As for the case of CSAT in Ben Tre and Tra Vinh, in view of project type, it is an agricultural and rural development project that is unlikely to affect land rights. It is also a project that supports demand driven services to individuals. Regarding the areas of intervention, in Tra Vinh province, there are rural areas with some indigenous peoples and minorities communities. It is noted that the Government of Vietnam uses the term "ethnic minority" instead of "indigenous people". Scoping the FPIC requirements to project type and areas of interventions, it is recognised that FPIC will be sought for the ethnic minority – the Khmer people living in Tra Vinh province. The Ethnic Minority Plan in Annex 2 covers all the FPIC processes for Khmer people.

13. Based on the scenarios, typology of projects and areas of interventions described in the previous section, FPIC needs to be solicited either before project approval (design phase) or during the implementation phase, depending on the nature of the project and at what stage of the project cycle specific benefiting communities are identified, together with specific investment and activities to be undertaken in each community.

Table 2. When to seek FPIC in project Cycle

When to seek FPIC?	Scenarios
During Design Phase	When beneficiary communities are identified at design stage together with the specific investment/activities to be

	undertaken in each community
During Implementation Phase	When either the communities and/or the specific investment/activities are not identifiable at project design phase

Source: IFAD, 2015

14. In the context of the CSAT, the FPIC, together with the EMP, is developed during the design phase and updated during the implementation phase.

3. Guidance and Legal framework for FPIC

15. IFAD is among the first international financial institutions to adopt FPIC as an operational principle in its policy documents, including its policies on Improving Access to Land and Tenure Security (2008); Engagement with Indigenous Peoples (2009), Environment and Natural Resource Management (2011), and Social, Environmental and Climate Assessment Procedures (2014). IFAD-funded projects are people-centred, and, for IFAD, FPIC is not only a safeguard principle, rather a proactive approach to identify development pathways with local communities and build ownership on project initiatives[2].

16. Vietnam ratified the International Covenant on Civil and Political Rights in 1982, and thereby recognized the rights of its ethnic minorities. The term "indigenous people" is not used in Vietnam as it is perceived as a product of colonialism. With the collapse of colonialism, the Vietnam state referred to indigenous people as "ethnic minorities," indicating their minority status against the Kinh majority. Nevertheless, in 2007, Vietnam ratified the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and in 2009 Vietnam became the first country to implement FPIC under the UN-REDD program[3].

17. Vietnam's recognition of the rights of citizens and human rights is guaranteed in its successive constitutions. The 1946 Constitution affirmed that citizens' freedom and democratic rights are guaranteed, including freedom of speech, the right to referendum, and the right to participate in state and political affairs. The 1960 Constitution extended the contents of citizens' rights, paying special attention to the rights of vulnerable groups and economic, social, and cultural rights. The 1980 Constitution reaffirmed the citizens' fundamental rights and made the state responsible for guaranteeing these rights. Article 50 of the 1992 Constitution established "human rights" for the first time in terms of both definition and content. The Grassroots Democracy regulation (Decree No. 79/2003/ND-CP, Decree No. 29/1998/ND-CP, Resolution No. 45, 1998/NQ-UBTVQH10) in 1998 was considered an important milestone towards achieving democracy and citizens' participation in

[2] See IFAD (2015). How To Do: Seeking free, prior and informed consent in IFAD investment projects.

[3] Thuy Thu Pham et all. 2015 - Adapting Free, Prior, and Informed Consent (FPIC) to Local Contexts in REDD+: Lessons from Three Experiments in Vietnam - Forests Journal.

policy-making as it required local governments be more transparent and democratic, consult and monitor, and encourage people to actively take part in social and public management. In 2013, a new constitution elevated the provisions on human rights to the political sphere as evidenced by the use of "human rights and citizens' rights and obligations" instead of "fundamental rights and obligations of citizens" as was the case in all previous constitutions. In addition, the 2013 Constitution recognizes a number of additional rights, including the right to life, the right to culture, and the right to live in a clean environment. The Constitution also asserts: "the rights and the exercise of human rights and citizens' rights may not be abused to infringe upon national interests and others' lawful rights and interests" (Article 15)3.

18. Although the Grassroots Democracy regulation emphasizes the citizen rights of being informed, being consulted, as well as their roles in supervising and deciding, these are often mere slogans and people lack the capability of making their voices heard even at the commune level. Old structures, resistance to change by local politicians, mistrust, and officials' lack of knowledge and skills have hampered the transition towards a more open system of governance, and there has been no significant change on the behavior of governmental staff. This particular political context constitutes a challenging environment for the implementation of FPIC3.

4. FPIC implementation plan

19. As mentioned earlier, the FPIC was already integrated in the EMP (see details in Annex 2), the below table highlights and/or summarises the key steps that FPIC needs to be implemented during the context of CSAT.

Table 3: Summary of FPIC Implementation Plan for CSAT

Description/Activity	Responsible	Timeframe
Conduct socio-cultural and land tenure assessment: ***Identify:*** • Customary laws, informal rules and organizing practices on land ownership • Institutions and governance systems • Types of livelihoods • Mutual support, solidarity mechanisms, and collective actions • Community stakeholders, land users and assess who has the right to give or withhold the consent ***Assess:*** • Consequences from the proposed project that may result in the change of the status of the lands, territories and resources	PPMU and IFAD (who may hire consultants to carry out the scheme specific socio-cultural/land tenure assessments	This has been done during the pre-design, concept note development process in May-June 2020.
Identify decision-making institutions and representatives • Conduct preliminary consultations with	PPMU, possibly through an independent facilitator, supported by	This has been at the pre-design, and updated

Description/Activity	Responsible	Timeframe
the community and explain the nature of the proposed project • Allow time for communities to discuss and decide on their representatives for the consultation process leading to FPIC • Clarify responsibilities of representatives • Agree on the process leading to FPIC • Identify signatory parties for the consent agreement	IFAD as part of project implementation support, as required.	during the design.
Conduct consultation leading to FPIC on the proposed project/specific component/activities • Share objectives, scope, and activities of the project with the representatives identified by the communities and identify project component(s) requiring FPIC • Inform them on the actors financing and implementing the project and their respective responsibilities • Provide clear and transparent information on the benefits and risks of the project • Share the findings of the socio-cultural, land tenure and environmental assessment • Formalize consent agreement	PPMU possibly through an independent facilitator, supported by IFAD as part of project implementation support, as required.	At the beginning of project implementation phase and before individual infrastructure scheme construction
Formalize the consent agreement ***Formalize the consent agreement*** (written or in other form if so requested by the community) ***The format for a consent agreement would include:*** • Respective expectations • Proposed project duration, expected results and activities • Participatory monitoring and verification plan and procedures • Identification of grievances procedures and mechanisms • Terms of withdrawal of consent ***Record*** of process through means and languages accessible to all stakeholders and parties involved	PPMU	Project implementation phase. Timing agreed upon the during consultation process and before individual infrastructure scheme construction begins

Description/Activity	Responsible	Timeframe
Assess FPIC implementation		
Assess FPIC implementation as part of the M&E exercise during the project life. Appropriate indicators for measuring progress towards and/or attainment of agreed terms will be defined and linked with a timeframe in the FPIC agreement	PPMU, IFAD implementation support and joint supervision missions	Project implementation phase - before individual scheme construction begins and throughout the project cycle

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Appendix 5 – Ethnic Minority Plan – Climate Smart Agriculture Transformation Project in Ben Tre and Tra Vinh Provinces in the Mekong Delta (CSAT)

Executive Summary

A. Introduction

This Ethnic Minority Plan (EMP) has been prepared to ensure that ethnic minority people are able to benefit equally from the Climate Agriculture Transformation Project in Ben Tre and Tra Vinh provinces (the Project), and that any negative impacts that might affect them are either reduced or mitigated. Adequate provisions to enhance the project benefits for minority groups have been integrated into the project design. Government policies and programs for minorities further help protect and enhance project benefits. The EMP is based on relevant Government of Vietnam laws and regulations, and in accordance with IFAD's Safeguard Policy.

B. Project Description

The CSAT project investments will be implemented primarily in Tra Vinh and Ben Tre provinces. These provinces are located in the lower Mekong delta and most vulnerable to climate change in the region. Agriculture is the predominant livelihood of the target group, and potential for climate smart, agricultural transformation towards pro-poor value chain development are good. Moreover, CSAT would built on the results of AMD in terms of climate smart agriculture (CSA), 4P based value chain, access to rural finance and institutions building. About 6-8 strategic value chains will be selected to support in each province during the project lifespan. 60,000 households, with approximate 10,000 ethnic minority households will be benefited from the project.

C. Socioeconomic Characteristics of Ethnic Minorities

The Khmer people in Tra Vinh are disproportionately poor and/or highly dependent on agricultural production and the natural resource base. Living in more rural areas, they have reduced access to markets and supporting services and so have low rates of agricultural investment and, in consequence, lower productivity. They are also identified as being highly sensitive to both climate change and natural disaster impacts. Cultural differences, as well as socio-economic differences, dictate that the projects approach be flexible, highly participatory and as demand-driven as possible within the Viet Nam context.

D. Project Impacts and Benefits

Ethnic minority residents will enjoy the benefits created by the project similar to the Kinh. The project SECAP indicates no ethnic minority people will be affected by land acquisition and resettlement. Some ethnic minority households will experience environmental impacts which need to be mitigated, as stipulated in the SECAP and ESMF; no special measures are deemed necessary for ethnic minorities.

The project will directly support and invest in promoting sustainable value chain development that are resilient to climate change. Through the mainstreaming of climate risk and adaptation concerns and market-orientation into government's overall planning mechanism for planning and budgeting of all its agriculture and rural development (ARD) programs, the project will leverage significantly more resources than it administers in support of communities' further progress towards sustainable agriculture development. The program adheres to the following IFAD policy principles: (i) increased investment in approaches providing multiple benefits for sustainable intensification of agriculture:

improved watershed / resilient infrastructure; (ii) strengthening the governance of natural assets to the rural poor through land ownership and community empowerment; (iii) equality and empowerment of women and ethnic peoples in the context of natural resource management and family nutrition; and (iv) improving access of poor rural communities in financing environmental protection and the fight against climate change.

E. Consultation and Disclosure.

Meaningful consultations were conducted with ethnic minority and project stakeholders during EMP preparation. Ethnic minority' needs, concerns and suggestions have been taken into account during the preparation process. The EMP defines a detailed action plan and a grievance redress mechanism (GRM), which have been discussed and agreed upon local governments, and disclosed to ethnic minority in project areas. At the implementation and operation stage, consultation with minority villagers will be conducted in a timely and culturally appropriate manner, and a sound participatory monitoring and evaluation mechanism will be established; a public hearing on water supply will be held, including ethnic minority villagers. Subsequent project information will be disclosed via newspapers, websites, etc.

F. EMP Action Plan.

A detailed action plan, which is combined with local government funding, has been prepared for this EMP. The plan focuses on measures to facilitate the inclusion of ethnic minorities in all project activities, and ensure that their customs and beliefs are respected throughout project implementation, and that benefits are inclusive and culturally appropriate.

I. Monitoring and Evaluation.

Monitoring and evaluation (M&E) of the EMP is required to ensure the plan is implemented properly. Objectives of the EMP monitoring and evaluation is to identify project impacts and to ensure that appropriate participatory approaches have been adopted, and the involvement of ethnic minority men and women in this planning and implementation has been achieved. The Project Management Unit will conduct a monitoring of the EMP and report the findings in the project progress reports. External/independent assessment on the project performance in view of EM supports will be conducted, where and when appropriate.

A. Description of the project

1. The goal of CSAT is to achieve sustainable and climate resilient rural transformation in Ben Tre and Tra Vinh Province that would serve as a model for the Mekong Delta. The development objective of CSAT is to to attain an inclusive, climate change adapted rural development in Tra Vinh and Ben Tre provinces.

2. Tangible project outcomes will be generated in the areas of inclusive value chain planning, adoption of climate smart agricultural systems, climate smart infrastructure, commercial enterprise – producer partnerships and market linkages. The inclusion and empowerment of rural women and youth will be mainstreamed across the CSAT outcomes.

3. The CSAT project investments will be implemented primarily in Tra Vinh and Ben Tre provinces. These provinces are located in the lower Mekong delta and most vulnerable to climate change in the region. Agriculture is the predominant livelihood of the target group, and potential for climate smart, agricultural transformation towards pro-poor value chain development are good. Moreover, CSAT would built on the results of AMD in terms of climate smart agriculture (CSA), 4P based value chain, access to rural finance and institutions building.

4. As CSAT will support value chain development, selection of districts and communes will be dependent on value chain planning process (under Outcome 1). About 6-8 strategic value chains will be selected to support in each province during the project lifespan. Tentative criteria for selection of value chain would include: (i) rural poverty (rate, head count weighted by ethnic minority poverty, and poverty severity) and opportunities for women and youth; (ii) vulnerability to climate change risks; (iii) potential scale and economic impact of value chain development; (iv) commitment, readiness, and absorptive capacity of the province for implementing and mainstreaming innovations related to market orientation and climate change; and (v) the resources needs of the province, taking into consideration central-level support, provincial budgets, potential for private-sector contributions and other development partner resources. Project design report describes the selection process of value chains as well as their geographical coverage.

1. CSAT is expected to directly reach 60,000 smallholder households (Ben Tre 25,000 and Tra Vinh 35,000) equivalent to some 210,000 people. The project design identified the following target groups:
    - Poor and near poor households (10% of project target) - having limited or no land and financial resources. They will benefit from infrastructure, vocational training, access to microfinance and decent employment along the promoted value chains. Those with limited land and labour resources will gradually participate in value chain activities through their CG membership;
    - Vulnerable households[1] (70% of project target) – produce in vulnerable production systems and in vulnerable areas as identified by climate change risk management planning. This group includes the poor, near poor, medium, ethnic minorities, youth and women-headed households as identified by the local SEDP processes. They may fall back (deeper) into poverty in the event of weather disasters. They will benefit from all project activities i.e. CSA, access to finance, infrastructure and engaging in contracts with for product supply to markets..
    - Medium and better off farmers (~20% of project population) – These are not the prime target group. They are included in CSAT interventions because they have the ability to assist poor smallholders in commercial agricultural

[1] The term "vulnerable" explicitly relates to the degree to which an individual/household is susceptible to, or unable to cope with adverse effects of climate change, including climate variability and extremes. Adapted from the Intergovernmental Panel on Climate Change (IPCC). 2001 - https://www.ipcc.ch/

production, for example through joint investments in common interest groups (CP).

- Ethnic minority (EM) in Tra Vinh province[2]. The project targets at least of 30% EM of project population, similar to the ratio of total EM population in Tra Vinh province.
- Rural women and women headed households- CSAT targets directly women with business and technical training including ICT; access to finance and indirfectly through infrastructure and CSA.. Women would account for at least 40 per cent of total project target.
- Rural youth. Young people will be the main force to promote digitalisation and e-commercialisation in value chains. They will benefit from training, access to finance , infrastructure and CSA. 80% of youth population in the project area will be targeted

5. **Component 1: Effective provincial & regional coordination for sustainable and inclusive rural transformation**. This sub-component aims at improving the effectiveness of the regional/interprovincial cooperation on the socio-economic development plans (SEDP) at provincial and the Mekong Delta Plan at regional levels. CSAT joins the efforts for improved coordination led by GoV and with other donors including the World Bank, the Netherland Embassy, JICA, and the Swedish Development Agency.
6. *Sub-component 1.1 - Regional integrated, climate resilient and inclusive socio economic planning*. CSAT builds on the participatory – market oriented – climate informed commune SEDP from commune to provincial levels and between provinces in order to shape the regional Mekong Delta Plan. This output draws from IFAD's experience on SEDP planning support in 11 provinces during the last 10 years, including in Ben Tre and Tra Vinh. CSAT supports Ben Tre and Tra Vinh authorities promote the *sustainable landscape approach* for sustainable production, climate adaptation, environmental protection and social inclusion. DPI in close coordination with DARD and DOIT will lead this output.
7. The first CSAT output will be the review, led by DPI, and update of the provincial Socio Economic Development Plans (SEDP) in the medium (2021-2025) with vision to 2050 . This involves the preparation and integration of the various sector plans, such as the Provincial Climate Change Adaptation and Disaster Risk Management Action Plans, the Agricultural Master Plans and the Agricultural Industry and Trade Strategy. DPI will undertake a capacity needs assessment key institutions (DPI, DARD, DONRE, DOIT, FU, CEM, YU and WU) to design and deliver a tailored training program on market-led economic development, climate change planning and adaptation. Further, consultation meetings within and between provinces will promote the integration into the provincial SEDP and inform the Mekong Delta Plan (MDP). The Agricultural Transformation Programme/Platform (ATP)[3] in the Mekong Delta and the MDP provide the important platform for regional planning.
8. Based on the above planning, DPI will allot financial resources to CSAT and other investment programmes in the provinces.
9. Based on the above revised SEDP, the second output will be Value Chain Action Plans *(*VCAP) will be developed along a set of criteria for commodity selection (see Annex 8 – PIMs). During project design, the following value chains pre-identified for Ben Tre: coconut, fruits (mango, rambutan, pomelo), seedlings, and aquaculture (eco-shrimp, clam); and for Tra Vinh: coconut, fruits (mango, mandarin, pomelo), rice, aquaculture (eco-shrimp, clam)*.* In addition, one to two local value chains[4] will be supported as offer good opportunities for the

[2] Tra Vinh is home of Khmer ethnic group, while no ethnic minorities reside in Ben Tre province

[3] In 2019, The Dutch Government agreed with the Ministry of Agriculture and Rural Development (MARD) of Viet Nam to establish the Agricultural Transformation Programme/Platform (ATP) in the Mekong Delta Region.

[4] The term local value chain may also include value chains that meets the certain niche market, and that has high potentials to involve vulnerable groups as beneficiaries, especially the poor and the ethnic minorities. Examples of local value chains for Tra Vinh and Ben Tre can be weaving and handicraft products (e.g. from coconut trees) that produced by the poor and the Khmer people. The local value chain is sometimes referred to the niche value chain in this design.

engagements of youth, women, and ethnic minorities. The VCAP for these preliminary value chains will be finalized or eventually changed during the first project year.

10. The third output is the establishment of the Public-Private-Producer-Partnerships (4P) platform. It consists of relevant stakeholders within a value chain, including government representatives (DPI, DOIT, DARD, FU, WU, and others), farmers' and private sector organizations, traders, processing enterprises, farmer representatives, input suppliers, consumer representatives and financial institutions. The 4P platform will be established simultaneously with the VCAP. The 4P platform's main tasks, among others, include to facilitate coordination of value chain actors, negotiations of farm gate prices, quality standards, trade contracts, product branding and ensure market transparency. The 4P platform includes also a conflict resolution / grievance system. The Provincial Entrepreneur Association (PEA)[5] in each province will be tasked to lead the establishment and implementation of the 4P platform
11. *Sub-component 1.2. Enhanced Capacities for building inclusive value chains*. This sub-component aims to enhance the value chain actors' business planning capacities in their respective value chains, prepare an enabling business environment, and create incentives to attract investments. These capacity building activities link directly with component 2. CSAT stimulates demand driven BDS through a set of diversified service providers and diversified ways of service provision (Enterprise to Enterprise (E2E), Enterprise to Farmer (E2F), and Farmer to Farmer (F2F), and other innovative ones).
12. The 4P platform with assistance by CSAT[6] and external expertise (as needed) launch a number of activities to improve business linkages among value chain actors will be fostered through the VCAP process. Areas of interventions include (1) *Strengthening public policy environment* (property rights, business licensing, tax structures etc) and (2) *Engagement of banks and other financial institutions .*
13. A core activity forms the strengthening of *Business Development Services (BDS) and "farming as a business"*. The 4P platform with CSAT's assistance assesses and consolidates the demand for BDS as described in the VCAP and develops a BDS capacity building plan for producers and enterprises/SMEs. The curriculum for SMEs and enterprises includes business plan development, market identification especially for niche products, sourcing supply from smallholder producers, product development, branding, marketing, e-commerce, access to financial services etc.. Technical assistance will be mobilized, as required. The BDS capacity building to enterprises and SME focuses on the E2E delivery model.
14. The FU, WU, and Cooperative Alliance, with the facilitation of CSAT and the 4P platform, deliver the *farming as a business coaching* to farmers and CGs/SCGs, making the best use of the AMD experience on E2F and F2F. The curriculum as introduced by the AMD project will be expanded on: (a) marketing, (b) production and business planning, and related matters.
15. In addition, CSAT supports the provinces to pilot an R&D centre for innovative product development, to promote product design, green and food safety standards and certifications, packaging, labelling, branding etc..
16. CSAT promotes specific Gender, Youth Plan, and Ethnic Minority Action Plans and executes specific capacity building measures for women, youth and EM. This will boost the technical and business skills, teach about institution building and decision making within groups, institutions and within the household, borrowing relevant elements from the Household Methodology. Women, youth, and ethnic minority will be directly targeted to tap into the BDS and "farming as business" coaching activities.

[5] The Provincial Entrepreneur Association (PEA) in Ben Tre is currently led by a big enterprise (BeinCO) with participation of around 100 enterprises and SMEs. PEA actively supports the enterprises and farmers accessing to market and financial resources, defending their rights, contributing to assurance of the quality and standard of products. This good example will be further strengthened and replicated to Tra Vinh province.

17. Digital technology presents a growing opportunity for women and youth in the Mekong Delta region. Farm management, business planning, training and new technology, agricultural trade is increasingly "digitalised" in Vietnam. CSAT, supported by a grant from the UN COVID-19 Response and Recovery Multi-Partner Trust Fund[7], will develop programmes to train and equip rural women and youth with skills and digital equipment, so that they become an agent of change by engage in new professional areas and boost their economic and social advancements.
18. CSAT fosters local capacity building in order to enhance the effectiveness of its infrastructure investmentsin terms of design, construction, operate and maintain the value chain infrastructures. Since there will be continuous demand for capacity building, CSAT in close cooperation with its stakeholders would develop a pool of value chain expert. Female and ethnic minority people would be particularly encouraged to apply. Key areas such as Business Development Services (BDS), CSA technologies, ICT, market research, finance and insurance. The expert pool would ensure coaching and mentoring, as well as establishing invaluable connections with national and global networks for technical services and finance.

19. **Component 2. Inclusive and climate smart value chain established**. The outcomes of this component build on the value chain action plans (VCAP) , component 1 and can be summarised as follows. Smallholders improve sales of primary agricultural products, wide adoption of environmentally sustainable and climate resilient technologies, including efficient water usage and jobs created for women, youth and ethnic minorities. The component 2 outputs are financed from the IFAD loan (output 2.1 only), public and private sectors finance.
20. *Sub-component 2.1. Climate resilient infrastructure for sustainable water usage and enhanced access to markets.* CSAT invests in climate resilient infrastructure[8] needed for inclusive value chain development. These infrastructures enable agriculture and related sectors to withstand and recover better from adverse climate conditions. The CSAT Provincial Project Management Units (PPMU) jointly with the 4P platform lead the infrastructure identification, prioritization, and scale selection within the value chain action planning (VCAP) process.
21. CSAT investments in infrastructure must address the needs of the CSAT target groups and align fully with the VCAP, provincial SEDP, Decree 56/2020-ND-CP on ODA management and the Resolution 120. The PIM – annex 8 outlines the selection criteria and planning of infrastructure and is guided by the IFAD-SECAP. CSAT is considered a category B project in terms of environmental and social risks. Environmental and Social Management Framework (ESMF) and consequent Environmental and Social Management Plans (ESMP) will guide the planning, design and execution of CSAT related infrastructure investments.
22. Eligible public climate resilient infrastructure under CSAT would include among others:
    - Newly constructed, rehabilitated or upgraded rural roads, bridges to production areas or linkages between collecting points/ warehouses and production areas;
    - Newly constructed, rehabilitated or upgraded small-scaled irrigation canals, sluices and sluice gates, irrigation pumping stations to supply, store and regulate freshwater for agricultural productions;
    - Redesign of sluices and sluice operation procedures to enable the transformation from rice towards brackish aquaculture. This should preferably be done at a

[7] IFAD and UNIDO developed a project: "Building Forward Better: A Resilient Women and Youth Centered and Digitally Enhanced Value Chain Development in Vietnam Project in Dong Thap and Ben Tre provinces, - US$ 850,000 from The UN COVID-19 Response and Recovery Multi-Partner Trust Fund. The project focuses on empowering women and youth in digitalized value chain development. CSAT will closely work with this project in this aspect.

[8] ***Climate resilient infrastructure***: The defining characteristic of climate-resilient infrastructure is that it is *planned, designed, built and operated in a way that anticipates, prepares for, and adapts to changing climate conditions*. It can also withstand, respond to, and recover rapidly from disruptions caused by these climate conditions. (Source: http://www.oecd.org/environment/cc/policy-perspectives-climate-resilient-infrastructure.pdf); ***Climate-smart infrastructure*** refers to infrastructure that is *resilient to damage caused by extreme weather and climate change*… (Source: https://www.ucsusa.org/sites/default/files/attach/gw-smart-infrastructure-pricncipals.pdf)

landscape level and with participatory governance at the level of the hydrological unit.;

- Water infrastructure which enables the poly-culture fish-shrimp-mangrove systems;
- Aquifer storage and recharge, if assessed as sustainably, in line with recommendation of the Netherland funded FAME project[9] and other scientific evaluations.
- Redesign of shrimp infrastructure to ensure adequate water management and protection of clean water resources.
- Medium/Low-voltage electricity lines to supply power for agriculture productions;
- Centre for development of plant varieties and seedlings;
- Collection points/ warehouse for collecting, pre-processing and packaging of agriculture products; Wholesale market places for agricultural products;
- E-commercial platform;
- Salinity and/ or water quality monitoring facilities for agricultural and aquaculture production; Centre for environmental monitoring and testing;

23. The provincial PPCs are the investment owners of infrastructure investment schemes. Benefiting groups will contribute about 10% of the construction cost in term of land acquisition and site clearance, labor, locally collected construction materials and cash. Implementation by communities and using the force account method are encouraged for the construction of small projects, simple techniques, using intensive manual labor.
24. *Operation & Maintenance.* Experience gathered by IFAD funded projects in Viet Nam suggest that infrastructure requiring intensive O&M in terms of cost and capacity would be either leased out to a private company or assigned to a specialized government agency. Examples include the salinity monitoring system. For prior establishment of and support to local Water use groups (WUGs) is mandatory for small in-field irrigation canals and embankments. The PIM presents detailed guidance for efficient O&M.
25. *Sub-component 2.2. Rural finance services support value chain development.* IFAD funded projects in Vietnam confirm the high demand by both rural enterprises and smallholders and their difficulties in accessing financial services. CSAT will recruit dedicated staff to take on the role of facilitator and to leverage linkages between formal financial institutions and SMEs and producers, in addition to the activities of the 4P platforms, TA and capacity building support (sub-component 1.2). Concrete entry points for *financial services for smallholder and SMEs* are:
    - Women Development Fund (WDF)[10]. IFAD through the AMD project supported the establishment and operations of the WDF in 11 provinces in Viet Nam, with additional oversight by the provincial Women Union. The WDF is the umbrella structure for ca. 2500 Saving and Credit groups (SCG) in each province. These SCGs provide financial services (savings and loans) to poor, low-income women at commercial terms and combined with capacity building. The results have been simply impressive in terms of increased income and improved social status of poor, rural women within their families and society. The WDFs in both provinces have applied for registration as a formal Micro Finance Institution (MFI) with the State Bank of Viet Nam (SBV), as required by recent laws. Current loan portfolio amounts to VND 125 billion (US$ 6 million) in Ben Tre, and VND 75 billion (US$ 3.5 million) in Tra Vinh. Besides savings, the WDFs offer the financial services: (i) a loan from the SCG to an individual household of up to VND 35 million (US$ 1,500)/household/year,

[9] Freshwater Availability in the Mekong Delta (FAME) is a collaborative, multiphase project focusing on scoping, piloting and providing upscaling advice to national partners in Vietnam on how and where to implement Aquifer Storage and Recovery (ASR) systems. ASR systems would provide farm scale solutions aimed at addressing water quality and availability issues being faced within the Ben Tre and Tra Vinh provinces of the Mekong Delta, Vietnam.
[10] See more details in the Project Completion Report.

and (ii) loan to start-up and SME with maximum VND 200 million (US$ 9,000) for each/year.

- Collaborative Group Revolving fund under the AMD project. During the AMD, 1200 CGs received a matching grant of US$3500/group. The returns from the grant investments were used to set up a revolving fund that enabled CGs to continue and roll out investments for farm inputs on a growing basis over years.
- Farmer Support Fund (FSF). The Farmer Union (FU) manages a FSF of VND 20 billion (US$ 900,000) in each province. The FSF operation is similar to the WDF providing credit to FU members through their Farmer Collaborative Groups (CG). Each member can borrow up to VND 20 million (US$ 900) per year.
- The Start-up Support Fund is managed by the Department of Planning and Investment in Ben Tre. The fund exists in Ben Tre province with contribution from enterprises and other donors. Current portfolio averages at VND 8 billion (US$ 360,000). The fund provides seed funds grant to start-up businesses on a grant basis of up to VND 100 million (US$ 4,500).
- The SME support fund is managed by the Department of Industry and Trade in Tra Vinh province. The fund with current portfolio of VND 7 billion (US$ 350,000) providing grant of maximum VND 300,000 (US$ 14,000) to SME that promotes climate smart technology including ICT (E-extension, E-commerce).

26. CSAT will also link with the Canadian Government funded SME development project in Tra Vinh[11] (2015-2022). The project provides technical and financial support to SMEs to engage in coconut and eco-tourism value chains. This includes business development services (BDS) to SMEs, SME support matching fund (US$ 500,000), Start-up seed fund (US$ 50,000), and SME loans channelled through the WDF (US$ 80,000).
27. CSAT would enter into co-operation agreements with each of the above funds at the beginning of the project implementation . The cooperation contracts will outline the criteria, amounts, costs and conditions for funding training and investment finance (grant or loan) for producers, producer groups and SMEs along the selected value chain. The arrangements would be regularly reviewed and updated.
28. *VC finance for enterprises*. CSAT aims to mobilise also access to finance for participating enterprises. In this way, enterprises could graduate to a higher level of performance and expand, while this would directly benefit other value chain actors, notably the CSAT main target group i.e. smallholder farmers.
29. The Dutch Fund for Climate Change and Development (DFCD)[12] with total budget of Euro 160 million covering different developing countries, including Vietnam, has a special focus in Mekong Delta. The fund provides credits to lead enterprises for value chain development with each package up to Euro 5 million soft loan and Euro 45,000-150,000 grant for capacity building and BDS.
30. Initial agreement has been reached during the design that the DFCD engages with the 4P platform to identify investment opportunities with eligible lead firms and SMEs in line with the VCAP. The main focus would be on building business capacity alongside direct financial support for investments required for current production to enhance quality and output, and for start-ups . This approach would trigger a "pull" effect benefitting smallholder producers and SMEs at the lower value chain. Climate adaptation is a key selection criteria for DFCD, which altogether matches well with CSAT's development objectives.
31. It is envisaged that CSAT and DFCD enter into a Memorandum of Understanding and outline an investment strategy with clear targets in terms of investment size,

[11] Total project cost US$ 9 million

[12] https://thedfcd.com/ - In Vietnam, the DFCD is led by SNV and WWF. The fund solely focuses in Mekong Delta Region. IFAD already had initial discussions with both organisations (SNV and WWF) on the possibility for cooperation that CSAT would lead the value chain selection and planning with VC potential lead enterprises identified, DFCD will participate in planning process and work with lead enterprises to build business - financing plan. This trinity will help secure a viable and sustainable value chain development.

numbers, other benefits such as climate resilience of producers and other value chain actors.

32. DFCD funds are a time bound, results oriented investments under strictly commercial criteria. Investments need to be bankable and commercially viable, environmentally neutral or promote climate change adaptation. The strong screening of business proposals increased the likelihood of success and sustained business expansion, as only investments with a promising market opportunity will be able to obtain funding. The strong focus on business combined with environmental And climate concerns promotes sustainability of the investments.

33. *Sub-component 2.3. Smallholder farmers adopt climate smart agriculture (CSA) for value chain development*. The output of this sub-component is that smallholders, women , youth and ethnic minority groups have access to up-to-date a range of location-specific CSA technologies and practices. This will include the well packaged 120 CSA models promoted under the AMD. CSAT will further identify and select additional CSA technologies. It will apply the AMD method comprising (i) the identification of technologies and practices, (ii) the review and analysis of the CSA, and (iii) the selection and packaging of the CSA. CSAT will also engage with other projects such as the EU funded Development of Smart Innovation through Research in Agriculture (DeSIRA) implemented by CIRAD and FAO is expected to provide incremental technical inputs. CSAT will enter into a cooperation mechanism with DeSIRA before start-up of CSAT.
34. The new generation of CSA technologies will promote new elements such as digital technology, food safety and quality standards. Due consideration would be placed on reducing workload for women, , e.g. through higher skilled jobs in ICT based food processing and marketing,promoting youth employment, enhance food/nutrition security and of course, have climate change mitigation/adaptation potential. Quality standards in production and processing would be compliant with COVID-19 measures. Further, CSA technologies promote soil and water conservation, and dissemination of climate information services. On the basis of previous work under AMD, digital technology will be expanded for applications at producer's, processor and retailer levels. Examples include early warning of salinity, automated water dosage (e.g. dry/wetting in rice), digital pest control and tracking food safety. Digital technology in farming will favor a stronger participation of women and attract tech-savvy rural youth.
35. The CSA selection process will be led by the PPMU and linked closely with the VCAP in which relevant agencies (FU, WU) and private sectors (enterprises and cooperatives) are closely involved/consulted. The CSA technologies and practices will be primarily disseminated through the established smallholder collaborative groups (CGs) and saving and credit groups (SCGs). CSAT will build on the strong basis of AMD, when 1200 CGs and 4000 SGCs (Saving and Credit Group) – equivalent to about 40,000 households in both provinces. In addition, FU and WU, NTP-NRD and others established additional 20,000 CGs (equiv. to ca. 80,000 households). CSAT will target at least 4,000 CGs/SCGs (30,000 households - 30% poor/near poor, 50% women, 20% youth, xx ethnic minorities .) to benefit from the CSA activities.

B. Description of ethnic minority peoples and historically underserved local communities

36. The main ethnic minority found in the project area is the Khmer in Tra Vinh province. Khmer are the largest ethnic minority group in Mekong River Delta with more than 1 million people, accounting for 10 per cent of the delta's population. Khmer communities are found primarily in the provinces of Soc Trang, Tra Vinh and Kien Giang with considerably smaller populations in An Giang, Bac Lieu, Ca Mau, Can Tho, Hau Giang and Vinh Long. In Tra Vinh province, Khmer people resided in all 7 town/districts of the province. There are 89,143 Khmer

households[13], accounting for 31.1% of the total households in the province. The majority of the Khmer live in rural areas, with the virtue of hard work. Their main occupations are agriculture, aquaculture and some are living on knitting, handicrafts and trading services. The vast majority of Khmer people follow Buddhism, traditional festival activities, customs and practices are preserved and promoted.

37. As a group, ethnic minorities (EM) in rural areas have benefitted much less than the Kinh people from poverty reduction efforts. Some insight into inter-ethnic welfare differentials in rural Viet Nam was provided by DFID and the Economic and Social Research Council[14] and further elaborated in the IFAD COSOP 2019-2025. The reports found that despite the array of government rural poverty programs, the gap in ethnic living standards had been increasing over time. The living standards of Kinh-headed households widened sharply relative to the rural average since the Doi moi reforms of the early 1990s. This was true across all Kinh-headed households, whether amongst the poorest, richest or average. The study showed sizeable and persistent inter-ethnic gaps in household welfare between Kinh and Hoa households versus all the other major EM groupings to be found in the project area (Tày, Thái, Mường, Nùng and, Other Northern minorities). The findings were similar when controlling for household endowments (size and composition of families, education level, land holdings), commune characteristics (access, transport, post offices, daily markets, factories) and geographic area (coastal, delta, midland or mountainous areas).

38. Approximately 40% of the mean gap was attributed to differences in household endowments and community characteristics, with differences between majority and minority households' demographic structure being more important than differences in education levels and commune characteristics. Differences in landholding patterns decreased the gap because EM households tend to have larger total landholdings than those of the Kinh and know how to farm upland and mountainous lands more efficiently. At least 50% of gap was due to differences in returns to household endowments. Why this was the case was not clear to the authors. They noted that other studies attributed such differences to 'unequal treatment' but theorized that they may also be due to unobserved differences in household endowments and community characteristics. For example, if EM households live further from commune centers, then they will benefit less from the construction of roads, schools and markets.

39. In their conclusions, the authors suggested that while measures to improve commune level infrastructure and the asset base of EMs as a whole, though important, will be insufficient to close the ethnic gap. They recommend the additional need for policies and programs targeted at increasing EM households returns to assets. To accomplish this, they suggest, among others:

    - Delivery of agricultural extension and marketing services appropriate to the diverse agricultures of upland and highland areas.
    - Increasing EMs access to wage employment.
    - Other measures that reduce and dismantle barriers restricting EMs from participating fully in [economic] growth processes.
    - Relevant to the question of barriers that restrict EMs' participation in broader economic growth, the COSOP 2019-2025 Gender and Ethnic working paper identified a number of areas where EMs are at a disadvantage. Of relevance to the current proposal were:

[13] Only over 5,000 Khmer living in Ben Tre province as recorded by Ben Tre PPC.
[14] Baulch, B. *et al*. 2009. Economic Development Of Ethnic Minorities In Vietnam. Institute of Development Studies. May 2009.

- Bilingual education lacking;
- Lesser mobility, with Kinh migrant households enjoying better benefits from government programs and their social networks;
- Less access to formal financial services.
- Lower productivity land and farming systems and, less off-farm employment.
- Lower market access, poorer returns from markets and, lower engagement in trading activities; and;
- Being subject to stereotyping and misconceptions, not just among the Kinh majority but also among themselves, which can much hinder their participation in their own development.

40. Over the years, the Party Secretariat had issued Directive no. 68-CT/TW dated April 18, 1991 of the on working in Khmer ethnic minorities regions, Resolution no. 24-NQ/TW dated March 12, 2003 (Session IX) on national ethnic affairs, Directive no. 19-CT/TW dated January 10, 2018 on strengthening supports in the Khmer areas under the new context. Under this direction, the government and province have been implementing programs, policies and projects in ethnic minority areas, which bringing practical effects in all sectors including economic, educational, health care, cultural, social ones, which partially solving urgent needs of infrastructures in difficult communes, supporting ethnic minority people to develop production and raising community awareness.

41. There are many factors that lead to poverty, but the main ones are as summary:

- Landlessness. Rural people without land are often the first to be disadvantaged when there are shocks to the production system. They lose their jobs and opportunities for seasonal employment when producers are themselves suffering losses of income;
- Climate change factors. The poorest areas are regularly affected by the impacts of natural disasters such as floods, saline intrusion and drought;
- The Khmer minority such people are much more likely to be both landless and poor;
- Female-headed households are more likely to be poor, especially if this is also accompanied by landlessness and/or being a member of an ethnic minority.

42. There are other "cross-cutting" factors which also influence poverty. These summarize as follows:

- Poorly or inappropriately developed infrastructure. In some areas, roads, key bridges and potable water supplies are either absent or in poor condition. For much of the irrigation infrastructure, the design is predicated on an abundance of water, and when this is not available, the irrigation systems function poorly, leading to crop and income losses.
- Limited knowledge and skills of the producers on market-orientation and organizing collective economic activities. The previous support by IFAD in TraVinh had contributed substantially to improving the producers' practices in organizing the production in collective economic models (cooperatives, common interest groups) and approaching the domestic and international markets. However, most producers are far from capable in apply the advanced production and business management necessary for sustainable income improvement.
- Potentially profitable agricultural value chains have not received sufficient investment capital to be fully and sustainably developed. There are significant potential value chains identified, including aquaculture, fruit and tree crops, livestock husbandry, vegetables and field crops. Some innovative models

which have been demonstrated to confirm this. However, these value chains have not had sufficient investment from the private sector or from debt financing. The loans offered by VBARD and other commercial banks and other financial intermediaries have been limited to relatively few households, CIGs, cooperatives and SMEs due to their lack of knowledge and capability in formulating a profitable business/investment plan and a lack of collateral.

C. Summary of substantive rights and legal framework

IFAD policy on engagement with Ethnic minority[15]

43. IFAD has financed significant amount in loans in support of ethnic minority peoples since 1979. The IFAD's Strategic Framework (2011-2015) specifically identifies ethnic minority peoples as an important target group. The Framework informs Policy on Engagement with Ethnic minority Peoples, which aims to improve IFAD's development effectiveness. The policy sets out the principles IFAD will adhere to in its engagement with ethnic minority peoples as well as the instruments, procedures and resources IFAD will deploy to implement them. It stems from numerous international consultations, including those with ethnic minority peoples' leaders, the United Nations Permanent Forum on Ethnic minority Issues and the Inter-Agency Support Group on Ethnic minority Issues.

44. Nine principles of engagement underscore IFAD's policy:

- Cultural heritage and identity. IFAD will assist communities in taking full advantage of their traditional knowledge, culture, governance systems and natural resources, all of which form part of their tangible and intangible heritage.
- Free, prior and informed consent. In working with Member States on projects targeting or affecting ethnic minority peoples, IFAD shall support the participation of ethnic minority peoples' communities in determining priorities and strategies for their own development. IFAD shall consider this consultation and consent as a criterion for project approval.
- Community-driven development. IFAD will follow and enhance community-driven development approaches that are well suited to the holistic perspectives of ethnic minority peoples.
- Land and resources. IFAD will promote equitable access to land and territories by ethnic minority peoples and enhance their tenure security, by strengthening their capacity to manage their territories and resources in a sustainable way.
- Ethnic minority peoples' knowledge. IFAD will value ethnic minority peoples' knowledge and practices in investment projects. We will also build on these assets by supporting research that blends traditional knowledge and practices with modern scientific approaches.
- Environmental issues and climate change. IFAD will support ethnic minority peoples in enhancing the resilience of the ecosystems in which they live and in developing innovative adaptation measures.
- Access to markets. Ethnic minority peoples' societies have begun to join the market economy, which brings both opportunities and challenges. IFAD will explore these opportunities and enable ethnic minority peoples' communities to engage in markets on more profitable terms.
- Empowerment. Empowerment is essential for poor and marginalized populations to improve their livelihoods in a sustainable way. IFAD will support the empowerment of ethnic minority peoples by providing resources

[15] https://www.ifad.org/documents/38714170/40709745/IFAD+Policy+Brief+on+IFAD%27s+Engagement+with+Indigenous+Peoples_e/a2f4d8cb-b383-450b-9f31-e45a888833d0

for capacity- building so they can secure and manage their resources and lead their own development processes.

- Gender equality. Ethnic minority women often experience triple discrimination – as women, as members of ethnic minority peoples' communities and as women within those communities. In continuing to incorporate a gender focus in our programmes, IFAD will make a special commitment to improve the well-being of ethnic minority women.

National Legal and Policy Framework for Ethnic Minorities

45. Successive Vietnamese Governments have paid much attention to the development of ethnic minority groups. There is a ministerial-level government body, the Committee for Ethnic Minority and Mountainous Area Affairs (CEMA), which is in charge of management functions for ethnic minorities and mountainous areas. In geographically strategic areas or areas with an ethnic minority population of 5000 or more, CEMA has its own representative agency down to the district-level (CEMA, 2017). One of the reasons for this attention is that ethnic minorities are among the poorest groups in Vietnam. Poverty in Vietnam is also becoming increasingly concentrated in ethnic minority communities (WB, 2013, CEMA, 2017). Also, most ethnic communities are located in remote and difficult areas, which account for three-fourths of the land area of the whole country. Various studies (UNDP, 2012, Tinh, 2016) pointed out that there have been more than 190 policies and 40 big programs relating to the ethnic minority groups. The policies related to ethnic minorities are diverse and cover a wide range of issues including poverty reduction, resettlement and sedentarization, forest land allocation, education, health and communication. They benefit those minority groups through several channels such as: (i) their ethnic identity, (ii) their (usually mountainous or remote) residence areas, (iii) their (usually poor) economic status, and (iv) general social programs for households with war martyrs, war invalids or recognized as having contributed to the government (WB, 2009, 2013, Tinh, 2016, CEMA, 2017).

46. The programs that target ethnic minority groups through ethnic identity include such activities as cash subsidies on land reclamation, house construction, and drinking water improvement, cash grants on food, production tools and seedlings, and interest-free loans for poor households (Phuong and Blaulch, 2007, Tinh, 2016). Programs that target ethnic minority groups through their residence areas include such activities as improving commune and village infrastructure, developing communal centers, planning residential areas, providing agricultural extension services, and training commune level cadres (Tinh, 2016). Programs that target ethnic minority groups through their poor economic status include activities such as reducing poverty rates and creating jobs (WB, 2011, Tinh 2016). And programs that target ethnic minority groups through their contribution to the wars or the government can be provided either especially for ethnic minority groups or generally in a variety of legal documents that include preferential treatment clauses for those with such contribution (WB, 2011).

47. Within the context of this paper, it is impossible to list out all the policies and programs targeting ethnic minority groups. Rather, it will briefly discuss some key policies/programs having large geographical and ethnical coverage as well as showing high impacts to livelihoods of ethnic groups.

The Hunger Eradication and Poverty Reduction (HEPR) and Employment Creation Program – Program 143

48. The HEPR (Hunger Eradication and Poverty Reduction) Program, also known as Program 133 was launched in 1998, with the objective of eliminating chronic hunger and reducing the percentage of poor households in the whole country to 10% by 2000. The program also aimed to narrow the gap among population

groups and geographical areas by accelerating the socio-economic development of the disadvantaged communes (Phuong & Blaulch, 2007).

49. In 2001, Programs 133 and 120 were merged into Program 143 which covers the period from 2001 to 2005. The aims of Program 143 were to: (i) Reduce the poverty rate to below 10% (i.e. annual decrease of 1.5-2%), and eliminate chronic hunger; (ii) Ensure that poor communes have basic infrastructure as small-scale irrigation, schools, health centres, roads, electricity, water, markets; (iii) Create jobs for 1.4 to 1.5 million workers annually; and (iv) Reduce the unemployment rate in urban areas to less than 6% and promote the proportion of working time used by workers to 80% by the year 2005.

50. The programme is executed by the Ministry of Health (MOH) (health supports), Ministry of Education and Training (MOET) (education supports), Ministry of Agricultural and Rural Development (MARD) (extension services, production supports, resettlement supports, infrastructure supports), State Bank of Vietnam (SBV) (credit), and MOLISA (social supports, training, credits and other supports for employment creation). Moreover, it is guided by the coordination by MOLISA, the Ministry of Planning and Investment (MPI) and the Ministry of Finance (MOF) in terms of planning, funding and management (Phuong & Blaulch, 2007).

51. Although the program is nationally targeted, some of its sub-components are designed particularly for the development of ethnic minorities. These include education policies for ethnic minorities (boarding schools, scholarships for ethnic minorities...), support for extremely difficult ethnic groups, resettlement in new economic zones, and resettlement and sedentarization in poor communes. In addition, preferential credit programs to ethnic groups provide many benefits in terms of long period or low interest rate. Ethnic groups also receive grants from general policies and projects, especially production supports and extension services (Phuong & Blaulch, 2007).

52. Program 143's first phase ended in 2005. During its second phase covering the period from 2006 to 2010, approximately US$ 4 billion were invested in the fight against poverty. Program 143, phase 2 prioritized mountainous areas in addition to providing funds for developing infrastructure in poor coastal and island communities.

Program 135 (P135)

53. Program 135 was established in 1998 to implement government policies targeting the most vulnerable communes, promoting production and access to basic infrastructure, improving education, training local officials and raising people's awareness for better living standards and quality of life.

54. The rationale for establishing P135 was to help ethnic minority groups in mountainous areas overcome poverty, narrow the income gap with other communes in other districts and provinces and eliminate risks for social instability. P135 was designed to address the different causes of poverty particular to ethnic minorities such as: low capacity; small landholdings; lack of knowledge, skills and market information; health problems; large family size; unemployment; and vulnerability to risks (including social problems). Other typical causes contributing to poverty among ethnic groups include: (i) low start level, location in the most impoverished areas of the country with under-developed markets; (ii) mainly subsistence agriculture using traditional practices; (iii) population sparsely distributed over wide areas and increasingly complex migration issues; (iv) degradation of the environment; (v) poor and unsustainable infrastructure; (vi) low literacy rate, education problems and unskilled human resources (Quan, 2010, Phuong & Blaulch, 2007).

55. P135's first phase, implemented with total government funds of over VND 9,142 billion (US$571 million) from 1998 to 2005, focused primarily on developing

village, communal and inter-communal infrastructure. From 2006 to 2010 (phase II), the program was extended to agricultural production, capacity-building and improved livelihood. Target beneficiaries are the most impoverished and disadvantaged ethnic minorities and mountainous communes and villages, defined through specific criteria that include population size, remoteness, poverty rate, existing basic infrastructure, education and health indicators (enrolment rate, child and maternal mortality rates, etc.). Based on these criteria, local governments conducted assessments and selected such communes and villages in a transparent, democratic and participatory manner.

56. In the first phase, 2,410 most vulnerable communes were selected as program beneficiaries, representing nearly one-fourth of all communes nationwide and 15% of the total population. Of these, 671 communes were assessed to have completed the program objectives, and in 2006 the second phase targeted a further 1,920 communes, including those from the first phase plus additional communes that have been re-zoned. In 2008, 2,500 were added. Such inclusion is reviewed annually based on the criteria, and from 2008 onwards those intervention sites that meet P135 targets will graduate from the program.

57. Inheritance from the success of Progam 135 phase I and II, the Government of Vietnam decided to extent the program to phase III (2010-2015). The program objectives are remained, which are to reduce poverty, to increase annual income, to improve agricultural productivity, and to increase primary and secondary school enrolment. Evaluations of the last phase have shown that (i) the program has succeeded in encouraging households to participate in local projects; (ii) the program has done a good job in attracting local workers in constructing local infrastructure; (iii) the program has contribute significantly to poverty reductions in target areas though the poverty incidence among ethnic minorities remain high; and (iv) the household income have been increased by about 20% (UNDP, 2012, CEMA, 2017).

Program 134

58. Program 134 stems from Decision 134/2004/QD-TTg on support for production land, residential land, housing and water for disadvantaged ethnic minority households facing, and is managed by CEMA. It was preceded by Decision 132/2002 on support for production and residential land for the local ethnic minority people in the Central Highlands; and loans for building houses in flood prone areas in Mekong River Delta16 (Decision 105/2002) and in Central Highlands (Decision 154/2002). One of the central objectives of the program was to counteract land sales by ethnic minority households, especially in the Central Highlands and Mekong River Delta, following the liberalization of land markets following Resolution 10 of 1988 and the 1993 Land Law. Later on, the program added construction of houses and the provision of drinking water systems, which have become the most important components of the program.

59. With the funding from the National budget of VND 5 million per hectare of reclaimed land and the same amount for house construction or improvement, plus VND 300,000 (or 0.5 ton of cement) for improving drinking water systems, Program 134 aimed to provide: (i) at least 0.5 ha of sloping field per household (or 0.25 ha of single cropped wet rice field or 0.15 ha of double cropped wet rice field); (ii) at least 200 m2 of residential land per household; (iii) a permanent house; and (iv) drinking water systems for households and communities.

60. To achieve these targets, a provincial budget contribution of at least 20% of the national budget was assumed. In addition, other contributions in cash or kind at the community level were expected to be mobilized. Communities of villages having more than 20% of ethnic minority people and facing water supply difficulties can also receive support for public water systems and land for community infrastructure under Program 134.

Land and Forest land allocation Policy

61. The overall aim of the government's land and forestland allocation policy is to legalize people's ownership of land and transfer the management and use rights to forest and agricultural enterprises or collective units. This policy requires elimination of private landownership set up during the French colonial period, establishment of agricultural cooperatives and land-use rights to these organizations, and movement of people from plains to mountainous areas to set up new economic zones.

62. Land and forest land allocation to households, individuals, organizations, and communities has been carried out since 1990s. Its policy has been changed various times since then. The first Land Law was promulgated by the Government in 1993. The Land Law went through two more revisions in 2003 and 2013. One visible output of land and forest land allocation is that land-use certificates (LUCs) have been distributed to users, who can be individuals, households, organizations, or communities. It is expected that holders of LUCs will manage their land better, and know more about their rights of the land use. However, many ethnic minority households, especially those who are poor and uneducated, are not aware of their land use rights, and still do not appreciate the value of their forest certificates (Tinh, 2016).

63. It should be noted that along with the forest land allocation, the government has approved many afforestation programs that supported ethnic minorities and other people living in poor areas to re-green barren hills and/or re-grow poor forests. Each program has a number of components ranging from the distribution of seedlings and inputs, to labour payments for the establishment, management, and supervision of forest land, and training and extension. The financial and other inputs provided by afforestation programs have helped a lot, especially in district and communes with limited internal resources. More importantly, local ethnic people have benefited from technical training and learning how to exploit their forest land sustainably.

64. The two biggest national afforestation programs are Program 327 and Program 661. The first afforestation program to be adopted was Program 327 in 1992 for the re-greening of the barren lands and hills, coastal flats and water bodies. This program supported households and SFEs to establish protection forests. Households received direct payment for forest protection. Then in 1998, Program 661 (also known as the Five Million Hectare Reforestation Program) was designed to afforest and improve the degraded forest lands. During the period from 1998 to 2010, Program 661 aim to increase nationwide forest coverage to 43 percent of the total land cover, while providing jobs to the rural poor and ethnic minorities and increasing the supply of forest products (Quan, 2010, Tinh 2016).

Price and Transportation Subsidy policies

65. Ethnic minorities have long been considered as a disadvantaged group facing many geographic difficulties. As the ethnic minorities mainly live in remote areas, their location increases the purchase price they pay for daily goods and decreases the price they receive for selling crops. In order to support the minorities' life and production, price and transportation cost subsidies aim to ensure the sales price of the most necessities and the purchase prices of crops are the same for farmers living in remote communes as in neighbouring provincial towns.

66. Under Decree 20 in 1998, CEMA manages this program in cooperation with the Ministry of Trade, MOF, MPI and Price Committee.47 Currently, the sales price of salt, petroleum, books, seedlings, fertilizers, and the purchase prices of agricultural/aquacultural/forest crops are subsidized. Price subsidies are designed for the poor who are vulnerable and cannot afford for most basic necessities.

However, the transportation cost subsidies benefit anyone who lives in a remote area (Phuong & Blaulch, 2007).

Other policies

67. Beside the above ethnic minority direct related policies and programmes, there are other policies/programmes specifically addressing the poverty issues (see Chapter 1), which also relate to the ethnic minorities including:

    - The National national target programme on sustainable poverty reduction for the 2016-2020 period, with a total budget of VND 48.397 billion (over US$2 billion). The target programme aims to reduce the number of poor households in the country by 1-1.5% per year. Moreover, the proportion of poor households in disadvantaged districts must reduce by 4% annually, and the proportion of poor households in districts inhabited by national minorities must drop by 3-4% year
    - The Resolution 30A/2008 on the support program for sustainable poverty reduction in 62 poorest districts. The main aim of the program is to reduce the poverty rate through providing agricultural production supports (varieties, fertiliser), and job creation for poor people.
    - Preferential credit policies: Decree 41/2010/ND-CP of Government on policy for credit to invest in agriculture and rural areas.

IFAD Vietnam and ethnic minority

68. Over the past 25 years, IFAD works for and with the poorest people in Viet Nam, including ethnic minorities, small-scale farmers and households headed by women. IFAD's strategies are to reduce poverty and improve living conditions include building partnerships, strengthening institutional capacity and promoting participation (IFAD, 2012a, 2012b,). The IFAD COSOP 2012-2017 (2012b) clearly stated that IFAD investments will be located in selected regions, making it easier to develop pro-poor value chains, promote private-sector investment and link farmers to markets. Moreover, investing in neighbouring provinces can ensure that knowledge-sharing and cross province linkages take place. For the purposes of this COSOP, IFAD investments will be located in the North-East, the Central (including North-Central Coastal, Central Coastal and South-East) and the Mekong River Delta regions. These regions have high rural poverty rates and poverty head counts and they are significantly affected by one or more manifestations of climate change. Importantly, these regions host ongoing IFAD-supported projects with proven track records in aid effectiveness that can serve as models of innovation for scaling up in other provinces in the region. (IFAD, 2012b, p.9).

69. The IFAD selected regions are generally inhabited by ethnic minority groups, which are one of IFAD's major target groups. IFAD COSOP for Viet Nam aims at facilitating greater participation by and benefit flow to ethnic minority groups through the introduction of different instruments including SEDP, CIG, CDF, and SCG. The specific focus is on identifying and prioritizing the needs of ethnic minority groups and developing responsive activities through interventions tailored to reach ethnic minority groups and women. Ethnic peoples are closely tied to land, forests, water, wildlife, and other natural resources, and therefore special considerations apply if projects affect ethnic peoples.

70. Within the COSOP 2012-2017, IFAD financed eleven programs in 11 provinces in Viet Nam, nine of which addressed ethnic minorities, in particular in mountainous areas where the majority of them live. These include Tuyen Quang, Cao Bang, Ha Giang, Bac Kan (northern mountainous regions), Quang Binh (northern central coast); Ninh Thuan (central coast), Gia Lai, Dac Nong (central highlands), and Tra Vinh (Mekong delta). The programs aim at achieving sustainable and equitable

poverty reduction and improved livelihoods for the rural poor; this contributes to the sustainable improvement of incomes, well-being and socio-economic status of poor upland ethnic minorities. Table below reflects results of IFAD interventions relating to ethnic minorities.

Table 1. Ethnic minority participation in and benefited from IFAD programs

Category	***Unit***	***2019***
Number of ethnic minority people participated in MoSEDP	People	165,780
Number of ethnic minority people participated benefited from CDF infrastructure works	People	169,037
Ethnic minority households as member of CIG	Household	79,682
Ethnic minority women as member of SCG	People	21,452
Ethnic minority people benefited from PPP	People	13,547

Sources: COSOP 2019-2025; IFAD projects' progress reports, 2019.

71. Scoping the issues discussed above into the context of IFAD, it can be seen that IFAD's instruments and their achievements, to a certain extent, have been successful in addressing and mitigating problems faced by ethnic minorities in improving their livelihoods. In specific, the local planning (MoSEDP) and subsequent investment (CDF) MOSEDP and CDF implementation have (i) facilitated the participation of the poor, women, and ethnic minorities to communicate their needs and difficulties to decision makers; (ii) consolidated the position of the vulnerable groups within society through involvement in decision making process; (iii) strengthened the capacities of people in market access and economic development; and (iv) increased the ownership and quality of infrastructure works, through promotion of "force account" method in infrastructure construction and maintenance. The practice of common interest group (CIG) establishment has substantially strengthened the social networks, improved exchange between the Kinh and the minorities. Further, the public private partnership (PPP) process has helped connecting ethnic minorities' products to market, bringing in significant added values to their products. Finally, the rural finance instrument (SCG) has significantly improved the access of ethnic minority to financial market through receiving small loan without collateral for agricultural production and livestock. The SCG also contributed to reduction of high interest lending by informal sector.

72. Apart from the achievements, IFAD's interventions also bear some limitations in view of helping ethnic minority overcoming poverty, including:

    - The current outreach of the interventions to ethnic minorities, especially the poor minorities is still limited occupying about 40% of total beneficiaries (IFAD, 2016).
    - The limited outreach is mainly explained by geographical difficulty, lack of physical mobility (caused by lack of access to roads and transportation), and capacity of ethnic minority. However, it is also caused by lack of a strategy for ethnic minority involvement within the IFAD COSOP framework. As mentioned earlier, ethnic minorities are neither homogenous nor the IFAD's beneficiaries. Current IFAD targeting strategy only disaggregates beneficiaries to absolute poverty situations but not to ethnicity. Ethnic minorities are disadvantageous/different compared to the majority in view of physical-social assets and access to financial and economic services. The designs of most

instruments (except the SCG) ignored these differences which then resulted in limited participation of ethnic minorities.

- SCG instrument, although successfully implemented by Women Union through the Women Development Fund with clear mission and vision, still hardly find its way to involve ethnic minority women, especially the poor. Regardless the constraints of geography, mobility, and capacity, the misconception and/or stereotyping by the credit officers about ethnic minorities partly prevented the outreach of the instrument. Various statements were sometimes heard by the IFAD supervision members such as "Ethnic minorities don't know how to make a living", "they don't consume, but self sufficient" "they are backwards compared to the Kinh" "they don't know how to use credit effectively". Changing such perceptions about minorities will require that attention be paid to behavior change of credit staff, media, school curricular, and more than that the close support and strict supervision by IFAD toward the targeting approach of SCG instrument.

D. Summary of social and environmental assessment and mitigation measures

73. The Khmer people in Tra Vinh are disproportionately poor and/or highly dependent on agricultural production and the natural resource base. Living in more rural areas, they have reduced access to markets and supporting services and so have low rates of agricultural investment and, in consequence, lower productivity. They are also identified as being highly sensitive to both climate change and natural disaster impacts. Cultural differences, as well as socio-economic differences, dictate that the projects approach be flexible, highly participatory and as demand-driven as possible within the Viet Nam context. Local language will be used in all village meetings, planning and extension sessions. District teams responsible for implementation will reflect an appropriate gender balance, and their members will have command of local, ethnic languages. Capacity building tools will be developed in the language of the main ethnic group and take into consideration cultural differences. Special efforts will be made to recruit female facilitators and farmer-to-farmer extension agents that speak ethnic groups' languages and also in mobilizing and mentoring students from the ethnic minority schools.

74. The project will directly support and invest in promoting sustainable value chain development that are resilient to climate change. Through the mainstreaming of climate risk and adaptation concerns and market-orientation into government's overall planning mechanism for planning and budgeting of all its agriculture and rural development (ARD) programs, the project will leverage significantly more resources than it administers in support of communities' further progress towards sustainable agriculture development. The program adheres to the following IFAD policy principles: (i) increased investment in approaches providing multiple benefits for sustainable intensification of agriculture: improved watershed / resilient infrastructure; (ii) strengthening the governance of natural assets to the rural poor through land ownership and community empowerment; (iii) equality and empowerment of women and ethnic peoples in the context of natural resource management and family nutrition; and (iv) improving access of poor rural communities in financing environmental protection and the fight against climate change.

75. As water resource is a critical asset for agriculturally-based, the project will support to both improved planning and investment in climate smart water management solutions. To the extent possible, these will take full advantage of the traditional knowledge of ethnic minorities. Provincial plans including SEDP, sector development plans (DARD, DOIT, DONRE) will require to develop scenarios/actions that address the sustainable water usage in the provincial and

sectoral development. Through-out the supported value chains, where appropriate water efficient/saving technology will be invested by the project in cooperation with private sector. Further, systems/schemes that acquire/catch/store rain water will be also strongly promoted through the infrastructure investments. No ethnic minority people will be affected by land acquisition and resettlement.

76. To address climate risk and climate change adaptation concerns, the project sets out to do so in a cross-cutting manner such that they are addressed as an integral part of sustainable management and poverty reduction. The project supports actions for long-term adaptation and resilient that address the drivers of vulnerability — such as adaptation options that reduce poverty and increase household resilience — and that integrate CC into development planning and public and private (VC and enterprise) investment. It will blend the traditional knowledge and practices of ethnic minorities with innovative adaptation practices.

77. *Social impacts*. Followings are the potential social risks and impacts identified at this stage:

- Increased household and communal assets in the form of productive infrastructure; access to land resources; access to credit for capital investment in sustainable livelihood activities; improved livelihoods through increased knowledge, organizational capital, production and access to markets and; enhanced personal and community security in the face of vulnerability to natural disaster and climate risks.
- Improved governance through communities and groups having greater voice and opportunity for utilizing collective decision making to influence local investment priorities and; through local authorities and line agency personnel at commune and district-level becoming engaged as facilitators of bottom-up, participatory planning processes in order to inform how they carry out their institutional mandates and implement the programs and activities for which they are responsible.
- The potentially very significant impacts and broad societal benefits associated with supporting Provincial-level authorities in complying with the government of Viet Nam's policies for mainstreaming climate risk and climate change adaptation, natural disaster vulnerability reduction, bottom up development planning and, more market-driven approaches to allocating scarce public resources for purposes of rural development and poverty reduction. This versus the traditional top-down, technocratic approaches that in the past characterized the government's central planning framework. While realistically the project at best could only provide one quite modest step forward in this direction, the timing is quite favorable to catalyze such a step forward. The policy mandates to achieve the mainstreaming outcomes have been piling up over the last decade or more, while there has been little effective, operational advance at the provincial-levels. Yet, a great deal of learning, initial organizational work and increased capacity at local levels now exists that can be capitalized upon and for progress to be made.
- Selected value chain commodities exclusionary of poor households, women, youth, and ethnic minority; lack of voices and perspectives of rural households, especially vulnerable households (EM, women, youth, elderly); elite capture & exclusion of voice of marginalized households & individuals in prioritization, planning & benefit.

78. *Environmental impacts.* The Project is expected to have the following positive environmental impacts:

- Increased climate change resilience and reduced vulnerability at provincial, district, commune and smallholder/household level as a result of improved

planning process for public investment in the ARD sector that integrate environmental and climate risk/climate change adaptation concerns.

- Diversified and intensified production systems of target households, based on climate adapted, sustainable agriculture methods, to balance food security and nutrition and income generation needs in accordance, and to address declining soil fertility and crop yields.
- Raised awareness within the target groups on climate risk and benefits of sustainable agricultural practices and technical capacity including soil and water conservation, soil fertility management, agroforestry, composting, IPM and/or safe handling, use and disposal of agrochemicals and; empowerment to be able to implement these practices and learn from each other through farmer-to-farmer learning.
- Increased irrigated area and village access to multiple use water supply and micro-irrigation equipment, conferring an important degree of resilience in the face of drought risk;
- Increased and diversified livestock production both as a source of income and as a strategy of climate change adaptation in the uplands as drought and other unfavorable weather-related events increase risk and decrease returns to traditional, rainfed crops; supported by introduction and expansion of fodder propagation, production and management systems;
- Support for sustainable, climate adapted livelihood diversification that will reduced vulnerability and enhance resilience of the rural poor and their communities by providing direct investment support for agriculture, rural development and other poverty reduction pathways as identified and prioritized by themselves.

79. The project faces a number of environmental risks from its proposed interventions. Overall, a central thrust of the proposed project is environmental, with investments oriented entirely to climate adaptation, sustainable land and production management. In this context, the market-oriented aspects of the project contribute to overall environmental sustainability of actions by adding the essential dimension of potential for financial sustainability. As with all projects of this nature there are inevitable potential impacts on the environment. Based on preliminary analysis at this stage, the table below shows potential environmental impacts of some key value chains/major activity proposed for the project, as well as the mitigation measures:

Key value chain/ major activity	Potential adverse impacts on the environment	Proposed mitigation measures
Rice cultivation	Increased use of chemical fertilizer; mono-cropping practice reduces local biodiversity and pest resistance hence increasing the use of pesticides which pollute the environment; increasing fresh water use putting more pressure on water resources; increasing greenhouse gas emissions (i.e. methane) released from the continuously flooded/irrigated rice fields.	Conduct training for farmers on the proper use of fertilizers and pesticides, prepare an integrated pest management to be used by project beneficiaries; increase the use of organic fertilizers; introduce and train farmers on water conservation measures, such as shallow flooding and intermittent irrigation in order to conserve water and reduce methane emissions.
Fruit trees	Increasing water use hence	Proper site selection ensuring

	putting more pressure on limited water resources; increasing risk of land subsidence from the overuse of groundwater	water availability and avoid locations that are prone to drought; promote climate smart technologies for irrigation, such as water harvesting technologies.
Peanut	Excessive use of input materials (e.g. fertilizers, medicines) resulting in environmental pollution; excessive use of surface and groundwater putting more pressure on water resources and exacerbates the risk of land subsidence	Train farmers on the proper use of fertilizers and medicines and water conservation measures; Promote water efficient and harvesting technologies.
Intensive and semin-intensive shrimp farming	Overuse of inputs (e.g. industrial feed and drugs) resulting in water pollution from the release (or leakage) of untreated waste water and increasing disease outbreaks; increasing use of clean fresh water to flush the aquaculture system and reduce salinity	Install adequate waste water treatment facilities to treat waste water from aquaculture; Train farmers on the proper use of drugs; Develop a water quality monitoring systems, and water quantity standards.
Eco (mangrove) shrimp farming	Disease outbreak (fungal, viral and bacterial infections on shrimps) may lead to increasing use of pesticides.	Train farmers on disease control management and appropriate use of pesticides.
Livestock	The increase in number of livestock (e.g. cows) may enhance pressures on natural resources (water, land); increasing greenhouse gas (i.e. methane) emissions.	Pre-assessment of carrying capacity of selected livestock promoting sustainable natural resource management; Promote stall-feeding management instead of open grazing; Train farmers on manure management that reduces greenhouse gas emissions
Infrastructure investments	Potential encroachment on protected areas or biodiversity hotspot; environmental damage (e.g. vegetation loss) due to construction works; improper disposal of construction wastes which leads to soil contamination at the surrounding environment	Develop selection criteria for infrastructure location which excludes interventions in close proximity/adjacent to protected areas; avoid as much as possible vegetation loss, and if inevitable, conduct re-vegetation of the exposed areas; Proper collection and disposal of construction wastes in designated sites.

E. Participation, consultation and FPIC[16] processes

Objectives of ethnic community consultation

80. Consultation with ethnic minority people in the project area was conducted freely, with notification and community involvement in accordance with IFAD guidance. The objectives of the consultation are to: a) inform the ethnic minorities about the projects, potential impacts of the project (negative impact and positive impact), b) Receive feedback from ethnic minorities (on the basis of identified impact), and c) propose development activities to ensure that ethnic minorities in the subproject area can receive socio-economic benefits (from the project) which are culturally appropriate to them, and thereby confirms the widespread support of ethnic minority people to the project implementation.

Consultation methods

81. There are many different consultation instruments, such as group discussions, in depth interviews, field observations, and household surveys, which are used to collect the feedbacks from ethnic minorities. Free consultation with notification under IFAD guidance, is maintained throughout the consultation process.

- Consultation instrument: During consultation, the interviewees are free to choose the language. For this project, the ethnic minority group is Khmer, but they confirmed before the interview that they felt comfortable with Vietnamese language. Therefore, the consultations were conducted using Vietnamese language. In order to ensure the linguistic freedom of consulted ethnic minority people, a local person who is fluent in both Vietnamese and Khmer languages was invited to participate in the consultation process, in case Khmer language is needed, for smoothly communication between ethnic minorities and consultants.
- Consultation process: Consultations were conducted during the pre-design (May-June 2020) and during the Design in December, 2020. The consultations used both household survey and group discussion/meeting (as mentioned above) during the consultation process. Both men and women participated in the consultations; especially ethnic minority women were encouraged to give their comments.

Result of consultation

82. In the first public consultation during the pre-design (May, 2020), the proposed project information was presented to ethnic minority people in a culturally appropriate manner. A document was prepared and delivered to local people in advance of participation. The key informant discussions were held in six communes of Duyen Hai, Cau Ngang, Cang Long, and Tra Cu districts. Ethnic minority households, during consultation, confirmed that they were informed about the consultation, basic information of subproject's objectives and contents. Ethnic minorities gave broad support for implementation of the project activities. After consultation, EM households and EM community understood negative and positive environmental, social, and economic impacts of the project. They were also consulted on mitigation solutions of negative impacts and how to maximize and optimise positive impacts. They agreed with the proposed mitigation solutions of negative impacts as well as development activities in the Ethnic minority People Plan (EMP) . The activities proposed ensure they can receive socio-economic benefits that are appropriate to their culture. On the basis of the potential impact of the project, mitigation measures, and the development activities proposed under the EMP, the EM communities expressed their broad support for the subproject implementation. In specific, local communities recommended the following issues:

[16] See more descriptions of FPIC in Annex 1

Construction of the value chain infrastructure schemes:

- Wherever the scheme is built, FPIC must be conducted before and during the process.
- Ensure the participation and supervision of local communities during the construction process.
- The construction of the scheme should proceed quickly to minimize the impact;
- Strengthen work and traffic safety for worker and local people;
- Ensure water supply for production of major crops.
- Ensure the O&M is in place.

Community development:

- Support development and replication of good practices on value chain development of previous project.
- As for Khmer group, peanut, rice, chicken, and coconut value chain should be considered to be invested.
- Training on agricultural production skills and non-agricultural jobs such as sewing, embroidery, knitting…
- Support communication activities combined with cultural meetings, organizing community activities to support EM people: building groups, self-managed team, legal support group, technical support group.
- Strengthen communication activities in suitable language of the communities.
- Establish livelihood support for the landless in the sub-project areas or extend from existing development programs.
- Encourage agribusiness (particularly vertically integrated companies) companies to extend their value chains to create employment opportunities for the poor.

83. A *second round of consultation* was conducted in December, 2020 during the design mission. The consultation was organized in seven communes of Duyen Hai, Tra Cu, Cau Ngang, Cau Ke, and Cang Long districts. In this second round of consultation, the recommendations and issues from the first round were revisited. Also, detailed project activities were provided to Khmer communities for discussion. Throughout the discussions, the following comments and concerns were provided:

- The Government and the province already provide various supports to EM through existing programs (i.e. housing and develop livelihoods).
- Poverty incidence is still high among Khmer; majority of Khmer households works as hired labor in particular for aquaculture facilities;
- A number of Khmer households also migrate to urban centres and especially to Ho Chi Minh City; however most of them prefer to stay in their area close to community and pagodas;
- A large number of Khmer households are living along some sections of existing dykes and rely on fisheries; in case of rehabilitation of these dykes, relocation of EM households, there is a risk that they will lose their livelihoods; this should be avoided in the new project.
- Khmer people might not be able to participate directly in some value chains including shrimp, fish since they are poor and/or lack of land. Project should promote pro-poor value chains including peanut, rice, and coconut so that more Khmer people should participate.
- 4P platform provided by the project should consider involve more Khmer, especially the landless Khmer as labor for enterprises.

84. Free, prior and informed consultations with EM indicated that because there is no adverse impact anticipated for the EM peoples, and that the EMP was prepared to provide development opportunities to EM peoples, there has been a broad community support from the EM peoples for the subproject implementation. Comments and concerns have been taken into account for the preparation of the final documents.

F. Appropriate benefits and Capacity support

85. As mentioned above, the EMP aims to provide additional socio-economic benefits to EM households under the IFAD guidance. These activities are related to training, livelihood support, awareness program, capacity building and education support. The main characteristics of the EM, especially poor EM, in the project area are: i) landlessness; ii) jobless; iii) low education level; and iv) poor sanitation conditions. During consultation, the ethnic minority community also proposed some activities which have been included.

Improving community's awareness to climate change adaptation

- This activity aims to provide awareness campaign regarding climate change adaptation. The purpose is to make the Khmer community more resilient to climate change. It will blend the traditional knowledge and practices of ethnic minorities with innovative adaptation practices. The campaign will be provided through 50 training courses in the project area. It aims to target 10% of poor EM people in the subproject area. It will be conducted by a consultant.

Support to livelihood activities for ethnic minority and poor households

- Poor ethnic minority households are often landless and/or poor. As experienced in the previous project (IMPP, AMD), and throughout the discussions, for the ethnic minority group, livelihood models such as cash crops (peanut, chili, gourds…) and livestock (especially cow raising/breeding) have been identified as successful models. The community also proposed pig, chicken raising model, safe vegetable planting as livelihood models. Besides, access to micro-credit programs managed by the Women's Union, was also proposed.
- Since the project proposed 4P platform, local people expressed their expectation participating in the 4P through: (i) provision of input materials to the enterprises through contract farming; and (ii) involvement as workers for the enterprises.

Create more employment opportunities for the landless and land poor

- Lack of job skills has been identified as a reason of poverty especially for Khmer households. Training on agricultural production and non-agricultural skills (i.e. sewing, embroidery, knitting, machinery etc.) should be provided by the Agriculture Extension Centre for training on agriculture and by the Women's Union or the Vocational Training Centre for non-agriculture training. This activity should targets around 5-10% of EM households in 15 communes of the project area.

Capacity building and training for the project implementation units to ensure that ethnic minorities benefit from the project

- The Khmer community should be aware of the project's objectives (i.e. type proposed adaptation models, type of support) in order for them to better benefit from the project. Capacity building and training will be given to the community during the project implementation by a consultant. Specific capacity building will be given to the Khmer community. Special attention will be put on how the Khmer community can be involved in the implementation of the Project.

Capacity building for mass organizations

- Mass organizations (women's union and farmer's union) are key organizations to support the communities. They are present at each level (province, district, commune and village) and are very active in awareness campaign (health,

safety, environment etc.), skills training and livelihood support (i.e. micro-credit, agriculture extension). The reinforcement of the reorganization will benefit to the whole community. Specialized technical assistance on participatory planning and project management will be offered to these mass organizations at commune and village level. The mass organization could then disseminate information and develop participation of the community. It will improve the capacity of the community to participate in project benefits and to enhance their livelihoods.

Enhance education of the Khmer community

- Low education is a characteristic of the Khmer community, low education is also a factor of poverty. Adult literacy campaigns will be developed in 15 communes of the project area. The project will target the young adults (20-35 y/o) who never been to school; 50% of men and 50 % of women will be trained. The Vocational Training Center will conduct such training.

86. This EMP will be updated before implementation to confirm the above development needs of EM peoples and to reflect any additional development needs that the EM peoples may need when the impact of subproject is confirmed on the basis of final detailed engineering design. The courses will be designed to ensure that (i) its content fits with the culture of the ethnic minorities, and; (ii) women are encouraged to participate, with women representing at least 50% of the participants.

G. Grievance redress

87. The grievance mechanisms under the project will be two-tiered: one internal to the communities concerned and the other, involving third-party/external mediation. For each project province (Ben Tre and Tra Vinh), Grievance Redress Committees will be established from villages/districts to provincial levels built on the existing structures consisting of concerned departments, mass organizations, women and ethnic representatives. At the village level, community based co-management will incorporate in the existing grievance mechanisms that will be chaired by elder and/or spiritual/tribal leaders, which are largely acceptable to local communities, particularly the ethnic minority groups.
88. The grievance redress mechanism will be applied to persons or groups that are directly or indirectly affected by the project, as well as those that may have interests in a project and/or have the ability to influence its outcome, either positively or negatively. The project will provide training and support to strengthen these existing structures for effectively and collectively dealing with possible grievances that may arise during the course of the project implementation. All complaints and grievances must be properly documented by PPMU/PCU, with copies being filed at commune and district levels.
89. If the affected EM peoples are not satisfied with the process, compensation or mitigation measures, or any other issue, the EM themselves or their representatives or village leaders can lodge their complaints to the PPC or to the PPMU/PCU. All grievances will be addressed promptly, and in way that is culturally appropriate to the affected EM peoples. All costs associated with EM's complaints are exempt to EM complainants. PPMU/PCU and independent monitoring consultant are responsible for monitoring the progress of resolution of EMs' complaints. All cases of complaints must be recorded in PPMU project files, and be reviewed regularly by independent monitoring consultant.
90. The grievance redress mechanism is established on the basis of the Vietnam's laws. The steps of Grievance Redress Mechanism are as below:

First Stage - Commune People's Committee (CPC)

- An aggrieved affected people may bring his/her complaint to the One Door Department of the Commune People's Committee, in writing or verbally. The member of CPC at the One Door Department will be responsible to notify the CPC leaders about the complaint for solving. The Chairman of the CPC will meet personally with the aggrieved people and will have 30 days following the

receiving date of the complaint to resolve it. The CPC secretariat is responsible for documenting and keeping file of all complaints handled by the CPC

Second Stage - At People's Committee (DPC) of district

- If after 30 days the aggrieved affected people does not hear from the CPC, or if the people is not satisfied with the decision taken on his/her complaint, the people may bring the case, either in writing or verbally, to any member of the DPC. The DPC in turn will have 30 days following the receiving date of the complaint to resolve the case. The DPC is responsible for documenting and keeping file of all complaints. Affected households can also bring their case to Court if they wish.

Third Stage - At People's Committee (PPC) of the province

- If after 30 days the aggrieved people does not hear from the DPC, or if the people is not satisfied with the decision taken on his/her complaint, the people may bring the case, either in writing or verbally, to any member of the PPC or lodge an administrative case to the District People's Court for solution. The PPC has 45 days within which to resolve the complaint to the satisfaction of all concerned. The PPC secretariat is also responsible for documenting and keeping file of all complaints that it handles. Affected households can also bring their case to Court if they want.

Final Stage – At the Court

- If after 45 days following the lodging of the complaint with the PPC, the aggrieved affected people does not hear from the PPC, or if he/she is not satisfied with the decision taken on his/her complaint, the case may be brought to a court of law for adjudication. Decision by the court will be the final decision.
- Decision on solving the complaints must be sent to the aggrieved people and concerned parties and must be posted at the office of the People's Committee where the complaint is solved.
- After three days, the decision/result on solution is available at commune/ward level and after seven days at district or province level.

91. To ensure that the grievance mechanism described above are practical and acceptable by the ethnic minority affected by the subproject, this will be consulted with local authorities and local communities taken into account of specific cultural attributes as well as traditional, cultural mechanisms for raising and resolving complaints/conflicts. If the ethnic minority objects, efforts will be also made to identify and determine ways to resolve that is culturally acceptable to them.
92. In addition to commune level (mentioned above) where EM peoples could lodge their questions/comments, or complaints officially, EM peoples may contact directly PMU using the contact details provided in the Project Information Leaflet in case there have any questions related to subproject goal/scope/impact, etc., or including general compensation and support policies.
93. Since grievances lodged are primarily related to in the case involving land acquisition, to ensure the grievances are timely and effectively addressed, the following measures should be used by both designed contact points at commune and PMU level.
    - A recording system/book that records systematically complaints received. This grievance system should be maintained by contact point at both commune and PMU level.
    - Record should show when the complaints are lodged, by whom, and how, and by whom such grievances are solved, and when the solving is completed. Pending issues that last for more than one month, for example, should be flagged for timely and appropriate action on the part of PMU and local governments.
    - Where complaints are made verbally, such complaints should be recorded into the grievance recording system for timely following up and resolving.

- Leaflets distributed to EM peoples, including those adversely affected as well as beneficiaries should, in addition to project information (as mentioned above) indicate clearly contact person(s) – at commune and PMU level to facilitate the convenient lodging of questions/complaints, if any, from EM peoples.

H. Monitoring, reporting and evaluation

94. Responsibility of overall monitoring and implementing the EMP rests with the PPMU. Implementing the EMP will be subjected to independent monitoring by a qualified consultant. The independent monitoring consultant will be hired by PPMU.

Internal monitoring

95. The PPMU will be responsible for the overall implementation of EMP.
    - Mechanisms and benchmarks appropriate to the project for transparent, participatory joint monitoring (including independent experts), evaluating and reporting, including a description of how the affected ethnic minority peoples and historically underserved local communities are involved.
    - Define the mechanisms put in place to allow for periodic review and revision of the EMP in the event that new project circumstances warrant modifications developed through consultation and consent processes with the affected ethnic minority peoples and historically underserved local communities.

Internal monitoring indicators

Type of monitoring	Indicators
Expenditure and time	Are sufficient personnel arranged for supporting ethnic minority people according to the plan? Do support activities satisfy the set implementation plan? Is expenditure for EMDP implementation allocated to implementation agencies timely and sufficiently?
Consultation, grievance and special issues	Are community consultation and information dissemination implemented for EM people according to the plan? Do focus group discussions have small EM people sample? How many EM people know about their benefits? Do EM people know and use grievance mechanism as set up in the EMP? What are the results? Quantity and type of grievances received (classified by gender and vulnerable group) Quantity and type of grievances settled (classified by gender and vulnerable group) Levels of awareness and satisfaction on benefits of EM people. Satisfaction level on grievance mechanism.

Independent monitoring

96. An independent monitoring consultant (IMC) should be contracted to monitor the implementation of social safeguards of subprojects, including the EMP. Monitoring report will be submitted to the IFAD country office for review and comments. Independent monitoring should be conducted once a year during the implementation of the Project to timely identify issues that might need immediate action from PPMU.

Independent monitoring indicators

Type of monitoring	Indicators
Some basic information about EM households	Location Number of EM households

	Average number of household members, age, literacy Gender of householder Access level to medical & educational services, utilities and other social services Types of land and legal land use status Occupation and employment Source and level of income
Satisfaction level of EM people	Do EM people agree with the EMDP implementation? How do EM people assess about the recovery level of their living standard and livelihood? How is the awareness level of EM people about grievance process and grievance redress procedure? Have grievances of EM people been received and solved timely and satisfactorily in accordance with the regime in EMPF?
Effectiveness of support	Are benefits for EM people satisfactory? Is there any support for vulnerable group?
Other impacts	Are there any unexpected impacts on employment or income of EM people? How are those unexpected impacts solved (if any)?

I. Institutional Arrangements

97. The People's Committee of each province (Tra Vinh and Ben Tre), on behalf of the Government, is the project owner. PPC assumes an overall responsibility for the entire project. The PPMU directly implements the project.
98. The Provincial PMU will be established to coordinate the project implementation. PPMU is responsible for the overall implementation of EMP prepared under the project and ensuring that all implementing agencies understand the purpose of the EMP, and how EMP is prepared and approved prior to implementation. PPMU is also responsible for ensuring effective implementation of the EMP, including monitoring and evaluation of the implementation of the EMP.
99. At the outset of the project implementation, PPMU will provide training to implementing partners to enable them to be able to undertake screening of ethnic minority peoples in the project area.
100. Prior to implementation, this EMP needs to be updated to a) reflect the detailed steps in implementation of these activities, b) budget required for each of the activities, and c) methods of implementation to ensure these activities are conducted in the way that are the most beneficial and culturally appropriate to the EM peoples.

J. Budget and financing

101. Budget for EMP implementation of project will be charged subject to the update/revision of the EMP during implementation. The budget to establish and implement EMP will be financed using the project budget and/or the Government's programmes.

Indicative budget for EMP implementation

Activity	Unit	Number of benefited HHs	Unit cost (1000 VND)	Total budget (1000 VND)	Notes
Improving community's awareness to climate change adaptation	50 courses	8,000	20,000	1,000,000	
Support to livelihood activities for ethnic		8,000 – 10,000			This will be integrated in the

minority and poor households					implementation of the project value chain activities
Create more employment opportunities for the landless and land poor		1,000			This will be integrated in the implementation of the project value chain activities
Capacity building and training for the project implementation units to ensure that ethnic minorities benefit from the project	15 courses	100	20,000	300,000	
Capacity building for mass organizations	15 courses	100	20,000	300,000	
Enhance education of the Khmer community		8,000		1,000,000	
TOTAL				2,600,000	

102. As noted above, activities that support to improve livelihoods and generate jobs for EM will be integrated in the project activities. To ensure EM will be benefited from the project activities, the ORMS system will include specific indicators for EM under each activity. Budget for awareness raising and capacity building is indicative and will subject to change or revise during the implementation.

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June 2021

IFAD
Investing in rural people

Viet Nam

Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Project Design Report

Annex 6: First Annual Work Plan and Budget (AWPB)

Document Date:	26/07/2021
Project No.	2000002335
Report No.	5735-VN

Asia and the Pacific Division
Programme Management Department

Climates Smart Agriculture and Transformation Project (CSAT)

Annual Work Plan and Budget for 2022 (DRAFT)

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (VND)	Unit Cost (US$)	2022 Total base cost (US$)	Budget (US$)						
		Q 1	Q 2	Q 3	Q 4							2022 Budget Plan including contingencies (US$)	Budget category	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	Component 1 - Effective provincial & regional coordination for sustainable and inclusive rural transformation										#VALUE!	301 231	-	-	-	301 231	-	-
	1.1. Regional integrated, climate resilient and inclusive socio economic planning								#VALUE!									
	I. Investment Costs																	
	A. Tra Vinh																	
	1. Review and update the provincial medium (2021-2025) and long term (vision to 2050) Socio Economic Development P					DPI												
1.1.1.1	Assessment of Climate Change and Disasters Risk Management and development of plan for 2021-2025		x	x		DPI	lumpsum	1	69,387,000	3,000	#VALUE!	3 060				3 060		
1.1.1.2	Assessment of agricultural situation and development of plan		x	x		DARD	lumpsum	1	69,387,000	3,000	#VALUE!	3 060				3 060		
1.1.1.3	Assessment of industry and trade and development of plan		x	x		DOIT	lumpsum	1	69,387,000	3,000	#VALUE!	3 060				3 060		
1.1.1.4	Assessment and development of district SEDP		x	x		District	District	8	34,693,500	1,500	#VALUE!	12 240				12 240		
1.1.1.5	Development of integrated provincial SEDP		x	x	x	DPI	lumpsum	1	92,516,000	4,000	#VALUE!	4 080				4 080		
1.1.1.6	Key stakeholder progress review & evaluation workshops				x	DPI/ PPMU	Each	1	11,564,500	500	500	510				510		
1.1.1.7	Training needs assessment and subsequent capacity building		x	x	x	DPI/ PPMU	Lumpsum	1	69,387,000	3,000	#VALUE!	3 060				3 060		
1.1.1.8	Study tour of advanced SEDP or climate change planning provinces & lead CCA technical institutions				x	DPI/ PPMU	Each	1	34,693,500	1,500	#VALUE!	1 530				1 530		
1.1.1.9	Cross-visits, district & commune staff			x	x	District	Each	8	4,625,800	200	1 600	1 632				1 632		
1.1.1.10	Technical assistance contract with national, lead CCA/SEDP/planning technical institution to support proces		x	x	x	DPI/ PPMU	Lumpsum	1	117,957,900	5,100	#VALUE!	5 202				5 202		
1.1.1.11	Dissemination Provincial SEDP - publications, brochures, newspaper, radio programmes, etc.		x	x	x	DPI/ PPMU	lumpsum per year	1	46,258,000	2,000	#VALUE!	2 029				2 029		
1.1.1.12	Participation in national/regional dialogues, worshops, events regarding planning and development		x	x	x	DPI	Each	5	13,877,400	600	3 000	3 060				3 060		
1.1.1.13	Other assessments, studies on planning and development		x	x	x	DPI/ PPMU	each	3	23,129,000	1,000	#VALUE!	3 060				3 060		
	Subtotal										**#VALUE!**	**45 583**	**-**	**-**	**-**	**45 583**	**-**	**-**
	2. Value Chain Action Planning (VCAP)																	
1.1.2.1	Technical assistance contract with national lead value chain technical institution to support process	x	x	x	x	PPMU	Lumpsum	1	115,645,000	5,000	#VALUE!	5 100				5 100		
1.1.2.2	Capacity building for value chain planning and development	x	x	x	x	PPMU	Lumpsum	1	23,129,000	1,000	#VALUE!	1 020				1 020		
1.1.2.3	Technical workshops, meetings for VCAP	x	x	x	x	PPMU	Workshop	3	6,938,700	300	900	918				918		
1.1.2.4	Study tour of advanced VC development provinces/institutions				x	PPMU	Unit	4	23,129,000	1,000	#VALUE!	4 080				4 080		
1.1.2.5	Dissemination VCAP - publications, brochures, newspaper, radio programmes, etc.			x	x	PPMU	Lumpsum	1	23,129,000	1,000	#VALUE!	1 014				1 014		
1.1.2.6	Cross-visits, district and communes staff			x	x	District	Visit	8	4,625,800	200	1 600	1 632				1 632		
	Subtotal										**#VALUE!**	**13 764**	**-**	**-**	**-**	**13 764**	**-**	**-**
	3. Public Private Producer Partnership (4P) platform established										-							
1.1.3.1	Formation of 4P plattform (guideline, manual, etc)	x	x			PEA/ PPMU	Lumpsum	1	69,387,000	3,000	#VALUE!	3 060				3 060		
1.1.3.2	Workshops, meetings for 4P members and partners	x	x	x	x	PEA/ PPMU	Lumpsum	10	6,938,700	300	3 000	3 060				3 060		
1.1.3.3	Development and dissemination of training and other documents	x	x	x	x	PEA/ PPMU	Lumpsum	1	23,129,000	1,000	#VALUE!	1 020				1 020		
1.1.3.4	Cross-visits, 4P members, province, district, commune staff, & other partners			x	x	PEA/ PPMU	Visit	10	4,625,800	200	2 000	2 040				2 040		
	Subtotal										**#VALUE!**	**9 180**	**-**	**-**	**-**	**9 180**	**-**	**-**
	Subtotal										**#VALUE!**	**68 527**	**-**	**-**	**-**	**68 527**	**-**	**-**
	B. Ben Tre										-							
	1. Review and update the provincial medium (2021-2025) and long term (vision to 2050) Socio Economic Development P					DPI					-							
1.1.1.1	Assessment of climate change and Disasters Risk Management and development of plan for 2021-2025		x	x		DPI	lumpsum	1	85,577,300	3,700	#VALUE!	3 774				3 774		
1.1.1.2	Assessment of agricultural situation and development of plan		x	x		DARD	lumpsum	1	69,387,000	3,000	#VALUE!	3 060				3 060		
1.1.1.3	Assessment of industry and trade and development of plan		x	x		DOIT	lumpsum	1	69,387,000	3,000	#VALUE!	3 060				3 060		
1.1.1.4	Assesment and development of district SEDP		x	x		District	District	8	23,129,000	1,000	#VALUE!	8 160				8 160		
1.1.1.5	Development of integrated provincial SEDP		x	x	x	DPI	lumpsum	1	92,516,000	4,000	#VALUE!	4 080				4 080		
1.1.1.6	Key stakeholder progress review & evaluation workshops				x	DPI/ PPMU	Each	1	9,251,600	400	400	408				408		
1.1.1.7	Training needs assessment and subsequent capacity building		x	x	x	DPI/ PPMU	Lumpsum	1	69,387,000	3,000	#VALUE!	3 060				3 060		
1.1.1.8	Study tour of advanced SEDP or Climate change planning provinces & lead CCA technical institutions				x	DPI/ PPMU	Each	1	23,129,000	1,000	#VALUE!	1 020				1 020		
1.1.1.9	Cross-visits, district & commune staff			x	x	District	Each	8	4,625,800	200	1 600	1 632				1 632		
1.1.1.10	Technical assistance contract with national, lead CCA/SEDP/planning technical institution to support proces		x	x	x	DPI/ PPMU	Lumpsum	1	92,516,000	4,000	#VALUE!	4 080				4 080		
1.1.1.11	Dissemination Provincial SEDP - publications, brochures, newspaper, radio programmes, etc.		x	x	x	DPI/ PPMU	lumpsum per year	1	18,503,200	800	800	812				812		
1.1.1.12	Participation in national/regional dialogues, worshops, events regarding planning and development		x	x	x	DPI	Each	5	6,938,700	300	1 500	1 530				1 530		
1.1.1.13	Other assessments, studies on planning and development		x	x	x	DPI/ PPMU	each	1	23,129,000	1,000	#VALUE!	1 020				1 020		
	Subtotal										**#VALUE!**	**35 696**	**-**	**-**	**-**	**35 696**	**-**	**-**
	2. Value Chain Action Planning (VCAP)										-							
1.1.2.1	Technical assistance contract with national, lead value chain technical institution to support process	x	x	x	x	PPMU	Lumpsum	1	76,325,700	3,300	#VALUE!	3 366				3 366		
1.1.2.2	Capacity building for value chain planning and development	x	x	x	x	PPMU	Lumpsum	1	23,129,000	1,000	#VALUE!	1 020				1 020		
1.1.2.3	Technical workshops, meetings for VCAP	x	x	x	x	PPMU	Workshop	2	6,938,700	300	600	612				612		
1.1.2.4	Study tour of advanced VC development provinces/institutions				x	PPMU	Unit	2	18,503,200	800	1 600	1 632				1 632		
1.1.2.5	Dissemination VCAP - publications, brochures, newspaper, radio programmes, etc.			x	x	PPMU	Lumpsum	1	18,503,200	800	800	812				812		
1.1.2.6	Cross-visits, 4P members, district and communes staff			x	x	District	Visit	5	4,625,800	200	1 000	1 020				1 020		
	Subtotal										**#VALUE!**	**8 462**	**-**	**-**	**-**	**8 462**	**-**	**-**
	3. Public Private Producer Partnership (4P) platform established										-							
1.1.3.1	Formation of 4P plattform (guideline, manual, etc)	x	x			PEA/ PPMU	Lumpsum	1	69,387,000	3,000	#VALUE!	3 060				3 060		
1.1.3.2	Workshops, meetings for 4P members and partners	x	x	x	x	PEA/ PPMU	Lumpsum	5	6,938,700	300	1 500	1 530				1 530		
1.1.3.3	Development and disseminiation of training and other documents	x	x	x	x	PEA/ PPMU	Lumpsum	1	23,129,000	1,000	#VALUE!	1 020				1 020		
1.1.3.4	Cross-visits, 4P members, province, district, commune staff, & other partners			x	x	PEA/ PPMU	Visit	5	4,625,800	200	1 000	1 020				1 020		
	Subtotal										**#VALUE!**	**6 630**	**-**	**-**	**-**	**6 630**	**-**	**-**
	Subtotal										**#VALUE!**	**50 787**	**-**	**-**	**-**	**50 787**	**-**	**-**
	Total										**#VALUE!**	**119 314**	**-**	**-**	**-**	**119 314**	**-**	**-**
	1.2. Enhanced capacities for building inclusive value chains									**Unit**								
	I. Investment Costs																	
	A. Tra Vinh																	
	1. Improve business linkages among value chain actors																	
1.2.1.1	Policy dialogues for strengthening public policy environment		x	x	x	PPMU	each	5	6,938,700	300	1500	1 530				1 530		
1.2.1.2	Value chain fairs/business matching events		x	x	x	PPMU	Unit	3	6,938,700	300	900	918				918		
1.2.1.3	TA for capacity needs asessment and other studies	x	x	x	x	PPMU	lumpsum	2	46,258,000	2,000	#VALUE!	4 080				4 080		
	Subtotal										**#VALUE!**	**6 528**	**-**	**-**	**-**	**6 528**	**-**	**-**
	2. Business Development Services and "Farming as a Business Coaching"										0							
1.2.2.1	Consultations for BDS needs assessment	x	x			PPMU	meeting	5	4,625,800	200	1000	1 020				1 020		
1.2.2.2	BDS coaching	x	x	x	x	PPMU	session	30	4,625,800	200	6000	6 120				6 120		
1.2.2.3	Technical assistance and studies for BDS		x	x	x	PPMU	lumpsum	3	11,564,500	500	1500	1 530				1 530		
1.2.2.4	Meetings/workshops for farming as business capacity building		x	x	x	PPMU	unit	300	693,870	30	9000	9 180				9 180		

Climates Smart Agriculture and Transformation Project (CSAT)

Annual Work Plan and Budget for 2022 (DRAFT)

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (VND)	Unit Cost (US$)	2022 Total base cost (US$)	Budget (US$)						
		Q 1	Q 2	Q 3	Q 4							2022 Budget Plan including contingencies (US$)	Budget category	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
1.2.2.5	Curriculum development and training for CGs/SCGs	x	x	x	x	PPMU	unit	6	6,938,700	300	1800	1 836				1 836		
1.2.2.6	Additional technical assistance and studies					PPMU	lumpsum	3	11,564,500	500	1500	1 530				1 530		
											20 800	**21 216**	**-**	**-**	**-**	**21 216**	**-**	**-**
											0					-		
1.2.3.1	Consultations for development of Gender Transformative Action Plan, Youth Sensitive Action Plan,	x	x	x		WU/ YU/ CEM	Meeting	9	11,564,500	500	4500	4 590				4 590		
1.2.3.2	Tailored capacity building for women, youth and ethnic minorities		x	x	x	WU/ YU/ CEM	lumpsum	6	4,625,800	200	1200	1 224				1 224		
1.2.3.3	Meetings/workshops for women, youth, ethnic minitory engagement		x	x	x	WU/ YU/ CEM	meeting	30	1,156,450	50	1500	1 530				1 530		
1.2.3.4	TA and other studies	x	x	x	x	PPMU	lumpsum	3	23,129,000	1,000	#VALUE!	3 060				3 060		
	Subtotal										**#VALUE!**	**10 404**	**-**	**-**	**-**	**10 404**	**-**	**-**
	4. Capacity building for value proposition and differentiation										0					-		
1.2.4.1	Meetings/workshops for value proposition and differentiation	x	x	x		PPMU	meeting	25	6,938,700	300	7500	7 650				7 650		
1.2.4.2	Specific training for value proposition and differentiation		x	x	x	PPMU	Training	10	4,625,800	200	2000	2 040				2 040		
1.2.4.3	TA and other studies	x	x	x	x	PPMU	lumpsum	6	6,938,700	300	1800	1 836				1 836		
	Subtotal										**11 300**	**11 526**	**-**	**-**	**-**	**11 526**	**-**	**-**
	5. Develop local capacities for value chain infrastructure										0					-		
1.2.5.1	TA and studies on related climate smart infrastructure	x	x	x		PPMU	lumpsum	10	5,782,250	250	2500	2 550				2 550		
1.2.5.2	Capacity building on the design and operations and maintenance of infrastructure		x	x	x	PPMU	lumpsum	8	4,625,800	200	1600	1 632				1 632		
1.2.5.3	Technical workshops, meetings for infastructure implementation and management		x	x	x	PPMU	workshop	3	4,625,800	200	600	612				612		
	Subtotal										**4 700**	**4 794**	**-**	**-**	**-**	**4 794**	**-**	**-**
	6. Develop a pool of inclusive value chain expertise										0					-		
1.2.6.1	Meetings/workshops/events for identification and development of pool of experts	x	x	x	x	PPMU	meeting	20	2,312,900	100	2000	2 040				2 040		
1.2.6.2	Mobilisation of experts to value chain activities		x	x	x	PPMU	lumpsum	15	3,469,350	150	2250	2 295				2 295		
	Subtotal										**4 250**	**4 335**	**-**	**-**	**-**	**4 335**	**-**	**-**
	Subtotal										**#VALUE!**	**58 803**	**-**	**-**	**-**	**58 803**	**-**	**-**
	B. Ben Tre										0					-		
	1. Improve business linkages among value chain actors										0					-		
1.2.1.1	Policy dialogues for strengthening public policy environment		x	x	x	PPMU	each	8	6,938,700	300	2400	2 448				2 448		
1.2.1.2	Value chain fairs/business matching events		x	x	x	PPMU	Unit	5	6,938,700	300	1500	1 530				1 530		
1.2.1.3	TA for capacity needs asessment and other studyies	x	x	x	x	PPMU	lumpsum	5	46,258,000	2,000	#VALUE!	10 200				10 200		
	Subtotal										**#VALUE!**	**14 178**	**-**	**-**	**-**	**14 178**	**-**	**-**
	2. Business Development Services and "Farming as a Business Coaching"										0					-		
1.2.2.1	Consultations for BDS needs assessmen	x	x			PPMU	meeting	10	4,625,800	200	2000	2 040				2 040		
1.2.2.2	BDS coaching	x	x	x	x	PPMU	session	60	4,625,800	200	12000	12 240				12 240		
1.2.2.3	Technical assistance and studies for BDS		x	x	x	PPMU	lumpsum	20	11,564,500	500	10000	10 200				10 200		
1.2.2.4	Meetings/workshops for farming as business capacity building		x	x	x	PPMU	unit	300	925,160	40	12000	12 240				12 240		
1.2.2.5	Curriculum development and training for CGs/SCGs	x	x	x	x	PPMU	unit	14	6,938,700	300	4200	4 284				4 284		
1.2.2.6	Additional technical assistance and studies					PPMU	lumpsum	5	11,564,500	500	2500	2 550				2 550		
	Subtotal										**42 700**	**43 554**	**-**	**-**	**-**	**43 554**	**-**	**-**
	3. Empower, youth, women and ethnic minorities to engage in value chains										0					-		
1.2.3.1	Consultations for development of Gender Transformative Action Plan, Youth Sensitive Action Plan,	x	x	x		WU/ YU/ CEM	Meeting	9	11,564,500	500	4500	4 590				4 590		
1.2.3.2	Tailored capacity building for women, youth and ethnic minorities		x	x	x	WU/ YU/ CEM	lumpsum	15	4,625,800	200	3000	3 060				3 060		
1.2.3.3	Meetings/workshops for women, youth, ethnic minitory engagement		x	x	x	WU/ YU/ CEM	meeting	30	2,312,900	100	3000	3 060				3 060		
1.2.3.4	TA and other studies	x	x	x	x	PPMU	lumpsum	8	23,129,000	1,000	#VALUE!	8 160				8 160		
	Subtotal										**#VALUE!**	**18 870**	**-**	**-**	**-**	**18 870**	**-**	**-**
	4. Capacity building for value proposition and differentiation										0					-		
1.2.4.1	Meetings/workshops for value proposition and differentiation	x	x	x		PPMU	meeting	40	4,625,800	200	8000	8 160				8 160		
1.2.4.2	Specific training for value proposition and differentiation		x	x	x	PPMU	Training	30	6,938,700	300	9000	9 180				9 180		
1.2.4.3	TA and other studies	x	x	x	x	PPMU	lumpsum	10	11,564,500	500	5000	5 100				5 100		
	Subtotal										**22 000**	**22 440**	**-**	**-**	**-**	**22 440**	**-**	**-**
	5. Develop local capacities for value chain infrastructure										0					-		
1.2.5.1	TA and studies on related climate smart infrastructure	x	x	x		PPMU	lumpsum	10	5,782,250	250	2500	2 550				2 550		
1.2.5.2	Capacity building on the design and operations and maintenance of infrastructure		x	x	x	PPMU	lumpsum	30	4,625,800	200	6000	6 120				6 120		
1.2.5.3	Technical workshops, meetings for infastructure implementation and management		x	x	x	PPMU	workshop	3	4,625,800	200	600	612				612		
	Subtotal										**9 100**	**9 282**	**-**	**-**	**-**	**9 282**	**-**	**-**
	6. Develop a pool of inclusive value chain expertise										0					-		
1.2.6.1	Meetings/workshops/events for identification and development of pool of experts	x	x	x	x	PPMU	meeting	40	2,312,900	100	4000	4 080				4 080		
1.2.6.2	Mobilisation of experts to value chain activities		x	x	x	PPMU	lumpsum	35	6,938,700	300	10500	10 710				10 710		
	Subtotal										**14 500**	**14 790**	**-**	**-**	**-**	**14 790**	**-**	**-**
	Subtotal										**#VALUE!**	**123 114**	**-**	**-**	**-**	**123 114**	**-**	**-**
	Total										**#VALUE!**	**181 917**	**-**	**-**	**-**	**181 917**	**-**	**-**
	Component 2 - Inclusive and climate smart value chain established										**#VALUE!**	**#VALUE!**	**-**	**#VALUE!**	**-**	**#VALUE!**	**#VALUE!**	**10 000 000**
	2.1. Climate resilient infrastructure for sustainable water usage and enhanced access to markets.																	
	I. Investment Costs																	
	A. Tra Vinh																	
	1. Roads																	
2.1.1.1	Construction					PPMU	km		1,878,000,000	81,197	#VALUE!	#VALUE!		#VALUE!	-	#VALUE!	#VALUE!	
2.1.1.2	Design, supervision and other			x	x	PPMU	km	40	258,000,000	11,155	#VALUE!	#VALUE!		#VALUE!		#VALUE!		
	Subtotal										**#VALUE!**	**#VALUE!**	**-**	**#VALUE!**	**-**	**#VALUE!**	**#VALUE!**	**-**
	2. Water infrastructure											-						
2.1.2.1	Construction					PPMU	Hectare		15,900,000	687	-	-		-	-	-	-	
2.1.2.2	Design, supervision and other			x	x	PPMU	Hectare	2 300	2,210,000	96	220 800	220 800		200 727		20 073		
	Subtotal										**220 800**	**220 800**	**-**	**200 727**	**-**	**20 073**	**-**	**-**
	3. Other											-						
2.1.3.1	Construction					PPMU	Lumpsum		96,600,000,000	4,176,575	#VALUE!	#VALUE!		#VALUE!	-	#VALUE!	#VALUE!	
2.1.3.2	Design, supervision and other			x	x	PPMU	Lumpsum	0.25	13,524,000,000	584,720	#VALUE!	#VALUE!		#VALUE!		#VALUE!		
	Subtotal										**#VALUE!**	**#VALUE!**	**-**	**#VALUE!**	**-**	**#VALUE!**	**#VALUE!**	**-**
	Subtotal										**#VALUE!**	**#VALUE!**	**-**	**#VALUE!**	**-**	**#VALUE!**	**#VALUE!**	**-**
	B. Ben Tre											-						

Climates Smart Agriculture and Transformation Project (CSAT)

Annual Work Plan and Budget for 2022 (DRAFT)

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (VND)	Unit Cost (US$)	2022 Total base cost (US$)	Budget (US$)						
		Q 1	Q 2	Q 3	Q 4							2022 Budget Plan including contingencies (US$)	Budget category	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	1. Roads											-						
2.1.1.1	Construction					PPMU	km		1,878,000,000	81,197	#VALUE!	#VALUE!		-	-	#VALUE!	#VALUE!	
2.1.1.2	Design, supervision and other			x	x	PPMU	km	25	258,000,000	11,155	#VALUE!	#VALUE!		#VALUE!		#VALUE!		
	Subtotal										**#VALUE!**	**#VALUE!**	**-**	**#VALUE!**	**-**	**#VALUE!**	**#VALUE!**	**-**
	2. Water infrastructure											-						
2.1.2.1	Construction					PPMU	Hectare		15,900,000	687	-	-		-	-	-	-	
2.1.2.2	Design, supervision and other			x	x	PPMU	Hectare	1 500	2,210,000	96	144 000	144 000		130 909		13 091		
	Subtotal										**144 000**	**144 000**	**-**	**130 909**	**-**	**13 091**	**-**	**-**
	3. Other											-						
2.1.3.1	Construction					PPMU	Lumpsum		73,000,000,000	3,156,211	#VALUE!	#VALUE!		-	-	#VALUE!	#VALUE!	
2.1.3.2	Design, supervision and other			x	x	PPMU	Lumpsum	0.25	10,220,000,000	441,870	#VALUE!	#VALUE!		#VALUE!		#VALUE!		
	Subtotal										**#VALUE!**	**#VALUE!**	**-**	**#VALUE!**	**-**	**#VALUE!**	**#VALUE!**	**-**
	Total Investment Costs										**#VALUE!**	**#VALUE!**	**-**	**#VALUE!**	**-**	**#VALUE!**	**#VALUE!**	**-**
	II. Recurrent Costs											-						
	A. Tra Vinh, operations and maintenance of infrastructure											-						
2.1.4.1	1. Roads					Commune	km	-	53,410,000	2,309	#VALUE!	#VALUE!						
2.1.4.2	2. Water infrastructures					WUGs	Hectare	-	500,000	22	-	-						
2.1.4.3	3. Other infrastructures					User groups	lumpsum	-	4,830,000,000	208,829	#VALUE!	#VALUE!						
	Subtotal										**#VALUE!**	**#VALUE!**	**-**	**-**	**-**	**-**	**-**	**-**
	B. Ben Tre, operations and maintenance of infrastructure											-						
2.1.4.1	1. Roads					Commune	km	-	53,410,000	2,309	#VALUE!	#VALUE!						
2.1.4.2	2. Water infrastructures					WUGs	Hectare	-	500,000	22	-	-						
2.1.4.3	3. Other infrastructures					User groups	lumpsum	-	3,650,000,000	157,811	#VALUE!	#VALUE!						
	Total										**#VALUE!**	**#VALUE!**	**-**	**#VALUE!**	**-**	**#VALUE!**	**#VALUE!**	**-**
	2.2. Rural finance services support value chain development.																	
	I. Investment Costs																	
	A. Tra Vinh																	
	1. Enhance access to finance for producers and SMEs																	
2.2.1.1	Meetings,workshops at provincial, district, commune levels /a		x	x		PPMU	lumpsum	2	11,564,500	500	1000	1 020				1 020		
2.2.1.2	Study tours and cross visits			x		PPMU	unit	1	57,822,500	2,500	#VALUE!	2 550				2 550		
2.2.1.3	Technical assistance and studies /b	x	x			PPMU	Lumpsum	1	69,387,000	3,000	#VALUE!	3 060				3 060		
2.2.1.4	Publications, manuals, agrements, brochures, newspaper, radio programmes, etc.	x	x	x	x	PPMU	Lumpsum per yea	1	23,129,000	1,000	#VALUE!	1 014				1 014		
2.2.1.5	Support to establishment, consolidation, and strengthenning of SCGs/CIGs	x	x	x	x	WDF/ FSF	lumpsym	1	161,903,000	7,000	#VALUE!	7 140				7 140		
2.2.1.6	Women Development Fund, individual loans through SCG /c		x	x	x	WDF	Loan	-	30,067,700	1,300	#VALUE!	-				-		
2.2.1.7	Women Development Fund, SME loans /d		x	x	x	WDF	Loan	-	161,903,000	7,000	#VALUE!	-				-		
2.2.1.8	Farmer Support Fund /e		x	x	x	FSF	Loan	-	20,816,100	900	0	-				-		
2.2.1.9	SME support fund /f		x	x	x	DOTI (TV)	Grant	-	323,806,000	14,000	#VALUE!	-				-		
	Subtotal										**#VALUE!**	**14 784**	**-**	**-**	**-**	**14 784**	**-**	**-**
	2. Mobilise VC finance for enterprises										0					-		
2.2.2.1	Meetings,workshops at provincial, district, commune levels /g	x	x	x	x	PPMU	Lumpsum	1	11,564,500	500	500	510				510		
2.2.2.2	Study tours and cross visits			x	x	PPMU	Lumpsum	1	46,258,000	2,000	#VALUE!	2 040				2 040		
2.2.2.3	Technical assistance and studies /h	x	x	x		PPMU	Unit	1	6,938,700	300	300	306				306		
2.2.2.4	Publications, brochures, newspapers, radio programme	x	x	x	x	PPMU	Lumpsum	1	23,129,000	1,000	#VALUE!	1 014				1 014		
2.2.2.5	Enterprise loans from the Dutch Fund for Climate Change and Development /i			x	x	DFCD	Loan	1	115,645,000,000	5,000,000	#VALUE!	5 000 000						5 000 000
	Subtotal										**#VALUE!**	**5 003 870**	**-**	**-**	**-**	**3 870**	**-**	**5 000 000**
	Subtotal										**#VALUE!**	**5 018 655**	**-**	**-**	**-**	**18 655**	**-**	**5 000 000**
	B. Ben Tre										0							
	1. Enhance access to finance for producers and SMEs										0							
2.2.1.1	Meetings,workshops at provincial, district, commune levels /j		x	x		PPMU	lumpsum	2	11,564,500	500	1000	1 020				1 020		
2.2.1.2	Study tours and cross visits			x		PPMU	unit	1	57,822,500	2,500	#VALUE!	2 550				2 550		
2.2.1.3	Technical assistance and studies /k	x	x			PPMU	Lumpsum	1	69,387,000	3,000	#VALUE!	3 060				3 060		
2.2.1.4	Publications, manuals, agrements, brochures, newspaper, radio programmes, etc.	x	x	x	x	PPMU	Lumpsum per yea	1	23,129,000	1,000	#VALUE!	1 014				1 014		
2.2.1.5	Support to establishment, consolidation, and strengthenning of SCGs/CIGs	x	x	x	x	WDF/ FSF	lumpsym	1	161,903,000	7,000	#VALUE!	7 140				7 140		
2.2.1.6	Women Development Fund, individual loans through SCG /l		x	x	x	WDF	Loan	-	30,067,700	1,300	#VALUE!	-				-		
2.2.1.7	Women Development Fund, SME loans /m		x	x	x	WDF	Loan	-	161,903,000	7,000	#VALUE!	-				-		
2.2.1.8	Farmer Support Fund /n		x	x	x	FSF	Loan	-	20,816,100	900	0	-				-		
2.2.1.9	Start-up Support Fund /o		x	x	x	DPI (BT)	Grant	-	104,080,500	4,500	#VALUE!	-				-		
	Subtotal										**#VALUE!**	**14 784**	**-**	**-**	**-**	**14 784**	**-**	**-**
	2. Mobilise VC finance for enterprises										0					-		
2.2.2.1	Meetings,workshops at provincial, district, commune levels /p	x	x	x	x	PPMU	Lumpsum	1	11,564,500	500	500	510				510		
2.2.2.2	Study tours and cross visits			x	x	PPMU	Lumpsum	1	46,258,000	2,000	#VALUE!	2 040				2 040		
2.2.2.3	Technical assistance and studies /q	x	x	x		PPMU	Unit	1	6,938,700	300	300	306				306		
2.2.2.4	Publications, brochures, newspapers, radio programme	x	x	x	x	PPMU	Lumpsum	1	23,129,000	1,000	#VALUE!	1 014				1 014		
2.2.2.5	Enterprise loan from the Dutch Fund for Climate Change and Development /r			x	x	DFCD	Loan	1	115,645,000,000	5,000,000	#VALUE!	5 000 000						5 000 000
	Subtotal										**#VALUE!**	**5 003 870**	**-**	**-**	**-**	**3 870**	**-**	**5 000 000**
	Subtotal										**#VALUE!**	**5 018 655**	**-**	**-**	**-**	**18 655**	**-**	**5 000 000**
	Total										**#VALUE!**	**10 037 310**	**-**	**-**	**-**	**37 310**	**-**	**10 000 000**
	2.3. Majority of farmers adopt climate smart agriculture (CSA) along the value chains.																	
	I. Investment Costs																	
	A. Tra Vinh																	
	1. Support to CSA identification and selection processes																	
2.3.1.1	Support to CSA identification and selection processes	x	x	x		PPMU	Lumpsum	1	69,387,000	3,000	#VALUE!	3 060				3 060		
2.3.1.2	Study tours and cross visits			x	x	PPMU	Unit	1	46,258,000	2,000	#VALUE!	2 040				2 040		
2.3.1.3	CSA packaging /a		x	x	x	PPMU	lumpsum	1	80,951,500	3,500	#VALUE!	3 551				3 551		
	Subtotal										**#VALUE!**	**8 651**	**-**	**-**	**-**	**8 651**	**-**	**-**
	2. CSA dissemination										0					-		
2.3.2.1	Meetings,workshops at provincial, district, commune levels for CSA dissemination	x	x	x	x	PPMU	Lumpsum	8	11,564,500	500	4000	4 080				4 080		
	3. CSA investments										0					-		
2.3.3.1	Technical support to CSA investments (CIG administration, techniques for CSA, CSA repliation, ac	x	x	x		PPMU	Package	1	254,419,000	11,000	#VALUE!	11 220				11 220		

Climates Smart Agriculture and Transformation Project (CSAT)

Annual Work Plan and Budget for 2022 (DRAFT)

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (VND)	Unit Cost (US$)	2022 Total base cost (US$)	Budget (US$)						
		Q 1	Q 2	Q 3	Q 4							2022 Budget Plan including contingencies (US$)	Budget category	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
2.3.3.2	CSA monitoring and updates	x	x	x	x	PPMU	Package	-	69,387,000	3,000	#VALUE!	-				-		
	Subtotal										**#VALUE!**	**11 220**	**-**	**-**	**-**	**11 220**	**-**	**-**
	Subtotal										**#VALUE!**	**23 951**	**-**	**-**	**-**	**23 951**	**-**	**-**
	B. Ben Tre										0					-		
	1. Support to CSA identification and selection processes										0					-		
2.3.1.1	Support to CSA identification and selection processes	x	x	x		PPMU	Lumpsum	1	69,387,000	3,000	#VALUE!	3 060				3 060		
2.3.1.2	Study tours and cross visits			x	x	PPMU	Unit	1	46,258,000	2,000	#VALUE!	2 040				2 040		
2.3.1.3	CSA packaging /b		x	x	x	PPMU	lumpsum	1	80,951,500	3,500	#VALUE!	3 551				3 551		
	Subtotal										**#VALUE!**	**8 651**	**-**	**-**	**-**	**8 651**	**-**	**-**
	2. CSA dissemination										0					-		
2.3.2.1	Meetings,workshops at provincial, district, commune levels for CSA dissemination	x	x	x	x	PPMU	Lumpsum	8	11,564,500	500	4000	4 080				4 080		
	3. CSA investments										0					-		
2.3.3.1	Technical support to CSA investments (CIG administration, techniques for CSA, CSA repliation, ac	x	x	x		PPMU	Package	1	254,419,000	11,000	#VALUE!	11 220				11 220		
2.3.3.2	CSA monitoring and updates	x	x	x	x	PPMU	Package	-	69,387,000	3,000	#VALUE!	-				-		
	Subtotal										**#VALUE!**	**11 220**	**-**	**-**	**-**	**11 220**	**-**	**-**
	Subtotal										**#VALUE!**	**23 951**	**-**	**-**	**-**	**23 951**	**-**	**-**
	Total										**#VALUE!**	**47 901**	**-**	**-**	**-**	**47 901**	**-**	**-**
	Component 3 - Project Coordination and Management										**#VALUE!**	**1 531 548**	**-**	**-**	**-**	**1 531 548**	**-**	**-**
	Table 3.1. Coordination and management																	
	I. Investment Costs																	
	A. Tra Vinh																	
	1. Audit																	
3.1.1.1	Audit				x	PPMU	Units	1	346,935,000	15,000	#VALUE!	15 000				15 000		
	2. Office equipment, 6550										0					-		
3.1.2.1	Stationary /a	x	x	x	x	PPMU	umpsum per mon	12	5,500,000	238	2856	2 854				2 854		
3.1.2.2	Office equipment /b	x	x	x	x	PPMU	umpsum per mon	12	2,300,000	99	1188	1 193				1 193		
3.1.2.3	Others /c	x	x	x	x	PPMU	Lumpsum per yea	12	5,200,000	225	2700	2 698				2 698		
	Subtotal										**6 744**	**6 745**	**-**	**-**	**-**	**6 745**	**-**	**-**
	3. Purchase of project management, 9050										0					-		
3.1.3.1	Specialised technical equipment	x	x			PPMU	Lumpsum per yea	50	20,000,000	865	43250	43 236				43 236		
3.1.3.2	Air conditioners	x	x			PPMU	Unit	40	10,000,000	432	17280	17 294				17 294		
3.1.3.3	Computer equipment	x	x			PPMU	Unit	50	5,000,000	216	10800	10 809				10 809		
	Subtotal										**71 330**	**71 339**	**-**	**-**	**-**	**71 339**	**-**	**-**
	Subtotal										**#VALUE!**	**93 084**	**-**	**-**	**-**	**93 084**	**-**	**-**
	B. Ben Tre										0					-		
	1. Audit										0					-		
3.1.1.1	Audit				x	PPMU	Units	1	346,935,000	15,000	#VALUE!	15 000				15 000		
	2. Office equipment, 6550										0					-		
3.1.2.1	Stationary /d	x	x	x	x	PPMU	umpsum per mon	12	5,500,000	238	2856	2 854				2 854		
3.1.2.2	Office equipment /e	x	x	x	x	PPMU	umpsum per mon	12	2,300,000	99	1188	1 193				1 193		
3.1.2.3	Others /f	x	x	x	x	PPMU	Lumpsum per yea	12	5,200,000	225	2700	2 698				2 698		
	Subtotal										**6 744**	**6 745**	**-**	**-**	**-**	**6 745**	**-**	**-**
	3. Purchase of project management, 9050										0					-		
3.1.3.1	Specialised technical equipment	x	x			PPMU	Lumpsum per yea	50	20,000,000	865	43250	43 236				43 236		
3.1.3.2	Air conditioners	x	x			PPMU	Unit	40	10,000,000	432	17280	17 294				17 294		
3.1.3.3	Computer equipment	x	x			PPMU	Unit	50	5,000,000	216	10800	10 809				10 809		
	Subtotal										**71 330**	**71 339**	**-**	**-**	**-**	**71 339**	**-**	**-**
	Subtotal										**#VALUE!**	**93 084**	**-**	**-**	**-**	**93 084**	**-**	**-**
	Total Investment Costs										**#VALUE!**	**186 168**	**-**	**-**	**-**	**186 168**	**-**	**-**
	II. Recurrent Costs																	
	A. Tra Vinh																	
	1. Salaries and allowance /g																	
	a. Full time officers at provincial level /h																	
3.1.4.1	Director	x	x	x	x	PPMU	Per month	12	22,400,000	968	11 616	11 622				11 622		
3.1.4.2	Vice directors	x	x	x	x	PPMU	Per month	24	22,400,000	968	23 232	23 244				23 244		
3.1.4.3	Administrative staff	x	x	x	x	PPMU	Per month	24	17,600,000	761	18 264	18 263				18 263		
3.1.4.4	Chief accountant	x	x	x	x	PPMU	Per month	12	22,400,000	968	11 616	11 622				11 622		
3.1.4.5	Accountants	x	x	x	x	PPMU	Per month	36	16,000,000	692	24 912	24 904				24 904		
3.1.4.6	Cashier	x	x	x	x	PPMU	Per month	12	16,000,000	692	8 304	8 301				8 301		
3.1.4.7	M&E staff	x	x	x	x	PPMU	Per month	36	16,000,000	692	24 912	24 904				24 904		
3.1.4.8	Strategic management staff	x	x	x	x	PPMU	Per month	156	16,000,000	692	107 952	107 916				107 916		
	Subtotal										**230 808**	**230 775**	**-**	**-**	**-**	**230 775**	**-**	**-**
	b. Full-time officers at district level /i										-					-		
3.1.4.9	Coordinators	x	x	x	x	PPMU	Per month	216	12,000,000	519	112 104	112 067				112 067		
3.1.4.10	District accountants	x	x	x	x	PPMU	Per month	108	12,000,000	519	56 052	56 034				56 034		
	Subtotal										**168 156**	**168 101**	**-**	**-**	**-**	**168 101**	**-**	**-**
	c. Part-time officers (project supporting departments) /j										-					-		
3.1.4.11	Departments	x	x	x	x	PPMU	Per month	312	3,360,000	145	45 240	45 325				45 325		
3.1.4.12	Heads of PMUs	x	x	x	x	PPMU	Per month	108	3,360,000	145	15 660	15 689				15 689		
3.1.4.13	Cashiers (full time)	x	x	x	x	PPMU	Per month	108	2,400,000	104	11 232	11 207				11 207		
	Subtotal										**72 132**	**72 221**	**-**	**-**	**-**	**72 221**	**-**	**-**
	Subtotal										**471 096**	**471 097**	**-**	**-**	**-**	**471 097**	**-**	**-**
	2. Contributions (social insurance, health insurance etc...)										-					-		
	a. Full time officers at provincial level /k										-					-		
3.1.5.1	Director	x	x	x	x	PPMU	Per month	12	4,928,000	213	2 556	2 557				2 557		
3.1.5.2	Vice directors	x	x	x	x	PPMU	Per month	24	4,928,000	213	5 112	5 114				5 114		
3.1.5.3	Administrative staff	x	x	x	x	PPMU	Per month	24	3,872,000	167	4 008	4 018				4 018		
3.1.5.4	Chief accountant	x	x	x	x	PPMU	Per month	12	4,928,000	213	2 556	2 557				2 557		

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		Q 1	Q 2	Q 3	Q 4							2022 Budget Plan including contingencies (US$)	Budget category	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
3.1.5.5	Accountants	x	x	x	x	PPMU	Per month	36	3,520,000	152	5 472	5 479				5 479		
3.1.5.6	Cashier	x	x	x	x	PPMU	Per month	12	3,520,000	152	1 824	1 826				1 826		
3.1.5.7	M&E staff	x	x	x	x	PPMU	Per month	36	3,520,000	152	5 472	5 479				5 479		
3.1.5.8	Strategic management staff	x	x	x	x	PPMU	Per month	156	3,520,000	152	23 712	23 742				23 742		
	Subtotal										**50 712**	**50 771**	**-**	**-**	**-**	**50 771**	**-**	**-**
	3. Public service costs, 6500 (i.e. utilitie)										-					-		
3.1.6.1	Electricity	x	x	x	x	PPMU	umpsum per mont	12	5,500,000	238	2 856	2 854				2 854		
3.1.6.2	Water	x	x	x	x	PPMU	umpsum per mont	12	500,000	22	264	259				259		
3.1.6.3	Fuel	x	x	x	x	PPMU	umpsum per mont	12	3,000,000	130	1 560	1 556				1 556		
3.1.6.4	Environment sanitation	x	x	x	x	PPMU	Lumpsum per yea	1	3,000,000	130	130	130				130		
3.1.6.5	Others	x	x	x	x	PPMU	Lumpsum per yea	1	6,000,000	259	259	259				259		
	Subtotal										**5 069**	**5 059**	**-**	**-**	**-**	**5 059**	**-**	**-**
	4. Communications, propaganda and information, 6600										-					-		
3.1.7.1	Telephone and fax	x	x	x	x	PPMU	umpsum per mont	12	2,800,000	121	1 452	1 453				1 453		
3.1.7.2	Post services	x	x	x	x	PPMU	umpsum per mont	12	1,500,000	65	780	778				778		
3.1.7.3	Internet	x	x	x	x	PPMU	umpsum per mont	12	2,400,000	104	1 248	1 245				1 245		
3.1.7.4	Media publications	x	x	x	x	PPMU	lumpsum per year	1	1,000,000	43	43	43				43		
3.1.7.5	Mobile phones	x	x	x	x	PPMU	umpsum per mont	12	350,000	15	180	182				182		
	Subtotal										**3 703**	**3 701**	**-**	**-**	**-**	**3 701**	**-**	**-**
	5. Meetings, 6650										-					-		
3.1.8.1	Printing for meetings /l	x	x	x	x	PPMU	Per person	100	10,000	#VALUE!	#VALUE!	43				43		
3.1.8.2	Meals, tea breaks /m	x	x	x	x	PPMU	Per person	100	200,000	9	900	865				865		
3.1.8.3	Others	x	x	x	x	PPMU	Lumpsum	4	500,000	22	88	86				86		
	Subtotal	**x**	**x**	**x**	**x**						**#VALUE!**	**994**	**-**	**-**	**-**	**994**	**-**	**-**
	6. Per diem (i.e. travel), 6700										-					-		
3.1.9.1	Airplane tickets	x	x	x	x	PPMU	umpsum per mont	12	6,000,000	259	3 108	3 113				3 113		
3.1.9.2	Working trip allowance	x	x	x	x	PPMU	umpsum per mont	12	8,000,000	346	4 152	4 151				4 151		
3.1.9.3	Accomodation	x	x	x	x	PPMU	umpsum per mont	12	2,000,000	86	1 032	1 038				1 038		
3.1.9.4	Fixed costs norms	x	x	x	x	PPMU	umpsum per mont	12	14,500,000	627	7 524	7 523				7 523		
3.1.9.5	Others	x	x	x	x	PPMU	umpsum per mont	12	2,000,000	86	1 032	1 038				1 038		
	Subtotal										**16 848**	**16 862**	**-**	**-**	**-**	**16 862**	**-**	**-**
	7. Rental costs, 6750										-					-		
3.1.10.1	Office, land	x	x	x	x	PPMU	Lumpsum	1	100,000,000	4,324	#VALUE!	4 324				4 324		
3.1.10.2	Domestic experts and trainers	x	x	x	x	PPMU	Lumpsum	1	50,000,000	2,162	#VALUE!	2 162				2 162		
3.1.10.3	Domestic labour	x	x	x	x	PPMU	umpsum per quart	4	30,000,000	1,297	#VALUE!	5 188				5 188		
	Subtotal										**#VALUE!**	**11 674**	**-**	**-**	**-**	**11 674**	**-**	**-**
	8. Asset maintainance from regular costs, 6900										-					-		
3.1.11.1	Car maintenance	x	x	x	x	PPMU	Lumpsum per yea	4	30,000,000	1,297	#VALUE!	5 188				5 188		
3.1.11.2	Maintenance of assets and specialised equipment	x	x	x	x	PPMU	Lumpsum per yea	1	10,000,000	432	432	432				432		
3.1.11.3	IT equipment maintenance	x	x	x	x	PPMU	Lumpsum per yea	1	50,000,000	2,162	#VALUE!	2 162				2 162		
3.1.11.4	Assets and office equipment mainenance	x	x	x	x	PPMU	Lumpsum per yea	1	50,000,000	2,162	#VALUE!	2 162				2 162		
3.1.11.5	Power lines, water supply and drainage	x	x	x	x	PPMU	Lumpsum per yea	1	37,500,000	1,621	#VALUE!	1 621				1 621		
	Subtotal										**#VALUE!**	**11 566**	**-**	**-**	**-**	**11 566**	**-**	**-**
	9. Professional expenses of each unit, 7000										-					-		
3.1.12.1	Printing	x	x	x	x	PPMU	umpsum per mont	12	4,000,000	173	2 076	2 075				2 075		
	10. Others, 7750										-					-		
3.1.13.1	Fees and charges of the unit that prepares the cost estimation	x	x	x	x	PPMU	Lumpsum per yea	1	10,000,000	432	432	432				432		
3.1.13.2	Assets & vehicle insurance of units that prepares cost estimation	x	x	x	x	PPMU	Lumpsum per yea	1	50,000,000	2,162	#VALUE!	2 162				2 162		
3.1.13.3	Cost to receive and work with delegations	x	x	x	x	PPMU	umpsum per mont	12	8,500,000	368	4 416	4 410				4 410		
3.1.13.4	Others	x	x	x	x	PPMU	umpsum per mont	12	10,000,000	432	5 184	5 188				5 188		
	Subtotal										**#VALUE!**	**12 192**	**-**	**-**	**-**	**12 192**	**-**	**-**
	Subtotal										**#VALUE!**	**585 990**	**-**	**-**	**-**	**585 990**	**-**	**-**
	B. Ben Tre										-					-		
	1. Salaries and allowance /n										-					-		
	a. Full time officers at provincial level /o										-					-		
3.1.4.1	Director	x	x	x	x	PPMU	Per month	12	22,400,000	968	11 616	11 622				11 622		
3.1.4.2	Vice directors	x	x	x	x	PPMU	Per month	24	22,400,000	968	23 232	23 244				23 244		
3.1.4.3	Administrative staff	x	x	x	x	PPMU	Per month	24	17,600,000	761	18 264	18 263				18 263		
3.1.4.4	Chief accountant	x	x	x	x	PPMU	Per month	12	22,400,000	968	11 616	11 622				11 622		
3.1.4.5	Accountants	x	x	x	x	PPMU	Per month	36	16,000,000	692	24 912	24 904				24 904		
3.1.4.6	Cashier	x	x	x	x	PPMU	Per month	12	16,000,000	692	8 304	8 301				8 301		
3.1.4.7	M&E staff	x	x	x	x	PPMU	Per month	36	16,000,000	692	24 912	24 904				24 904		
3.1.4.8	Strategic management staff	x	x	x	x	PPMU	Per month	156	16,000,000	692	107 952	107 916				107 916		
	Subtotal										**230 808**	**230 775**	**-**	**-**	**-**	**230 775**	**-**	**-**
	b. Full-time officers at district level /p										-					-		
3.1.4.9	Coordinators	x	x	x	x	PPMU	Per month	216	12,000,000	519	112 104	112 067				112 067		
3.1.4.10	District accountants	x	x	x	x	PPMU	Per month	108	12,000,000	519	56 052	56 034				56 034		
	Subtotal										**168 156**	**168 101**	**-**	**-**	**-**	**168 101**	**-**	**-**
	c. Part-time officers (project supporting departments) /q										-					-		
3.1.4.11	Departments	x	x	x	x	PPMU	Per month	312	3,360,000	145	45 240	45 325				45 325		
3.1.4.12	Heads of PMUs	x	x	x	x	PPMU	Per month	108	3,360,000	145	15 660	15 689				15 689		
3.1.4.13	Cashiers (full time)	x	x	x	x	PPMU	Per month	108	2,400,000	104	11 232	11 207				11 207		
	Subtotal										**72 132**	**72 221**	**-**	**-**	**-**	**72 221**	**-**	**-**
	Subtotal										**471 096**	**471 097**	**-**	**-**	**-**	**471 097**	**-**	**-**
	2. Contributions (social insurance, health insurance etc...)										-					-		
	a. Full time officers at provincial level /r										-					-		
3.1.5.1	Director	x	x	x	x	PPMU	Per month	12	4,928,000	213	2 556	2 557				2 557		
3.1.5.2	Vice directors	x	x	x	x	PPMU	Per month	24	4,928,000	213	5 112	5 114				5 114		
3.1.5.3	Administrative staff	x	x	x	x	PPMU	Per month	24	3,872,000	167	4 008	4 018				4 018		

Climates Smart Agriculture and Transformation Project (CSAT)

Annual Work Plan and Budget for 2022 (DRAFT)

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (VND)	Unit Cost (US$)	2022 Total base cost (US$)	Budget (US$)						
		Q 1	Q 2	Q 3	Q 4							2022 Budget Plan including contingencies (US$)	Budget category	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
3.1.5.4	Chief accountant	x	x	x	x	PPMU	Per month	12	4,928,000	213	2 556	2 557				2 557		
3.1.5.5	Accountants	x	x	x	x	PPMU	Per month	36	3,520,000	152	5 472	5 479				5 479		
3.1.5.6	Cashier	x	x	x	x	PPMU	Per month	12	3,520,000	152	1 824	1 826				1 826		
3.1.5.7	M&E staff	x	x	x	x	PPMU	Per month	36	3,520,000	152	5 472	5 479				5 479		
3.1.5.8	Strategic management staff	x	x	x	x	PPMU	Per month	156	3,520,000	152	23 712	23 742				23 742		
	Subtotal										**50 712**	**50 771**	**-**	**-**	**-**	**50 771**	**-**	**-**
	3. Public service costs, 6500 (i.e. utilitie)										-	-				-		
3.1.6.1	Electricity	x	x	x	x	PPMU	umpsum per mont	12	5,500,000	238	2 856	2 854				2 854		
3.1.6.2	Water	x	x	x	x	PPMU	umpsum per mont	12	500,000	22	264	259				259		
3.1.6.3	Fuel	x	x	x	x	PPMU	umpsum per mont	12	3,000,000	130	1 560	1 556				1 556		
3.1.6.4	Environment sanitation	x	x	x	x	PPMU	Lumpsum per yea	1	3,000,000	130	130	130				130		
3.1.6.5	Others	x	x	x	x	PPMU	Lumpsum per yea	1	6,000,000	259	259	259				259		
	Subtotal										**5 069**	**5 059**	**-**	**-**	**-**	**5 059**	**-**	**-**
	4. Communications, propaganda and information, 6600										-	-				-		
3.1.7.1	Telephone and fax	x	x	x	x	PPMU	umpsum per mont	12	2,800,000	121	1 452	1 453				1 453		
3.1.7.2	Post services	x	x	x	x		lumpsum per mont	12	1,500,000	65	780	778				778		
3.1.7.3	Internet	x	x	x	x		lumpsum per mont	12	2,400,000	104	1 248	1 245				1 245		
3.1.7.4	Media publications	x	x	x	x		lumpsum per year	1	1,000,000	43	43	43				43		
3.1.7.5	Mobile phones	x	x	x	x		lumpsum per mont	12	350,000	15	180	182				182		
	Subtotal										**3 703**	**3 701**	**-**	**-**	**-**	**3 701**	**-**	**-**
	5. Meetings, 6650										-	-				-		
3.1.8.1	Printing for meetings /s	x	x	x	x	PPMU	Per person	100	10,000	#VALUE!	#VALUE!	43				43		
3.1.8.2	Meals, tea breaks /t	x	x	x	x	PPMU	Per person	100	200,000	9	900	865				865		
3.1.8.3	Others	x	x	x	x	PPMU	Lumpsum	4	500,000	22	88	86				86		
	Subtotal	**x**	**x**	**x**	**x**						**#VALUE!**	**994**	**-**	**-**	**-**	**994**	**-**	**-**
	6. Per diem (i.e. travel), 6700										-	-				-		
3.1.9.1	Airplane tickets	x	x	x	x	PPMU	umpsum per mont	12	6,000,000	259	3 108	3 113				3 113		
3.1.9.2	Working trip allowance	x	x	x	x	PPMU	umpsum per mont	12	8,000,000	346	4 152	4 151				4 151		
3.1.9.3	Accomodation	x	x	x	x	PPMU	umpsum per mont	12	2,000,000	86	1 032	1 038				1 038		
3.1.9.4	Fixed costs norms	x	x	x	x	PPMU	umpsum per mont	12	14,500,000	627	7 524	7 523				7 523		
3.1.9.5	Others	x	x	x	x	PPMU	umpsum per mont	12	2,000,000	86	1 032	1 038				1 038		
	Subtotal										**16 848**	**16 862**	**-**	**-**	**-**	**16 862**	**-**	**-**
	7. Rental costs, 6750										-	-				-		
3.1.10.1	Office, land	x	x	x	x	PPMU	Lumpsum	1	100,000,000	4,324	#VALUE!	4 324				4 324		
3.1.10.2	Domestic experts and trainers	x	x	x	x	PPMU	Lumpsum	1	50,000,000	2,162	#VALUE!	2 162				2 162		
3.1.10.3	Domestic labour	x	x	x	x	PPMU	umpsum per quart	4	30,000,000	1,297	#VALUE!	5 188				5 188		
	Subtotal										**#VALUE!**	**11 674**	**-**	**-**	**-**	**11 674**	**-**	**-**
	8. Asset maintainance from regular costs, 6900										-	-				-		
3.1.11.1	Car maintenance	x	x	x	x	PPMU	Lumpsum per yea	4	30,000,000	1,297	#VALUE!	5 188				5 188		
3.1.11.2	Maintenance of assets and specialised equipment	x	x	x	x	PPMU	Lumpsum per yea	1	10,000,000	432	432	432				432		
3.1.11.3	IT equipment maintenance	x	x	x	x	PPMU	Lumpsum per yea	1	50,000,000	2,162	#VALUE!	2 162				2 162		
3.1.11.4	Assets and office equipment mainenance	x	x	x	x	PPMU	Lumpsum per yea	1	50,000,000	2,162	#VALUE!	2 162				2 162		
3.1.11.5	Power lines, water supply and drainage	x	x	x	x	PPMU	Lumpsum per yea	1	37,500,000	1,621	#VALUE!	1 621				1 621		
	Subtotal										**#VALUE!**	**11 566**	**-**	**-**	**-**	**11 566**	**-**	**-**
	9. Professional expenses of each unit, 7000										-	-				-		
3.1.12.1	Printing	x	x	x	x	PPMU	umpsum per mont	12	4,000,000	173	2 076	2 075				2 075		
	10. Others, 7750										-	-				-		
3.1.13.1	Fees and charges of the unit that prepares the cost estimation	x	x	x	x	PPMU	Lumpsum per yea	1	10,000,000	432	432	432				432		
3.1.13.2	Assets & vehicle insurance of units that prepares cost estimation	x	x	x	x	PPMU	Lumpsum per yea	1	50,000,000	2,162	#VALUE!	2 162				2 162		
3.1.13.3	Cost to receive and work with delegations	x	x	x	x	PPMU	umpsum per mont	12	8,500,000	368	4 416	4 410				4 410		
3.1.13.4	Others	x	x	x	x	PPMU	umpsum per mont	12	10,000,000	432	5 184	5 188				5 188		
	Subtotal										**#VALUE!**	**12 192**	**-**	**-**	**-**	**12 192**	**-**	**-**
	Subtotal										**#VALUE!**	**585 990**	**-**	**-**	**-**	**585 990**	**-**	**-**
	Total Recurrent Costs										**#VALUE!**	**1 171 981**	**-**	**-**	**-**	**1 171 981**	**-**	**-**
	Total										**#VALUE!**	**1 358 148**	**-**	**-**	**-**	**1 358 148**	**-**	**-**
	3.2. Management capacity building and technical assistance																	
	I. Investment Costs																	
	A. Tra Vinh and Ben Tre																	
	1. Monitoring and Evaluation TA and studies																	
3.2.1.1	Project baseline survey		x	x		PPMU	Unit	1	693,870,000	30,000	#VALUE!	30 600				30 600		
3.2.1.2	Mid-term review survey					PPMU	Unit	-	693,870,000	30,000	#VALUE!	-				-		
3.2.1.3	Impact survey					PPMU	Unit	-	925,160,000	40,000	#VALUE!	-				-		
3.2.1.4	other thematic studies			x	x	PPMU	Lumpsum	2	115,645,000	5,000	#VALUE!	10 200				10 200		
3.2.1.5	Set up of Management Information System		x	x		PPMU	Lumpsum	1	346,935,000	15,000	#VALUE!	15 300				15 300		
	Subtotal										**#VALUE!**	**56 100**	**-**	**-**	**-**	**56 100**	**-**	**-**
	2. Technical Assistance										0	-				-		
3.2.2.1	Technical assistance for M&E set-up		x	x		PPMU	lumpsum	1	231,290,000	10,000	#VALUE!	10 200				10 200		
3.2.2.2	TA for revision of M&E system at MTR					PPMU	lumpsum	-	161,903,000	7,000	#VALUE!	-				-		
3.2.2.3	TA for gender and youth targeting, and social inclusion		x	x		PPMU	Monthly	4	69,387,000	3,000	#VALUE!	12 240				12 240		
3.2.2.4	Other TA	x	x	x	x	PPMU	lumpsum	0.25	462,580,000	20,000	#VALUE!	5 100				5 100		
	Subtotal										**#VALUE!**	**27 540**	**-**	**-**	**-**	**27 540**	**-**	**-**
	3. Trainings										0	-				-		
3.2.3.1	Training for monitoring and evaluation, including participation in the PRIME initiative, PMU		x	x		PPMU	lumpsum	1	231,290,000	10,000	#VALUE!	10 200				10 200		
3.2.3.2	M&E training, provincial and district level		x	x		PPMU	Per province	2	231,290,000	10,000	#VALUE!	20 400				20 400		
3.2.3.3	Training on project approach and management	x	x			PPMU	Lumpsum	2	115,645,000	5,000	#VALUE!	10 200				10 200		
3.2.3.4	Training on gender and youth targeting		x	x		PPMU	Lumpsum	2	115,645,000	5,000	#VALUE!	10 200				10 200		
	Subtotal										**#VALUE!**	**51 000**	**-**	**-**	**-**	**51 000**	**-**	**-**
	Total										**#VALUE!**	**134 640**	**-**	**-**	**-**	**134 640**	**-**	**-**
	3.3. Knowledge management communication and policy development																	

Climates Smart Agriculture and Transformation Project (CSAT)

Annual Work Plan and Budget for 2022 (DRAFT)

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (VND)	Unit Cost (US$)	2022 Total base cost (US$)	Budget (US$)						
		Q 1	Q 2	Q 3	Q 4							2022 Budget Plan including contingencies (US$)	Budget category	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	I. Investment Costs																	
	A. Tra Vinh and Ben Tre																	
	1. Knowledge management																	
3.3.1.1	Support for project website design		x	x		PPMU	days	20	4,625,800	200	4000	4 080				4 080		
3.3.1.2	Lumpsum for KM products or outreach	x	x	x	x	PPMU	for KM products o	5	69,387,000	3,000	#VALUE!	15 300				15 300		
3.3.1.3	Documentation on best practice for gender, youth and social inclusion targeting			x	x	PPMU	for KM products o	2	69,387,000	3,000	#VALUE!	6 120				6 120		
3.3.1.4	Thematic workshops for cross-provincial KM				x	PPMU	workshop	1	69,387,000	3,000	#VALUE!	3 060				3 060		
	Subtotal										**#VALUE!**	**28 560**	**-**	**-**	**-**	**28 560**	**-**	**-**
	2. Policy development										0					-		
3.3.2.1	Policy development engagement				x	PPMU	lumpsum	1	231,290,000	10,000	#VALUE!	10 200				10 200		
	Total										**#VALUE!**	**38 760**	**-**	**-**	**-**	**38 760**	**-**	**-**
	Total (all Subcomponents)										**#VALUE!**	**#VALUE!**	**-**	**#VALUE!**	**-**	**#VALUE!**	**#VALUE!**	**10 000 000**

IFAD
Investing in rural people

Viet Nam

Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Project Design Report

Annex 7: Procurement Plan for first 18 months

Document Date:	26/07/2021
Project No.	2000002335
Report No.	5735-VN

Asia and the Pacific Division
Programme Management Department

Procurement Plan SUMMARY

Country:	Vietnam
Project Name:	**Climate Smart Agriculture Transformation Project (CSAT)**
Project ID:	
Version	1.0
Version Date	23-Feb-21
Prepared by:	CSAT Design Mission Team
Approved by:	

Procurement Category	Plan		Actual	
Currency	USD	LCU	USD	LCU
Goods	184 844.00	-	-	-
Works	9 025 160.00	-	-	-
Consulting Services	3 047 617.00	-	-	-
Non-Consulting Services	-	-	-	-
TOTAL	12 257 621.00	-	-	-

Prior Review Thresholds

Thresholds	**Goods**	**Works**	**Firms - Consulting Services**	**Individuals - Consulting Services**
Prior Review	≥ US$ 90,000.00	≥ US$ 120,000.00	≥ US$ 40,000.00	≥ US$ 20,000.00

Procurement Method Thresholds

	Shopping	**NCB**	**ICB**
Goods	< US$ 90,000.00	≥ US$ 90,000.00	N.A
Works	< US$ 120,000.00	≥ US$ 120,000.00	N.A
Non-Consulting Services	< US$ 90,000.00	≥ US$ 120,000.00	N.A
	CQS	**QBS/LCS/FBS**	**QCBS**
Firms	< US$ 30,000.00	≥ US$ 30,000.00	> US$ 30,000.00

18-months Procurement Plan - Goods

Project ID:

Prepared by: CSAT Design Mission Team

Approved by:

	USD	LCU	
Total Amount	184 844.00	0.00	Plan
	0.00	0.00	Actual

Procurement Methods
NS: National Shopping
IS: International Shopping
NCB: National Competitive Bidding
ICB: International Competitive Bidding
LIB: Limited (International) Bidding
DC: Direct Contracting

Version	1.0	23-Feb-21	Basic Data											Pre-Qualification						Bidding Process				Bid Evaluation					Co		
AWPB/Component Ref	No	Description	Non Consulting	Funding	Lot No/Description	Project Area or Procuring Entity	Pre-or Post Qualification	Prior or Post Review	Procurement Method	Envelopes	Amount (USD)	Amount (LCU)	Plan vs. Actual	Submission of PreQual Docs	No Objection Date	PreQual Invitation Date	PreQual Closing Date	Submission of PreQual Report	No Objection Date	Submission of BD	No-objection Date	Bid Invitation Date	Bid Closing-Opening	Submission Tech Eval Rpt	No-objection Date	Submission Combined Eval Rpt*	No-objection Date	Plan vs. Actual	Issue of NOITA&Standstill	Date Contract Award	Date Contract Signature
		TRA VINH																													
1.1.1.11	TV-G01	Dissemination Provincial SEDP - publications, brochures, newspaper, radio programmes, etc		Gov	2	PPMU/DPI	Post-Qual	Post Review	DC	1	4 116.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Apr-22	22-Apr-22	23-Apr-22	7-May-22	N/A	N/A	14-May-22	21-May-22	Plan	21-May-22	28-May-22	30-May-22
											-	-	Actual															Actual			
1.1.2.5	TV-G02	Dissemination VCAP - publications, brochures, newspaper, radio programmes, etc.		Gov	2	PPMU	Post-Qual	Post Review	DC	1	2 058.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Jan-22	22-Jan-22	23-Jan-22	6-Feb-22	N/A	N/A	13-Feb-22	20-Feb-22	Plan	20-Feb-22	27-Feb-22	1-Mar-22
											-	-	Actual															Actual			
1.1.3.3	TV-G03	Development and dissemination of training and other documents		Gov	2	PEA/PPMU	Post-Qual	Post Review	DC	1	2 081.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Jul-22	22-Jul-22	23-Jul-22	6-Aug-22	N/A	N/A	13-Aug-22	20-Aug-22	Plan	20-Aug-22	27-Aug-22	29-Aug-22
											-	-	Actual															Actual			
2.2.1.4	TV-G04	Publications, manuals, agreements, brochures, newspaper, radio programmes, etc.		Gov	2	PPMU	Post-Qual	Post Review	DC	1	2 058.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Jan-22	22-Jan-22	23-Jan-22	6-Feb-22	N/A	N/A	13-Feb-22	20-Feb-22	Plan	20-Feb-22	27-Feb-22	1-Mar-22
											-	-	Actual															Actual			
2.2.2.4	TV-G05	Publications, brochures, newspapers, radio programme		Gov	2	PPMU/DPI	Post-Qual	Post Review	DC	1	2 058.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Jan-22	22-Jan-22	23-Jan-22	6-Feb-22	N/A	N/A	13-Feb-22	20-Feb-22	Plan	20-Feb-22	27-Feb-22	1-Mar-22
											-	-	Actual															Actual			
2.3.1.3	TV-G06	CSA packaging /a		Gov	2	PPMU	Post-Qual	Post Review	DC	1	2 058.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Apr-22	22-Apr-22	23-Apr-22	7-May-22	N/A	N/A	14-May-22	21-May-22	Plan	21-May-22	28-May-22	30-May-22
											-	-	Actual															Actual			
3.1.2.1	TV-G07	Stationaries/a		Gov	2	PPMU	Post-Qual	Post Review	DC	1	5 707.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Jan-22	22-Jan-22	23-Jan-22	6-Feb-22	N/A	N/A	13-Feb-22	20-Feb-22	Plan	20-Feb-22	27-Feb-22	1-Mar-22
											-	-	Actual															Actual			
3.1.2.2	TV-G08	Office equipment /b		Gov	2	PPMU	Post-Qual	Post Review	DC	1	2 387.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Jan-22	22-Jan-22	23-Jan-22	6-Feb-22	N/A	N/A	13-Feb-22	20-Feb-22	Plan	20-Feb-22	27-Feb-22	1-Mar-22
											-	-	Actual															Actual			
3.1.3.1	TV-G09	Specialised technical equipment		Gov	2	PPMU	Post-Qual	Post Review	NS	1	43 236.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Apr-22	N/A	16-Apr-22	30-Apr-22	N/A	N/A	7-May-22	N/A	Plan	7-May-22	9-May-22	11-May-22
											-	-	Actual															Actual			
3.1.3.2	TV-G10	Airconditioners		Gov	2	PPMU	Post-Qual	Post Review	NS	1	17 294.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Jan-22	N/A	16-Jan-22	30-Jan-22	N/A	N/A	6-Feb-22	N/A	Plan	6-Feb-22	8-Feb-22	10-Feb-22
											-	-	Actual															Actual			

18-months Procurement Plan - Goods

Vietnam

Climate Smart Agriculture Transformation Project (CSAT)

Project ID:

Prepared by: CSAT Design Mission Team

Approved by:

	USD	LCU	
Total Amount	9 025 160.00	0.00	Plan
	0.00	0.00	Actual
Non-Consulting:	0.00	0.00	Plan
	0.00	0.00	Actual

Procurement Methods
NS: National Shopping
IS: International Shopping
NCB: National Competitive Bidding
ICB: International Competitive Bidding
LIB: Limited (International) Bidding
DC: Direct Contracting

Version 1.0 23-Feb-21

			Basic Data												Bidding Process				Bid Evaluation							
AWPB/Component Ref	№	Description	Non Consulting	Funding	Lot №/Description	Project Area or Procuring Entity	Plan vs. Actual	Pre-or Post Qualification	Prior or Post Review	Procurement Method	Envelopes	Amount (USD)	Amount (LCU)	Plan vs. Actual	Submission of BD	No-objection Date	Bid Invitation Date	Bid Closing-Opening	Submission Tech Eval Rpt	No-objection Date	Submission Combined Eval Rpt*	No-objection Date	Plan vs. Actual	Issue of NOITA&Standstill	Date Contract Award	Date Contract Signature
		TRA VINH																								
2.1.1.1	TV-W01	Roads		IFAD/ Gov/ Beneficiaries	20	PPMU	Plan	Post-Qual	Prior Review	NCB	1	3 014 674.00		Plan	15-Jan-23	22-Jan-23	24-Jan-23	10-Mar-23	N/A	N/A	24-Mar-23	31-Mar-23	Plan	12-Apr-23	19-Apr-23	21-Apr-23
							Actual					-	-	Actual									Actual			
2.1.2.1	TV-W02	Water Infrastructures		IFAD/ Gov/ Beneficiaries	25	PPMU	Plan	Post-Qual	Prior Review	NCB	1	1 467 607.00		Plan	15-Jan-23	22-Jan-23	24-Jan-23	10-Mar-23	N/A	N/A	24-Mar-23	31-Mar-23	Plan	12-Apr-23	19-Apr-23	21-Apr-23
							Actual					-	-	Actual									Actual			
2.1.3.1	TV-W03	Other Climate Resilient Infrastructure		IFAD/ Gov/ Beneficiaries	Multi	PPMU	Plan	Post-Qual	Prior Review	NCB	1	969 174.00		Plan	15-Jan-23	22-Jan-23	24-Jan-23	10-Mar-23	N/A	N/A	24-Mar-23	31-Mar-23	Plan	12-Apr-23	19-Apr-23	21-Apr-23
							Actual					-	-	Actual									Actual			
		BEN TRE																								
2.1.1.1	BT-W01	Roads		IFAD/ Gov/ Beneficiaries	12	PPMU	Plan	Post-Qual	Prior Review	NCB	1	1 884 171.00		Plan	15-Jan-23	22-Jan-23	24-Jan-23	10-Mar-23	N/A	N/A	24-Mar-23	31-Mar-23	Plan	12-Apr-23	19-Apr-23	21-Apr-23
							Actual					-	-	Actual									Actual			
2.1.2.1	BT-W02	Water Infrastructures		IFAD/ Gov/ Beneficiaries	16	PPMU	Plan	Post-Qual	Prior Review	NCB	1	957 135.00		Plan	15-Jan-23	22-Jan-23	24-Jan-23	10-Mar-23	N/A	N/A	24-Mar-23	31-Mar-23	Plan	12-Apr-23	19-Apr-23	21-Apr-23
							Actual					-	-	Actual									Actual			
2.1.3.1	BT-W03	Other Climate Resilient Infrastructure		IFAD/ Gov/ Beneficiaries	Multi	PPMU	Plan	Post-Qual	Prior Review	NCB	1	732 399.00		Plan	15-Jan-23	22-Jan-23	24-Jan-23	10-Mar-23	N/A	N/A	24-Mar-23	31-Mar-23	Plan	12-Apr-23	19-Apr-23	21-Apr-23
							Actual					-	-	Actual									Actual			
							Plan							Plan									Plan			
							Actual					-	-	Actual									Actual			

18-months Procurement Plan - Consulting

Vietnam

Climate Smart Agriculture Transformation Project (CSAT)

Project ID:

Prepared by: CSAT Design Mission Team

Approved by:

	USD	LCU	
Total Amount	3 047 617.00	0.00	Plan
	0.00	0.00	Actual
Non-Consulting:	0.00	0.00	Plan
	0.00	0.00	Actual

Selection Methods
QCBS: Quality and Cost-Based Selection
QBS: Quality-Based Selection
CQS: Selection by Consultants' Qualifications (shortlist is required for th
LCS: Least-Cost Selection
FBS Fixed Budget Selection
ICS: Individual Consultants Selection
SSS: Sole Source Selection

Version 1.0 23-Feb-21

			Basic Data										EOI Shortlist Procedure						Proposal Process				Evaluation					Contract Award & Sig					
AWPB/Component Ref	№	Description*	Non Consulting	Funding	Project Area or Procuring Entity	Plan vs. Actual	Shortlist (Yes|No)	Prior or Post Review	Procurement Method	Amount (USD)	Amount (LCU)	Plan vs. Actual	Submission of REOI	No Objection Date	REOI Launch Date	EOI Submission Deadline	Submission of Shortlist Report	No Objection Date	Submission of RFP/RCQ	No-objection Date	RFP/RCQ Launch Date	Proposal submission deadline	Submission of TER	No-objection Date	Submission of CER	No-objection Date	Plan vs. Actual	Issue of NOI/TA&Standstill	Negotiations completed	Submission of Draft Contract and MoN	No-objection Date	Date Contract Award	Date Contract Signature
		TRA VINH																															
2.1.1.2	TV-C01	Roads Design and Supervision (Aprox. 40 packages)		IFAD, Gov	PPMU	Plan	Yes	Post Review	CQS	943 188.00		Plan	15-Jul-22	N/A	17-Jul-22	7-Aug-22	21-Aug-22	N/A	25-Aug-22	N/A	27-Aug-22	17-Sep-22	1-Oct-22	N/A	N/A	N/A	Plan	13-Oct-22	27-Oct-22	31-Oct-22	N/A	2-Nov-22	9-Nov-22
						Actual				-	-	Actual															Actual						
2.1.2.2	TV-C02	Water Infrastructure Design and Supervision (Aprox. 50 packages)		IFAD, Gov	PPMU	Plan	Yes	Post Review	SSS	465 586.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Jul-22	22-Jul-22	24-Jul-22	23-Aug-22	N/A	N/A	6-Sep-22	13-Sep-22	Plan	N/A	4-Oct-22	8-Oct-22	15-Oct-22	17-Oct-22	24-Oct-22
						Actual				-	-	Actual															Actual						
2.1.3.2	TV-C03	Other Climate Resilient Infrastrrucuture - Design and Supervision (Multi packages)		IFAD, Gov	PPMU	Plan	Yes	Post Review	SSS	309 001.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Jul-22	22-Jul-22	24-Jul-22	23-Aug-22	N/A	N/A	6-Sep-22	13-Sep-22	Plan	N/A	4-Oct-22	8-Oct-22	15-Oct-22	17-Oct-22	24-Oct-22
						Actual				-	-	Actual															Actual						
2.3.3.1	TV-C04	Technical support to CSA investments (CIG administration, techniques for CSA, CSA repliation, access to finance, etc)		Gov	PPMU	Plan	Yes	Post Review	CQS	22 889.00		Plan	15-Jan-22	N/A	17-Jan-22	7-Feb-22	21-Feb-22	N/A	25-Feb-22	N/A	27-Feb-22	20-Mar-22	3-Apr-22	N/A	N/A	N/A	Plan	15-Apr-22	29-Apr-22	3-May-22	N/A	5-May-22	12-May-22
						Actual				-	-	Actual															Actual						
3.1.1.1	TV-C05	Audit		Gov	PPMU	Plan	Yes	Post Review	QCBS	15 000.00		Plan	15-Jan-23	N/A	17-Jan-23	31-Jan-23	14-Feb-23	N/A	18-Feb-23	N/A	20-Feb-23	6-Apr-23	20-Apr-23	N/A	4-May-23	N/A	Plan	16-May-23	6-Jun-23	10-Jun-23	N/A	12-Jun-23	19-Jun-23
						Actual				-	-	Actual															Actual						
		BEN TRE																															
2.1.1.2	BT-C01	Roads Design and Supervision (Aprox. 24 packages)		IFAD, Gov	PPMU	Plan	Yes	Post Review	CQS	589 492.00		Plan	15-Jul-22	N/A	17-Jul-22	7-Aug-22	21-Aug-22	N/A	25-Aug-22	N/A	27-Aug-22	17-Sep-22	1-Oct-22	N/A	N/A	N/A	Plan	13-Oct-22	27-Oct-22	31-Oct-22	N/A	2-Nov-22	9-Nov-22
						Actual				-	-	Actual															Actual						
2.1.2.2	BT-C02	Water Infrastructure Design and Supervision (Aprox. 32 packages)		IFAD, Gov	PPMU	Plan	Yes	Post Review	SSS	303 643.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Jul-22	22-Jul-22	24-Jul-22	23-Aug-22	N/A	N/A	6-Sep-22	13-Sep-22	Plan	N/A	4-Oct-22	8-Oct-22	15-Oct-22	17-Oct-22	24-Oct-22
						Actual				-	-	Actual															Actual						
2.1.3.2	BT-C03	Other Climate Resilient Infrastrrucuture - Design and Supervision (Multi packages)		IFAD, Gov	PPMU	Plan	Yes	Post Review	SSS	233 510.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Jul-22	22-Jul-22	24-Jul-22	23-Aug-22	N/A	N/A	6-Sep-22	13-Sep-22	Plan	N/A	4-Oct-22	8-Oct-22	15-Oct-22	17-Oct-22	24-Oct-22
						Actual				-	-	Actual															Actual						
2.3.3.1	BT-C04	Technical support to CSA investments (CIG administration, techniques for CSA, CSA repliation, access to finance, etc)		Gov	PPMU	Plan	Yes	Post Review	CQS	22 889.00		Plan	15-Jan-22	N/A	17-Jan-22	7-Feb-22	21-Feb-22	N/A	25-Feb-22	N/A	27-Feb-22	20-Mar-22	3-Apr-22	N/A	N/A	N/A	Plan	15-Apr-22	29-Apr-22	3-May-22	N/A	5-May-22	12-May-22
						Actual				-	-	Actual															Actual						
3.1.1.1	BT-C05	Audit		Gov	PPMU	Plan	Yes	Post Review	QCBS	15 000.00		Plan	15-Jan-23	N/A	17-Jan-23	31-Jan-23	14-Feb-23	N/A	18-Feb-23	N/A	20-Feb-23	6-Apr-23	20-Apr-23	N/A	4-May-23	N/A	Plan	16-May-23	6-Jun-23	10-Jun-23	N/A	12-Jun-23	19-Jun-23
						Actual				-	-	Actual															Actual						
		BEN TRE & TRA VINH																															
3.1.1.1	BT-TV-C01	Project Baseline Survey		Gov	PPMU	Plan	Yes	Prior Review	QCBS	30 600.00		Plan	15-Apr-22	22-Apr-22	24-Apr-22	8-May-22	22-May-22	29-May-22	2-Jun-22	9-Jun-22	11-Jun-22	26-Jul-22	9-Aug-22	16-Aug-22	30-Aug-22	6-Sep-22	Plan	18-Sep-22	9-Oct-22	13-Oct-22	20-Oct-22	22-Oct-22	29-Oct-22
						Actual				-	-	Actual															Actual						
3.2.1.5	BT-TV-C02	Set up the Management Information System		Gov	PPMU	Plan	Yes	Prior Review	CQS	15 300.00		Plan	15-Apr-22	22-Apr-22	24-Apr-22	15-May-22	29-May-22	5-Jun-22	9-Jun-22	16-Jun-22	18-Jun-22	9-Jul-22	23-Jul-22	30-Jul-22	N/A	N/A	Plan	11-Aug-22	25-Aug-22	29-Aug-22	5-Sep-22	7-Sep-22	14-Sep-22
						Actual				-	-	Actual															Actual						
3.2.2.1	BT-TV-C03	Technicall Assistance for M&E Set Up		Gov	PPMU	Plan	Yes	Prior Review	CQS	10 200.00		Plan	15-Apr-22	22-Apr-22	24-Apr-22	15-May-22	29-May-22	5-Jun-22	9-Jun-22	16-Jun-22	18-Jun-22	9-Jul-22	23-Jul-22	30-Jul-22	N/A	N/A	Plan	11-Aug-22	25-Aug-22	29-Aug-22	5-Sep-22	7-Sep-22	14-Sep-22
						Actual				-	-	Actual															Actual						
3.2.2.3	BT-TV-C04	TA for gender and youth targeting, and social inclusion		Gov	PPMU	Plan	Yes	Prior Review	CQS	24 970.00		Plan	15-Apr-22	22-Apr-22	24-Apr-22	15-May-22	29-May-22	5-Jun-22	9-Jun-22	16-Jun-22	18-Jun-22	9-Jul-22	23-Jul-22	30-Jul-22	N/A	N/A	Plan	11-Aug-22	25-Aug-22	29-Aug-22	5-Sep-22	7-Sep-22	14-Sep-22
						Actual				-	-	Actual															Actual						
3.2.3.1	BT-TV-C05	Training for monitoring and evaluation, including participation in the PRIME initiative, PMU		Gov	PPMU	Plan	Yes	Prior Review	CQS	20 808.00		Plan	15-Apr-22	22-Apr-22	24-Apr-22	15-May-22	29-May-22	5-Jun-22	9-Jun-22	16-Jun-22	18-Jun-22	9-Jul-22	23-Jul-22	30-Jul-22	N/A	N/A	Plan	11-Aug-22	25-Aug-22	29-Aug-22	5-Sep-22	7-Sep-22	14-Sep-22
						Actual				-	-	Actual															Actual						
3.2.3.3	BT-TV-C06	Training on project approach and management (2 packages)		Gov	PPMU	Plan	Yes	Prior Review	SSS	10 200.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Jan-22	22-Jan-22	24-Jan-22	23-Feb-22	N/A	N/A	9-Mar-22	16-Mar-22	Plan	N/A	6-Apr-22	10-Apr-22	17-Apr-22	19-Apr-22	26-Apr-22
						Actual				-	-	Actual															Actual						
3.2.3.4	BT-TV-C07	Training on gender and youth targeting (2 packages)		Gov	PPMU	Plan	Yes	Prior Review	SSS	10 200.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Apr-22	22-Apr-22	24-Apr-22	24-May-22	N/A	N/A	7-Jun-22	14-Jun-22	Plan	N/A	5-Jul-22	9-Jul-22	16-Jul-22	18-Jul-22	25-Jul-22
						Actual				-	-	Actual															Actual						
3.3.1.1	BT-TV-C08	Support for Project Website Design		Gov	PPMU	Plan	Yes	Prior Review	SSS	5 141.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A	15-Apr-22	22-Apr-22	24-Apr-22	24-May-22	N/A	N/A	7-Jun-22	14-Jun-22	Plan	N/A	5-Jul-22	9-Jul-22	16-Jul-22	18-Jul-22	25-Jul-22
						Actual				-	-	Actual															Actual						

Day Ranges

These tables provide estimated timelines by procurement methods, based on experience and guidance in the Procurement Handbook where specified.
The approximate number of days are used in the default Procurement Plan Formulas. Timelines in the Approx fields/Formulas are not prescriptive, and may be modified by the project.
Approx figures entered will be highlighted/flagged, if below the Minimum number of days. Zero indicates steps that are not applicable to the method, and are indicated as N/A in the Formulas.

Goods & Works

Procurement Method	Submission of PreQual docs			No Objection Date			PreQual Invitation Date			PreQual Closing Date			Submission of PreQual Report			No Objection Date			Submission of BD			No-objection Date			Bid Invitation Date			Bid Closing-Opening			Submission Tech Eval Rpt			No-objection Date			Submission Combined Eval Rpt/Bid Evaluation Report			No-objection Date			Issue of NOITA & Standstill			Date Contract Award			Date Contract Signature			Totals			
	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Approx Months/Days
Single Envelope																																																			
RFQ/Shopping (NS/45)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	N/A-Start Date	7	10	7	1	3	1	5	21	14	0	0	0	0	0	0	1	7	7	7	10	7	0	0	0	1	3	2	1	3	2	24	60	40	1m 9d
NOB (no PreQual)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	N/A-Start Date	7	10	7	1	3	2	30	45	45	0	0	0	0	0	0	3	21	14	7	10	7	11	15	12	7	14	7	1	5	2	68	130	96	3m 5d
ICB (no PreQual)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	N/A-Start Date	7	10	7	1	3	2	45	70	45	0	0	0	0	0	0	3	21	21	7	10	7	11	15	12	7	14	7	1	5	2	83	155	103	3m 12d
LIB (no PreQual)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	N/A-Start Date	7	10	7	1	3	2	45	70	45	0	0	0	0	0	0	3	21	21	7	10	7	11	15	12	7	14	7	1	5	2	83	155	103	3m 12d
NOB (with PreQual)	1	4	N/A-Start Date	7	10	7	1	3	2	14	30	30	14	21	14	7	10	7	1	14	10	7	10	7	1	3	2	30	45	45	0	0	0	0	0	0	7	21	14	7	10	7	11	15	12	1	5	5	1	5	2	110	206	164	5m 12d
ICB (with PreQual)	1	4	N/A-Start Date	7	10	7	1	3	2	14	30	30	14	21	14	7	10	7	1	14	10	7	10	7	1	3	2	45	70	45	0	0	0	0	0	0	7	21	21	7	10	7	11	15	12	1	5	5	1	5	2	125	231	171	5m 19d
LIB (with PreQual)	1	4	N/A-Start Date	5	10	7	1	3	2	14	30	30	14	21	14	7	10	7	1	14	10	7	10	7	1	3	2	45	70	45	0	0	0	0	0	0	7	21	21	7	10	7	11	15	12	1	5	5	1	5	2	123	231	171	5m 19d
Direct Contracting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	N/A-Start Date	7	10	7	1	3	1	7	30	14	0	0	0	0	0	0	3	21	7	7	10	7	0	0	0	7	14	7	1	5	2	34	96	45	1m 14d
Two Envelope																																																			
NOB (no PreQual)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	N/A-Start Date	7	10	7	1	3	2	30	45	45	3	21	3	7	10	7	3	7	7	7	10	7	11	15	12	7	14	7	1	5	2	78	147	99	3m 8d
ICB (no PreQual)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	N/A-Start Date	7	10	7	1	3	2	45	70	45	3	21	21	7	10	7	3	7	7	7	10	7	11	15	12	7	14	7	1	5	2	93	172	117	3m 26d
LIB (no PreQual)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	N/A-Start Date	7	10	7	1	3	2	45	70	45	3	21	21	7	10	7	3	7	7	7	10	7	11	15	12	7	14	7	1	5	2	93	172	117	3m 26d
NOB (with PreQual)	1	4	N/A-Start Date	7	10	7	1	3	2	14	30	30	14	21	14	7	10	7	1	14	10	7	10	7	1	3	2	30	45	45	7	21	14	7	10	7	3	7	7	7	10	7	11	15	12	1	5	5	1	5	2	120	223	178	5m 26d
ICB (with PreQual)	1	4	N/A-Start Date	7	10	7	1	3	2	14	30	30	14	21	14	7	10	7	1	14	10	7	10	7	1	2	2	45	70	45	7	21	21	7	10	7	3	7	7	7	10	7	11	15	12	1	5	5	1	5	2	135	247	185	6m 3d
LIB (with PreQual)	1	4	N/A-Start Date	7	10	7	1	3	2	14	30	30	14	21	14	7	10	7	1	14	10	7	10	7	1	2	2	45	70	45	7	21	21	7	10	7	3	7	7	7	10	7	11	15	12	1	5	5	1	5	2	135	247	185	6m 3d

Services

Selection Method	Submission of REOI			No Objection Date			REOI Launch Date			EOI Submission Deadline			Submission of Shortlist Report			No Objection Date			Submission of RFP/RCQ			No-objection Date			RFP/RCQ Launch Date			Proposal submission deadline			Submission of TER			No-objection Date			Submission of CER			No-objection Date			Issue of NOITA & Standstill			Negotiations completed			Submission of Draft Contract and MoN			No-objection Date			Date Contract Award			Date Contract Signature			Totals			
	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Min	Max	Approx	Approx Months/Days
QCBS (w/Shortlist)	1	4	N/A- Start Date	7	10	7	1	3	2	14	30	14	14	21	14	7	10	7	1	7	4	7	10	7	1	3	2	45	60	45	14	21	14	7	10	7	7	14	14	7	10	7	11	15	12	14	21	21	3	14	4	7	10	7	1	3	2	1	7	7	170	283	197	6m 15d
FBS (w/Shortlist)	1	4	N/A- Start Date	7	10	7	1	3	2	14	30	21	14	21	14	7	10	7	1	7	4	7	10	7	1	3	2	45	60	45	14	21	14	7	10	7	7	14	14	7	10	7	11	15	12	14	21	21	3	14	4	7	10	7	1	3	2	1	7	7	170	283	204	6m 22d
LCS (w/Shortlist)	1	4	N/A- Start Date	7	10	7	1	3	2	14	30	21	14	21	14	7	10	7	1	7	4	7	10	7	1	3	2	45	60	45	14	21	14	7	10	7	7	14	14	7	10	7	11	15	12	14	21	21	3	14	4	7	10	7	1	3	2	1	7	7	170	283	204	6m 22d
QBS (w/Shortlist)	1	4	N/A- Start Date	7	10	7	1	3	2	14	30	21	14	21	14	7	10	7	1	7	4	7	10	7	1	3	2	21	60	45	14	21	14	7	10	7	0	0	0	0	0	0	11	15	12	14	21	21	3	14	4	7	10	7	1	3	2	1	7	7	132	259	163	6m 1d
CQS (w/Shortlist)	1	4	N/A- Start Date	7	10	7	1	3	2	14	30	21	14	21	14	7	10	7	1	5	4	7	10	7	1	3	2	14	30	21	14	21	14	7	10	7	0	0	0	0	0	0	11	15	12	7	14	14	3	14	4	7	10	7	1	3	2	1	7	7	118	220	152	4m 31d
IC\$ (w/Shortlist)	1	4	N/A- Start Date	7	10	7	1	3	2	14	30	21	14	21	14	7	10	7	1	5	4	7	10	7	1	3	2	14	30	21	14	21	14	7	10	7	0	0	0	0	0	0	11	15	12	7	14	14	3	14	4	7	10	7	1	3	2	1	7	7	118	220	152	4m 31d
QCBS (no\Shortlist)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	N/A- Start Date	7	10	7	1	3	2	45	60	45	14	21	14	7	10	7	7	14	14	7	10	7	11	15	12	14	21	21	3	14	4	7	10	7	1	3	2	1	7	7	126	205	149	4m 28d
FBS (no\Shortlist)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	N/A- Start Date	7	10	7	1	3	2	14	30	21	7	21	14	7	10	7	7	14	14	7	10	7	11	15	12	14	21	21	3	14	4	7	10	7	1	3	2	1	7	7	88	173	126	4m 4d
LCS (no\Shortlist)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	N/A- Start Date	7	10	7	1	3	2	21	30	25	7	21	14	7	10	7	7	14	14	7	10	7	11	15	12	14	21	21	3	14	4	7	10	7	1	3	2	1	7	7	95	175	120	4m 8d
QBS (no\Shortlist)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	N/A- Start Date	7	10	7	1	3	2	21	60	45	14	21	14	7	10	7	0	0	0	0	0	0	11	15	12	14	21	21	3	14	4	7	10	7	1	3	2	1	7	7	88	181	126	4m 7d
IC\$ (no\Shortlist)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	N/A- Start Date	7	10	7	1	3	2	14	30	21	14	21	14	7	10	7	0	0	0	0	0	0	11	15	12	7	14	14	3	14	4	7	10	7	1	3	2	1	7	7	74	142	97	3m 6d
SSS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	N/A- Start Date	7	10	7	1	3	2	7	30	30	0	0	0	0	0	0	7	21	14	7	10	7	0	0	0	7	21	21	3	14	4	7	10	7	1	3	2	1	7	7	49	136	101	3m 10d

NOTE
1. Some procurement methods for low-value processes might require No Objections based on the Prior Review Thresholds. Where they do not require, No Objection number of days should be zero.
2. RFP: Request for Proposals: standard procurement document used for Services.
3. RCQ: Requests for Consultants Qualifications: Procurement document used for CQS and LCS. The RFP is used for all other procurement methods
4. Consulting services and Good/Works methods could either be used for Non-Consulting Services
5. All days are calendar days

IFAD
Investing in rural people

Viet Nam

Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Project Design Report

Annex 8: Project Implementation Manual (PIM)

Document Date:	26/07/2021
Project No.	2000002335
Report No.	5735-VN

Asia and the Pacific Division
Programme Management Department

Investing in rural people

Viet Nam

Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

PROJECT IMPLEMENTATION MANUAL (PIM)

Version June 2021

Contents

Abbreviations and acronyms

ARP	Agriculture Restructuring Program
ASWQMS	Automated Salinity and Water Quality Monitoring System
AWPB	Annual work plan and budget
BT	Ben Tre
CCAF	Climate Change Adaptation Fund (TV)
CCCO	Climate Change Coordination office
CIG / CG	Community interest groups / Community group
CPC	Commune People's Committee
DARD	Department of Agriculture and Rural Development
DA	Designated Account
DoNRE	Department of Natural Resource and Environment
DPC	District People's Committee
DPI	Department of Planning and Investment
GoV	Government of Viet Nam
IFAD	International Fund for Agriculture Development
M&E	Monitoring and Evaluation
MTR	Mid-term Review
MFI	Micro Finance Institution
MoF	Ministry of Finance
NTP- NRD	National Target Program for New Rural Development
ODA	Official Development Assistance
PCU	Project Coordination Unit
PD	Project Director
PPC	Provincial People's Committees
PPP	Public – Private Partnership
PSC	Project Steering Committees
RIMS	Results and Impact Management System
SBV	State Bank of Viet Nam
SCG	Savings and Credit Groups
SEDP	Socio-Economic Development Plan
SME	Small and Medium Enterprise
SOE	Statements of Expenditure
ToR	Terms of Reference
TV	Tra Vinh
VBSP	Viet Nam Bank for Social Policy
VC	Value Chain
VND	Viet Namese Dong
WDF	Women's Development Fund
WU	Women's Union

Map of the project area

Map compiled by IFAD | 16-04-2021

I. Introduction

1. This draft Project Implementation Manual (PIM) provides guidelines for implementing the Climate Smart Agriculture Transformation in Mekong Delta Project (CSAT). The PIM describes how CSAT will invest in climate resilient and inclusive rural economic development in Tra Vinh and Ben Tre provinces and how the project will be managed. This is supported by standard formats, terms of references (ToRs), and examples; as well as by an draft Annual Work Plan and Budget and a draft Procurement Plan for the first 18-month of the Project implementation. This draft PIM is accompanied by a separate Financial Management Manual (FMM). Basic instruction for financial management and procurement shall be updated in consistence with the Financing Agreement and the Letter to Borrower.

2. The PIM is to be read in conjunction with the Project Design Report and the Financing Agreement. This PIM was drafted by IFAD and shall be carefully reviewed and updated appropriately by the PSCs, PPMUs and other implementing agencies and by all major stakeholders in the Project. The PIM will be submitted to IFAD again to review and provide no objection for any changes proposed as a result of the review. Finalisation of PIM, coordinated by the PSCs and PPMUs, is a condition for effectiveness of the financing of the project.

3. Once IFAD financing for CSAT has become effective, the Project Implementation Manual, together with the provisions for financial management and procurement, will form the basis for the Project's systematic implementation. Experience in implementing the Project may necessitate amendment of the PIM. If so, the PPMUs in consultation with the implementing agencies and the concerned project partners, proposes appropriate changes, which will become effective upon IFAD review and no objection.

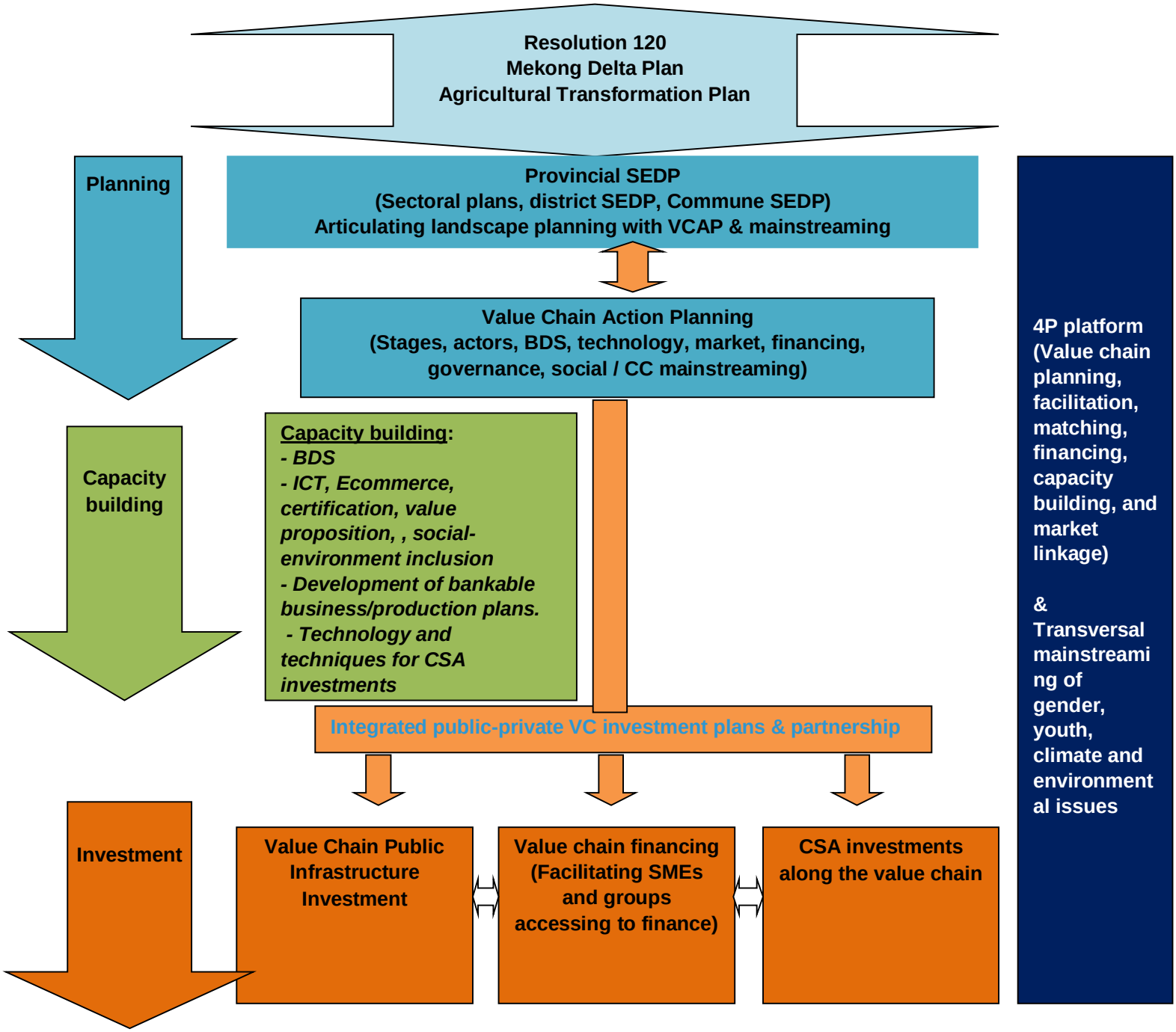
II. Project description

2.1. Project goal and objectives

4. This project builds on the guidance and instructions of the Mekong Delta Plan, the Resolution 120 (with subsequent Decision 324, and Decision 825) on sustainable development of Mekong Delta and aims to contribute to the successful implementation of these.

5. The goal of CSAT is to achieve sustainable and climate resilient rural transformation in Ben Tre and Tra Vinh province that would serve as a model for the Mekong Delta region. The project development objective is to generate sustainable income opportunities and improved rural livelihoods for poor households and their women, men, EM and youth in Tra Vinh and Ben Tre provinces.. This will be assessed in terms of income increase of and empowerment improvements by the target groups. Tangible project outcomes will be generated in the areas of inclusive and climate resilient value chain planning, adoption of CSA technologies and practices, construction/rehabilitation of climate resilient infrastructures, commercial enterprise – producer partnerships and market linkages. The inclusion and empowerment of rural women and youth will be mainstreamed across the CSAT outcomes.

6. <u>The project intervention logics (see figure)</u>



Climate resilient – inclusive – remunerative value chains developed contributing to sustainable poverty reduction and economic development in Tra Vinh and Ben Tre

2.2. Geographic area, targeting, and beneficiaries.

7. Geographic area. CSAT will work in Tra Vinh and Ben Tre provinces as requested by the Government of Viet Nam. Both are coastal Mekong Delta provinces and due to their exposed location, they are severely affected by climate change events (e.g. sea level rising, salinity intrusion). Thus they receive utmost attention by GoV as addressed in the Resolution 120. CSAT's specific geographical focus is on three agro-ecological areas (fresh / brackish water, coastal, central, and southern regions) with the potential to support climate smart and inclusive value chain development. To realise this potential, CSAT develops a set of selection criteria for value chains including (i) rural poverty (rate, head count weighted by ethnic minority poverty, and poverty severity) and opportunities for women, youth, poor and EM; (ii) vulnerability to climate change risks; (iii) potential scale-up and economic impact of value chain development; (iv) commitment, readiness, and absorptive capacity of the province for implementing and mainstreaming innovations related to market orientation and climate change; and (v) the resources needed by the province, while taking into consideration central-level support, provincial budgets, potential for private-sector contributions and other development partner resources (See Appendix 9 for detailed set of criteria). Subsequently, 10-12 value chains or groups of value chains have been selected (five-six per province) that cover all three ecological regions and 16 districts (eight in each province) (See Appendix 9 in the PIM for detailed list of selected VCs and their distribution).

8. Based on the vast experience of the precedent AMD project, a participatory value chain action planning (VCAP) for each value chain will be conducted during the first year of implementation to identify the exact interventions and specific locations down to commune level. The selected communes/villages will include communes with "good market linkages" to serve as a springboard for remote communes to join through VCAP induced value chain development. The selection of communes is based on, inter alia: (i) poverty rate; (ii) vulnerability to natural disaster/ climate change impacts; (iii) commitment of leadership; and, (iv) potential for development of pro-poor VCs. It assumed that ca. 80 communes will be reached in total.

9. Target groups and beneficiaries (See Appendix 6 in the PIM for more information on groups and beneficiaries) The project is expected to reach at least 60,000 smallholders and agricultural small and medium-sized enterprises and their households (Ben Tre 25,000 and Tra Vinh 35,000) equivalent to some 210,000 people. The project design identified the following target groups:

- Poor and near poor households (13% of project population) - having limited or no land and resources (e.g. labour, skills, capital), but having acumen and interest to participate in value chain as producers/wage labours;
- Vulnerable households[1] (58% of project population) - such as the poor, near poor, medium, or women-headed households and others identified through local SEDP planning processes (e.g., engaged in vulnerable production systems, carrying out their production activities in vulnerable areas identified by climate change risk management planning/zoning), and ethnic minority households.
- Medium and better off farmers (~20% of project population) - who have the skills to promote commercial agricultural production. The inclusion of the better off will be beneficial for a number of reasons. Better off farmers in CG enable poorer farmers to build their capacities and knowledge. Better off farmers spur group sustainability and economic growth. F2F extension is more effective with a mix of very

[1] The term "vulnerable" explicitly relates to the degree to which an individual/household is susceptible to, or unable to cope with adverse effects of climate change, including climate variability and extremes. Adapted from the Intergovernmental Panel on Climate Change (IPCC). 2001 - https://www.ipcc.ch/

knowledgeable/better off farmers.WDF includes also better off women and these support the WDF finance, which translates into development of new capacities too.

- Ethnic minority in Tra Vinh. The project ensures the participation of EM reaching a minimum rate of 30% of project population for Tra Vinh as equal as the rate of EM population in Tra Vinh province.
- Gender (see more in Appendix 14). The project is gender mainstreamed. The Project designs specific measures to ensure women participation in relevant activities, including minimum participation rates. Women account for 40% of total project population.
- Youth (see more in Appendix 14). The project is youth sensitive. Young people will be main force to promote digitalisation and e-commercialisation in value chain. 80% of youth population in the project area will be involved in project, so 20% of beneficiary.
- who will benefit from the project include: (i) Government officials empowered to support market-led growth; and, (ii) private market and VC agri-businesses that find common interest in promoting viable pro-poor products and services. The Project will also generate flow-on benefits to the entire rural population of the provinces through: (i) an updated of the provincial SEDP that well informs and be informed by the regional master plan; (ii) the institutionalization of the value chain action planning process; (iii) better access to climate adapted agriculture technology and credit; and, (iv) institutional strengthening leading to more climate informed and market-oriented planning.

10. Targeting. CSAT's targeting strategy will involve the following measures and methods:

- Enabling measures: Building on AMD practices, CSAT reinforces the participation of the target groups and their organisations in the planning processes under component 1 provincial – district - commune SEDP and the VCAP processes). It aims at creating and sustaining favourable operational and policy environments for social inclusion and poverty targeting. CSAT trains project staff and implementing partners on issues related to targeting and social inclusion. A Gender Transformative Action and a Youth Action Plans and ethnic minority strategy will be developed at start-up and the project will implement "free and prior informed consent" as needed and follow environment and social management framework; Finally, project grievance feedback mechanisms will ensure that project identify and respond to beneficiary issues, including along targeting and to prevent any elite capture.
- Empowerment and capacity-building measures. Building on IFAD's experience in Viet Nam and as part of the participatory planning, CSAT promotes empowerment for decision making processes of its target group. CSAT works with women, youth and ethnic minorities and their organisations, including the Women Union, Youth Union and EM groups, to create the required clout to voice their specific needs in the planning and decision-making processes. CSAT strengthens further the capacities of CG/SCG formed under AMD (1200 CG & 4000 SCG ~ 40,000 households) foremost to enhance their access to finance and CSA practices.
- *Prevention of elite capturing.* There is a risk that wealthier and influential people could gain access to project resources, for example by influencing the decision on the type and location of infrastructure to their economic benefit. CSAT has is based participatory planning, coupled with free, prior and informed consent procedures and the grievance mechanism. These instruments are likely to inform local government and IFAD and trigger remedial actions, should such malpractice occur
- Self-targeting. The selection of value chains and related infrastructure development will be done on the basis of how likely they are to bring benefits to poorer producers and other target groups. The selection criteria, mentioned above, should ensure that value chains (and related infrastructure investments) with the highest inclusion potential be selected, besides the economic and climate resilience related criteria. The participatory planning

exercise aims to obtain the highest possible inclusion of poor women and men farmers, and other target groups. In AMD, smallholder have shown keen interest in the CSA training. This will be expanded under CSAT. Besides, the training programmes on ICTs for rural businesses development/ employment are expected to meet the interest of rural youth, especially young women.

- Direct targeting. CSAT will use beneficiary targets for poor (5%), near-poor (8%), women (40%; of which 10% are heads of households), youth (20%; of which 50% young women) and EM (30% for Tra Vinh). An example of mixed-self and -direct targeting is the promotion of financial services for poor rural women by the WDF.

III. Project Management

3.1. Management principles

11. The project management should adhere to the following principles:

12. A - Programme approach: The programme approach is applied throughout the CSAT implementation with the following particular principles: (i) Integration with all the other programmes and projects on-going in the provinces, namely the national target programmes such as NTP-NRD, NTP-EMD, and the donor-supported projects in Ben Tre and Tra Vinh; Most importantly, CSAT implements the Resolution 120 on sustainable development in the Mekong Delta region and, in the same vein, contribute to the National Determined Contributions to the Paris Agreement on climate change; (ii) implementation arrangement of CSAT is embedded along the current institutional setup and mandates of the government agencies and mass organizations; (iii) limit as much as possible establishment of new management bodies and recruitment of contracted management staff (see Appendix 11 for more information on relevant policies).

13. B – Decentralization. Similarly to all IFAD-supported projects in the past such as the AMD, the project ownership will be decentralized to the province-level governments namely the Province People Committees of Ben Tre and Tra Vinh provinces (which are identified by the national regulation as “investment owners” of the project). The project implementation will be strategically supported by the Ministry of Planning and Investment (MPI) and financially assisted by the Ministry of Finance (MOF).

14. C- Minimized operation cost: Avoidance of creation of parallel Project Steering Committee (consider using the existing New Rural Development or Agriculture Restructuring Coordination Board). The mission of PSC is to coordinate co-financing projects to be funded by IFAD and another donors (IFAD for infrastructure, other donors for non-infrastructure components). PSC also ensure CSAT project integration with the NTPs and the other donor-supported projects in terms of project coordination and management. At the district and commune level, CSAT management will be integrated with the existing institutional arrangement at the local levels to ensure objectives of capacity building, impact sustainability and minimized management cost.

15. D- Inter-provincial coordination in planning and implementation. In order to ensure effective cooperation between Ben Tre and Tra Vinh provinces for achieving CSAT objectives, the project management will organize regular meetings of the two PMUs with representatives from PSCs. CSAT will be instrumental for the inter-provincial climate change adaptation planning and implementation coordination as established by the Mekong Delta Master Plan and the other regional development plans identified by the Resolution 120, and the Agriculture Sector Restructuring Plan 2021-2025.

16. E- Innovative implementation for regional replication and up-scaling in Mekong Delta and nation-wide. Innovations promoted by CSAT should be

documented and up-scaled through national and provincial programmes and projects, since CSAT objectives are fully aligned with the following the Government's strategic goals: (i) enabling market-led rural development, (ii) advancing access of the poor to commodity and labour markets, and (iii) enhancement of rural poor capacity to adapt to climate change. These objectives are articulated in the Viet Nam Socio-Economic Development Plan (SEDP) 2016-2020, the Viet Nam Socio-Economic Development Strategy (SEDS) 2011-2020, the Agriculture Restructuring Programme, and the National Target Program for Climate Change Response and Green Growth for the 2016-2020.

17. CSAT will provide good practices in implementing the Law on Gender Equality (2006) that empowers women in economic participation and decision making, and the Youth Development Strategy 2011-2020 that promotes vocational training and employment. The innovations in mainstreaming gender and youth for sustainable development under CSAT should be well analysed, documented and shared for replication through the project KM strategy and action plans.

18. F- Alignment to SDGs and IFAD strategic objectives. CSAT management shall contribute to achieving the Global Sustainable Development Goals (SDGs), especially SDG 1 (end poverty), SDG 2 (zero hunger), SDG 5 (gender equality), and SDG 13 (climate action). CSAT strategic management shall ensure the project to contribute to implementing three strategic objectives of IFAD's Strategic Framework 2020-2025 reflected by the three strategic objectives of the 2019-2025 COSOP for Viet Nam: (i) Leverage greater investment from the private sector into inclusive value chain development, (ii) Enhance and expand financial inclusion for climate resilient rural livelihoods; and (iii) Foster the environmental sustainability & climate resilience of smallholder economic activities. CSAT shall focus on IFAD's mainstreaming and transformative agenda on gender, youth, indigenous people (i.e. ethnic minorities) and climate change resilience.

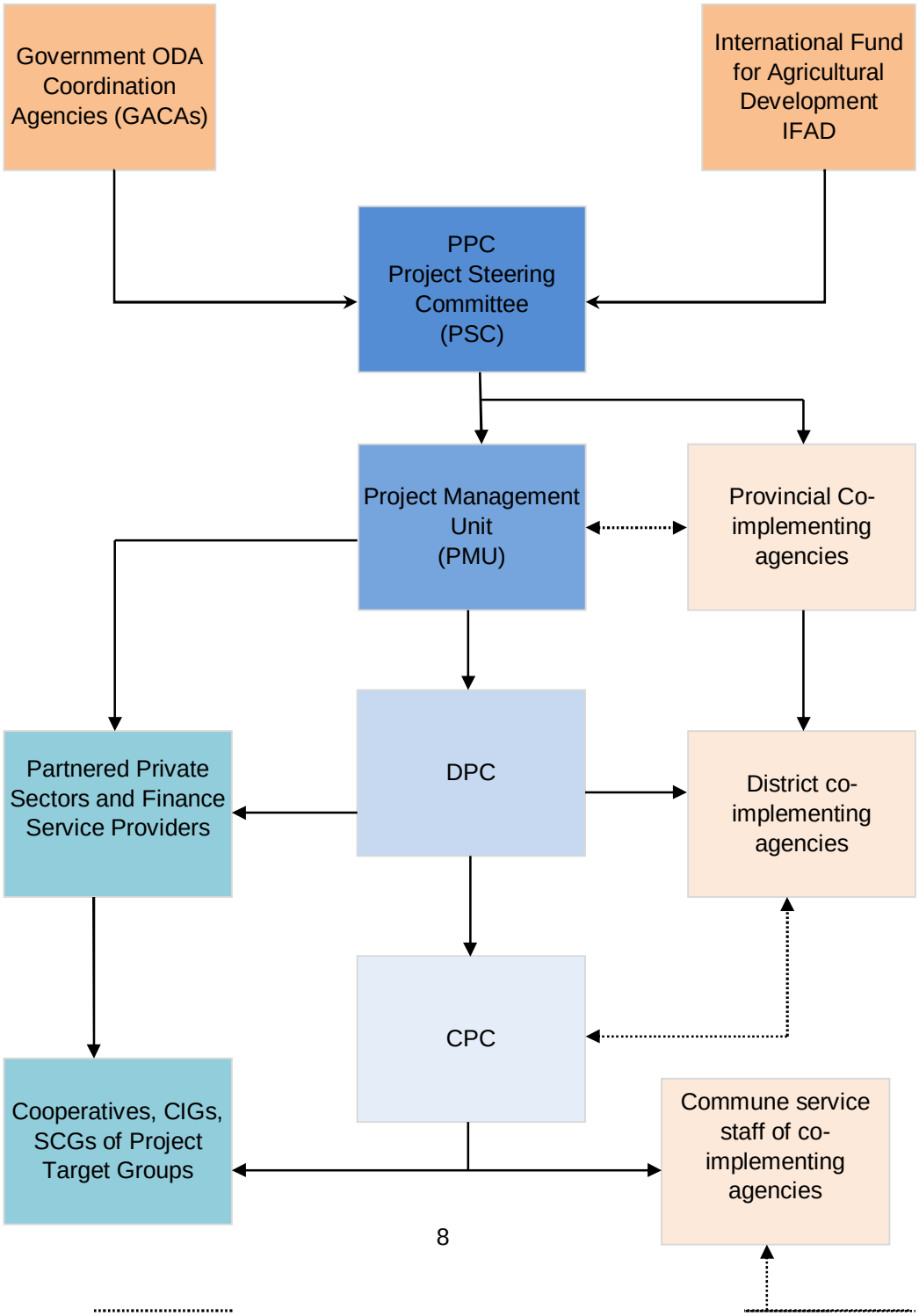
19. G - Harmonization and partnerships. CSAT is an integrated element of donor-supported strategic efforts attaining to sustainable development of Mekong Delta. Therefore CSAT management should maintain close cooperation with development partners who are active in the Mekong region, namely the WB, ADB, JICA, FAO and key bilateral partners such as the Netherlands, AFD and GIZ. Development partners hold regular coordination meetings e.g. the Mekong Delta Working Group and co-organise with Government the biennial Mekong Delta Forum to take stock of results, align approaches and coordinate future investments.

20. Alignment and partnerships are envisaged during implementation with both national and international institutions such as: (i) National Coordination Office for NTP-NRD and OCOP; (ii) Central Committee for Ethnic Minorities (CEM) for integration with the NTP-EMD; (iii) the Mekong Delta Coordination Committee (MDCC) established by the Prime Minister Decision on 12 June 2020; (iv) the Ministry of Agriculture and Rural Development (MARD) and the development partners under the International Mekong Delta Working Group (MDWG) for implementation of the Mekong Delta Agriculture Transformation Programme; (v) the World Bank's Mekong Delta Integrated Climate Resilience and Sustainable Livelihoods Project working in both Ben Tre and Tra Vinh; (vi) JICA's Water Management Project in Ben Tre; (vii) UN-Habitat's Enhancing the resilience inclusive and sustainable eco-human settlement development through small scale infrastructure interventions in Tra Vinh; (viii) UNIDO for co-implementation of the UN COVID-19 MPTF Resilient Women and Youth Centred and Digitally Enhanced Value Chain Development project in Ben Tre; (ix) OXFAM and IDH for potential grant co-financing projects; and (x) Dutch Fund for Development Corporation (DFDC) for financing private enterprises; and (xi) private sector enterprises and associations for public-private-

producer partnership (4P) development. The Mekong Delta Development Master Plan, the Mekong Delta Sustainable Development Programme, the Mekong Delta Agriculture Transformation Programme, and the Agriculture Sector Restructuring Plan 2021-2025 should be used as key instruments for partnership and resource harmonization and mobilization. This is an opportunity for enhancing coverage and synergy and requires that the planning and coordination of CSAT is closely associated with the regional and provincial, district planning.

21. C- Continuity: Prioritizing qualified staff involved in AMD project management, recruiting additional staff with proper education background and experience for new project requirements.

22. Following the principles, the project coordination and management structure will be established as summarized in the following diagram:



Direct management

Coordination

3.2. Project Steering Committee

23. Coordination. Each province establishes a project steering committee (PSC) to lead the project coordination. It is composed of provincial line agencies, FU, WU/WDF and YU, district level project steering committees, development partners and private sector companies which are party to the CSAT. The PSC provides the strategic direction to the implementation of CSAT, oversights project planning, financing and procurement processes, mobilises adequate and timely finance for the AWPB, reviews the progress and reporting on results. The PSC in Tra Vinh would held joint meetings for the NTP-EMD and CSAT and likewise, the PSC in Ben Tre would cover both CSAT and the NTP-NRD. This arrangement streamlines current parallel processes into one, and coordinates the various financing sources destined for a similar purpose and thus creating higher efficiencies and better impact.

24. The PSC meets quarterly to review the implementation progress, review and approve draft AWPB and procurement plans before the beginning of the year. The PSC discusses and resolves challenges related to project implementation, including grievances related to procurement, staff management, code of conduct and other allegations brought forward.

25. The PSC ensures coordination and streamlining of investments with other internationally funded projects notably the regional Agricultural Transformation Programme, in Ben Tre and Tra Vinh provinces. A key task of the PSC will be to contribute CSAT's results to regional meetings notably policy fora on the Mekong Delta Plan.

3.3. Project Management Unit

26. The PPCs will also establish Project Management Units (PMUs) reporting to the PPCs in both provinces. The PMU under supervision of the PSC will be responsible for day-to-day management of CSAT implementation at the province level. Mandate of the PMU will be to ensure: (i) coherence of the project approaches and strategies, and integration among the project activities s in order to produce the Programme outcomes, outputs and impacts; (ii) coordination and synergy of the co-implementing agencies (DARD, DoNRE, DPI, DoLISA, DoIT and DPCs, CPCs) and technical service providers, and the district and commune level agencies, and grassroots communities; (iii) mobilization of resources from the private sector, mass organizations, professional associations, research institutes, technical units and non-government organizations; (iv) contracting of suitable service providers to undertake various forms of research, studies, technical assistance and training (co-implementing agencies will mostly manage these providers); (v) accountable management of IFAD and Government's resources, including preparation of PIM, AWPB, procurement plan, selection of technical assistance and audit service providers, establishment and operation of M&E system, and other functions of

the operational and financial management of the Programme; and (vi) knowledge sharing and policy development interventions, in collaboration with co-implementing agencies.

27. Each of the two provincial PPCs establishes a dedicated Project Management Unit (PMU) for CSAT. The provincial PMUs led by a project director and composed of three technical sections: (i) Strategic Management including dedicated staff for social inclusion activities (gender, youth, EM) and environmental safeguards and climate adaptation activities, (ii) Infrastructure Management including a Climate Resilient Engineer to ensure adherence to social and environmental safeguards, M&E and KM and (iii) Financial Management. Former highly performing AMD staff will be retained as possible to foster the institutional memory and enable fast start-up of CSAT.

28. Table 1. Structure of Project Implementation Unit in each province

Position	No.
Project Director	1
Administration Secretary and Project Driver	2
Strategic Management Section	
Deputy Project Director cum Head of Section	1
MoSEDP and Value Chain Planning Officer cum environmental safeguards and climate adaptation activities	2
M&E cum Knowledge Management, Youth, and Gender Officer	3
Rural Finance Officer	1
Value Chains Development Support Officer	3
Interpreter	1
Financial Management Section	
Chief Accountant – Head of Section	1
Accountant	2
Cashier	1
Infrastructure Management Section	
Deputy Project Director cum Head of Section	1
Infrastructure Development Support Officer including a Climate Resilient Engineer	3
Total	22

29. The proposed PMU structure builds on the foundation provided under the previous projects in the two provinces (i.e. DBRP,IMPP) and the exit strategy of the AMD which suggests smaller PMU of 22 people in each province. These have demonstrated a solid track record of delivery of even complex tasks across province, district and commune structures. The compact management unit helps the province save operating cost while ensures that project activities will be properly mainstreamed in the provincial government programmes of work. The IFAD country team will continue organizing regular training and capacity development of portfolio PMUs on project management and implementation.

30. The PMU will be responsible for the day-to-day management of the CSAT implementation and functions as the secretary for the PSC meetings. The key tasks of the PMU are to: (i) ensure the coherence of the implementation strategy towards the expected outputs, outcomes and impacts; (ii) draft the AWPB and procurement plan; (iii) mobilise and manage project finance from the various sources; (iv) ensure adherence to

procurement IFAD and national procedures ; (v) set up of the Management Information System, baseline surveys, M&E and reporting structures (vii) set up a of co-ordination structure and strategy with the co-implementing agencies (DARD, DoNRE, DPI, DoLISA, DoIT and DPCs, CPCs, WU, YU, FU), district and commune level agencies; (viii) facilitate the networking with banking sector, private sector, 4P platform (ix) set up an effective knowledge management system ; (x) identify relevant policy topics and support the PSC on policy engagement activities and (xi) (xi) ensure environmental and social safeguards requirements are met for project activities implementation based on the national regulations on environmental management and IFAD's SECAP recommendations.

31. District and commune level coordination. The DPCs and CPCs coordinate the project implementation. The actual implementation is the responsibility of district and commune line agencies and mass organizations (i.e FU, WU, YU). The PMU staff provides technical backstopping. The project implementation integrates itself into existing institutions at the local levels to ensure ownership, direct link to higher level policy makers, sustainability, local capacity building and reduced management cost

32. Terms of Reference for each of the PMU position are specified in the Appendix 5 of the PIM. Those management and technical staffs who worked for the AMD project with solid performance are prioritized for the PMUs. Regular meetings of the PSCs and PMUs from both provinces are required to ensure inter-provinces climate change adaptation and regional value chain planning and implementation as established by the Mekong Delta Master Plan and the other regional development plans.

3.4. Project Implementing Agencies

33. The PSCs will convene regular meetings to assign relevant and committed technical line agencies and mass organizations at appropriate levels for co-implementation of the project activities. The assignments will be decided by the PSCs at their quarterly meetings based on the capacities, resource integration commitments for new tasks and past performance of the co-implementing agencies. It is envisaged that at the province level the DPI, DARD, DOTI, DONRE, DOST, PFU, PWU, PCA, PYU, SBV and local banks, WDFs, enterprises associations, and the international finance service providers such as the DFDC are key co-implementing agencies of the project.

34. At the district/commune level the project implementation will be coordinated by the DPCs/CPCs and implemented by the district/commune line agencies/staff and the district/commune mass organizations. Implementation of CSAT will be integrated with the existing institutional arrangement at the local levels to ensure objectives of capacity building, sustainability and reduced management cost.

35. The District People's Committee (DPC) will be responsible for coordination of the project activities and integration with the organizational structures and mandates of the line agencies and mass organizations at the district level.

36. The District Technical Sections and District Mass Organizations will utilize the project resources to implement their ordinary mandates and tasks specified by their existing charters. Namely, the Planning and Finance Section under the DPC will be assigned to coordinate and/or carry out all activities related to the MOP-SEDP, VCAPs and the other socio-economic development planning activities under the CSAT. The Planning and Finance Section is also responsible for advising and supporting the DPC in integration of the CSAT with all the other programmes and projects, coordinating the other technical sections and mass organizations at the district level as well as monitoring and evaluation of the CSAT implementation. The Agriculture and Rural Development Section at the district level will be in charge of coordinating all activities related to

implementation of the VCAPs, such as the agriculture support services, etc. Respectively, the mass organizations namely the District Farmer's Union, District Women's Union, District Youth Union, etc. will be mobilized by the DPCs for implementation of CSAT in terms of development of farmer's organizations, facilitation of PPP and provision of rural finance services, farmer-to-farmer extension, etc.

37. The Commune People Committee (CPC). The CPC will be accountable for the project implementation at the commune level. The CPC will assign the responsibilities for CSAT implementation to the existing CPC's and mass organization's staff, in order to integrate CSAT activities with their ordinary works.

38. Village level. Whereas possible, the project will utilize Village Development Boards (VDBs) established under the NTP-NRD or the NTP-EMD. The VDBs are assigned to mobilize communities of the CSAT villages in MoP-SEDP and VCAP planning and implementation including an integrated approach to the selection of pro-poor value chains and livelihood support activities, infrastructure schemes implementation and maintenance, development of saving and credit groups, development of CIGs and the other community initiatives.

3.5. Social, Environmental and Climate Assessment Procedures

39. A Social, Environment and Climate Assessment Procedures (SECAP) Review Note has been prepared for CSAT in accordance with IFAD standards. Based on this review, CSAT is classed in Environmental and Social Risk Category B, with high climate change risk profile. An Environmental and Social Management Plan (ESMP) for the project and an Environmental and Social Management Framework (for sub-projects on climate resilient infrastructures) have been prepared attached to the SECAP. The ESMF describes the procedures for the environmental, social and climate assessments for the climate resilient infrastructure sub-projects under Sub-component 2.1 of the project.

Procedures for Environmental, Social and Climate Assessment for Sub-projects (Climate Resilient Infrastructure)

40. Based on the ESMF, the procedures for environmental, social and assessment for sub-projects are divided into four (4) steps, as follow:

Step 1. Screening for environmental, social and climate risks and impacts assessment

A. Sub-project eligibility screening

The following sub-projects will not be eligible for financing under CSAT. Any sub-project meeting one of more of these screening criteria cannot be put forward for financing under the project:

- Rural roads with total length of more than 10 kilometres per scheme;
- Irrigation canals with base width more than 10m; sluices with total drainage width more than 10m; irrigation embankments to protect cultivation areas of more than 500 hectares;
- Reservoirs with capacity of more than 3 million cubic meters;
- Affected people (economic displacement or physical resettlement) from investments: physical resettlement (if any) more than 20 people per scheme; and affecting (if any) more than 10 percent of individual household's assets.

The purpose of eligibility screening is to avoid significant adverse impacts that cannot be adequately mitigated by the project. The Project Management Unit is responsible for eligibility screening of sub-projects.

B. Sub-project risks screening and classification

For sub-projects that are determined to be eligible for financing, an environmental, social and climate risks screening shall be carried out. At the sub-project selection stage, all proposed sub-projects shall be screened and assigned an environmental and social risks category and climate risks classification in accordance with IFAD's SECAP (2017) and Viet Nam's Law No. 55/2014/QH13 on Environmental Protection. To comply with this, the PMU shall screen all proposed sub-projects using the sub-project screening form developed under the project. The screening should be prepared based on a site visit and secondary data as necessary.

The PMU is encouraged to send the screening form to IFAD to ensure that IFAD agrees with the results of the screening prior to the hiring of consultants to prepare necessary E&S safeguards documents. Once the screening form is received, IFAD will review and confirm the categorization within 5 working days. Proposed sub-projects with potential significant adverse impacts and requiring an environmental and social impact assessment/ESIA (Category A) will be rejected. In accordance with IFAD's SECAP requirements, Category B sub-projects require the preparation of a site specific Environmental and Social Management Plan (ESMP). For Category C sub-project, an E&S instrument is not required.

Sub-projects that are classified as High in terms of climate risk are required to undertake climate risks analysis and incorporate the results and mitigation measures in the site-specific Environmental and Social Management Plan (ESMP).

The sub-project screening form is included as Annex 1 of the ESMF.

Step 2. Development of mitigation measures and public consultation

Following sub-project screening and classification, for Category B sub-project, an impact assessment related to the proposed sub-project shall be carried out. This aims to identify the level of impact of the activities proposed under the sub-project. Category B sub-projects require the preparation of site-specific Environmental and Social Management Plan (ESMP) based on IFAD's SECAP requirements. The impact assessment will be used as an input to set scope of mitigation measures. The impact assessment will give the environment, climate and social issues due importance in the decision-making process by clearly evaluating the environmental, climate and social consequences of the proposed sub-project before action is taken. The scope of the impact assessment will depend on the screening results. The information should be collected through data collection, field survey, and consultation with local communities within the sub-project's area of influence.

A site-specific ESMP will briefly describe the sub-project description; environmental and social background of the sub-project area, including a good map showing locations of the sub-project and site-specific activities and/or process as appropriate; the potential impacts and proposed mitigation measures; and the implementation and monitoring arrangement and budget. A generic outline of a site-specific ESMP is included in Appendix 2 – Outline of Site-specific ESMP. Public consultation is to be carried out as part of the site-specific ESMP preparation. For each sub-project, the site-specific ESMP will clearly define actions to assess and mitigate associated risks and potential impacts during site clearance and construction and to reduce the risks during operation. The site-specific ESMP will include site-specific mitigation measures, including implementation and monitoring arrangement.

The outline of site-specific ESMP is included as Annex 2 of the ESMF.

Step 3. Review, Approval, and Disclosure of Site-specific ESMP

Review and Approval of Site-specific ESMP

Provincial People's Committee (PPC)/PMU's review and approval. If a sub-project requires review and approval according to the national laws and guidelines, PPC will prepare and submit E&S reports as required for review and secure the approval from the relevant government authorities before sub-project appraisal. The PPC and/or PMU will review and approve on the E&S reports, in accordance with the procedures and process of review and provide feedback/comments.

IFAD's review and clearance. After completing all assessments and public consultation required for the site-specific ESMP, PPC will endorse the draft site-specific ESMP prepared by the PMU and the consultants and submit to IFAD for review and approval. Upon receipt of the site-specific ESMP from PPC, IFAD will review and will: (i) provide no objection letter to the site-specific ESMP and disclose the final ESMP in the NOTUS; or (ii) request PPC and PMU to revise the site-specific ESMP to ensure its compliance with IFAD's SECAP requirements and this ESMF.

Information Disclosure

PPC shall be responsible for ensuring that all environmental assessment documents and environmental monitoring reports are properly and systematically kept as part of the project records. PPC shall prepare these documents in English for submission to IFAD and make these documents available in a form, language and at a location in which they can be readily accessed by stakeholders.

Step 4. Implementation, Supervision, Monitoring, and Reporting

At Project Level

PMU will take the lead in overseeing and monitoring project implementation and will periodically supervise and monitor the SECAP implementation performance and include the progress/results in the Project Progress Report. The PMU will report on (i) compliance with measures agreed with IFAD based on the findings and results of the E&S assessment, including the implementation of ESMP, as set out in the SECAP Review Note; (ii) the status/progress of mitigation measures; and (iii) the findings of monitoring programmes.

PMU will hire an E&S specialist (senior staff with the requisite skills responsible for effective and timely implementation of E&S activities, and for managing and monitoring of environmental and social impacts of sub-projects throughout the project period. Main responsibilities of an E&S specialist will include, but not be limited to: (i) enforcing compliance, including supervision and monitoring of all environment and social aspects; (ii) representing the sub-project owner for all matters related to the project E&S aspects; and (iii) be responsible for overall coordination of site-specific ESMP implementation.

Information regarding the E&S measures and performance should be periodically disclosed to the public through national and provincial media and newspapers. Depending on the capacity of PMU, an Environmental and Social Management Consultant (EMC) may be hired to assist the E&S team in performing E&S related tasks.

At Sub-project Level

During project implementation, the sub-project owner is responsible for ensuring effective implementation of mitigation measures in the site-specific ESMPs in close

consultation with local authorities and local communities. The sub-project owner will be responsible for incorporating ESMPs into bidding and contractual documents, if necessary. The results will be part of the sub-project progress report and the E&S focal point will be responsible for ensuring proper documentation of E&S activities

For more detailed information regarding the procedures for environmental, social and assessment for sub-projects, see Appendix 2 - ESMF (Climate Resilient Infrastructure)

41. The project has also prepared an Environmental and Social Management Plan (ESMP) for the entirety of the project, which provides guidance in managing environment, social and climate risks for project interventions under all project components. The ESMP is included in Appendix 2 of the SECAP Review Note.

3.6. Financial management

42. In terms of "inherent" fiduciary risk, Viet Nam falls within the substantial financial management (FM) risk bracket. As a result of strong efforts by the Viet Namese Government and political system, the country has made concrete advances against corruption. The Corruption Perception Index (CPI) of 37 for 2019 by Transparency International ranked Viet Nam 96th out of 180 countries, dropping by 21 places and four points compared to 2018. A new Anti-Corruption Law was approved and took effect in 2018. It prescribes the prevention and detection of corruption; and handling of corruption and acts of violation of the anti-corruption law. Within its scope of regulation, the law addresses agencies, organizations and individuals performing corruption and other acts which are in breach with the anti-corruption law. The law sets out relevant sanctions and disciplinary actions. On 15 August 2019, decree 59 came into effect and provides specific guidance on the implementation of the Anti-Corruption Law, inter alia on enterprise obligations in relation to conflict of interest and transparency requirements for public companies and non-state organisations. Despite these significant efforts, corruption remains a great concern to government.

43. The IFAD Policy on Anti-Corruption and Fraud requires that the staff of IFAD, (including beneficiaries of IFAD loans) as well as all bidders, suppliers, contractors and consultants under IFAD-financed contracts observe the highest standard of ethics and integrity during the procurement and execution of such contracts. Mechanisms for whistle-blowers to access IFAD systems can be accessed under http://www.ifad.org/governance/anticorruption/how.htm. In line with IFAD policies on anticorruption, sexual harassment, sexual exploitation and abuse, all bidders and contractors/service providers/suppliers are required to sign self-certification forms as a part of bids and contract documents.

44. Based on the results of the financial management assessment, the current organizational structures of the implementing agencies are found appropriate to manage the new project. The funds flow arrangements are conducive for project implementation, especially in view of the direct fund transfer arrangement from provincial level to district level. The proposed accounting standards, policies, procedures, asset management, budgeting, audit, reporting, and accounting system are largely in place and are in general considered effective for the existing organizations.

45. The project can rely on the prevailing structure and systems as regards fiduciary requirements and quality of outputs, if the required mitigation measures are implemented to address identified weaknesses. Specifically, risk level could be lowered pending the actions of project management as follows:

(i) To establish a control framework integrating periodic internal audits, independent external audits, and social safeguards based on IFAD policies;

(ii) To adopt a good governance and mutual accountability framework to strengthen accountability and transparency in line with international best practices.

(iii) To outline the project specific financial management procedures and disbursement

(iv) To establish a Project Management Information System (MIS) in order to facilitate proper segregation of duties and overarching control of information and data flows and;

(v) To reinforce FM capacity through the recruitment of qualified FM staff. Project staff will carry out periodically trainings to build the capacity of GoV staff and strengthen the performance of the implementing agencies. For Tra Vinh province, the project should ensure that accounting staff are contracted as full-time staff, and not be subject to regular transfers to other departments.

46. At provincial PMU of AMD, the financial reporting is automated, while Microsoft-Excel software is used for reporting at district-level, where automation is not yet a common practice. The project will identify and customize web-based accounting software before project start-up. Strong management and effective coordination systems will be essential to ensure efficient financial reporting and fund-flows, which will be key to improve efficiency on funds flow and successful project implementation. The PMU is tasked to ensure that the project MIS includes all project aspects besides the key fiduciary areas i.e. financial and procurement management.

47. Designated Accounts (DAs): In accordance with the Financing Agreement and Section 4.04(d) of the General Conditions, immediately after entry into force of the Financing Agreement, the GoV is required to open and maintain one Designated Account (DA) for each Ben Tre and Tra Vinh provinces, in order to receive financing for CSAT. The two DAs shall be located at a commercial bank and denominated in the loan denominating currency. The DA will be operated by the Ministry of Finance (MoF) and will be administered following Imprest Account arrangements. Advances from this financing must be segregated from other funds as received by the Project. The maximum Authorized Allocation to the Designated Accounts is set at USD 2 million for each, ben Tre and Tra Vinh. One or more advances may be withdrawn within this authorized allocation. The SOE threshold for all expenditures pertaining to all categories is recommend to be capped at a ceiling of USD 100,000.

48. Project Accounts: The respective PMU's in BT and TV shall open and maintain in their provincial treasuries the Project Accounts denominated in VND for Project operations. The Project Accounts shall be replenished as necessary from the Designated Account, upon request of the PMU to the MoF and in accordance with expenditures incurred under approved AWPBs. The Project Coordinator shall be authorized to operate the Project Accounts, in line with government regulations. The Government counterpart contributions to the project should be provided through the provincial Departments of Finance in a timely fashion. Government counterpart financing will be segregated in the Project Accounts from the IFAD Finance and other financing sources.

49. The lead project agency will endeavour to communicate to IFAD (i) the designated officials authorized to sign withdrawal applications and statements of expenditures (ii) the authenticated specimen signatures, (iii) official email address and mobile number.

50. In addition to IFAD's General Conditions, the following conditions precedent to withdrawal from the IFAD loan will apply:

a) The provincial PMU shall have been established and the key Project staff shall have been selected;

b) The Borrower, through the Lead Implementing Agency, shall have submitted, and the Fund shall have received, an official document confirming the availability of counterpart funds for the first Project Year;

c) The Designated Accounts shall have been duly opened and the names of authorized signatories shall have been duly submitted to the Fund;

d) The PIM shall have been approved by IFAD; and

e) Management Information System including computerized accounting system in compliance with national standards and acceptable to the Fund, shall have been identified and selected by the Project.

51. Start-up costs: the GoV may request advance withdrawals up to USD 100,000 equivalent for each province prior to meeting the conditions precedent to withdrawal, in accordance with Section 4.02(b) of the General Conditions and the financing agreement. Any unused balance of the start-up advance will be considered as part of the initial advance under the authorized allocation.

52. Retroactive Financing: As an exception to Section 4.08 of the General Conditions, provision will be made for retroactive financing of up to 5% of the IFAD loan to each province (BT and TV) respectively to finance the start-up preparation activities of the Project (i.e. establishment of a MIS system or /and start-up activities in the period between the signing of the MOU of the Design Completion Mission (on xx December 2020), and the entry into force of the IFAD loan. Eligible expenditures from retroactive financing shall be reimbursed to the Borrower only after the financing agreement has entered into force and any conditions precedent to withdrawal have been fulfilled.

53. Taxation. The IFAD financing proceeds must not be used to pay taxes. All taxes are to be borne by the Government.

54. Financial Reporting. The project is required to deliver unaudited project-specific financial statements annually, within four months of financial year-end, covering the duration of the implementation period, in accordance with section 9.02 of the GCs. Financial statements must contain all material and relevant information required to provide IFAD and other stakeholders with a full understanding of the project's activities and financial position.

55. The project is required to measure in kind contributions in accordance with a predefined methodology agreed with IFAD, and to retain all related calculations/documentation for verification during the audit. The project is further required to submit semi-annual unaudited interim financial reports (IFRs) to IFAD within 45 days of period-end.

3.7. Procurement

56. Procurement under CSAT shall be carried out in accordance with the Procurement Law No. 43/2013/QH13, Decree 63/2014/ND-CP and subsequently updated public procurement regulations as long they are consistent with IFAD Project Procurement Guidelines (2019 version). In cases there are contradictions between IFAD Procurement Guidelines and the national procurement regulations, IFAD Procurement Guidelines will take precedence and govern. IFAD's standard agreement will be used for procurement where possible and every effort will be made to align procurement processes to the

extent possible for parallel co-financing; due diligence will be conducted to all infrastructure investments IFAD resources will contribute to.

57. The procurement responsibilities for the overall project would be undertaken by the PPMUs of Ben Tre and Tra Vinh. Procurement of climate resilient infrastructure investments under sub-component 2.1 shall be carried out by PPMUs following procurement procedures and processes specified in the Project Implementation Manual and the Project Procurement Manual. Procurement of decentralized activities under sub-components shall be taken by project implementing agencies (DARD, DONRE, DOIT, FU, WU…), District People's Committees and/or Commune People's Committees.

58. The project shall nominate a competent procurement officer who worked for AMD project or recruit a fulltime procurement officer at each PPMU in Ben Tre and Tra Vinh. The Procurement Officer in collaboration with assigned technical and financial staff at PPMU and implementing agencies will be responsible for carrying out procurement planning and implementation, training and supporting project staffs at PPMU and implementing agencies undertaking project procurement activities. A Procurement Committee including at least 3 representatives of assigned PPMU staff or hired procurement consultants will be established for each procurement activity.

59. Procurement Plan. As per IFAD Project Procurement Guidelines, IFAD review of and no objection to the Project Procurement Plans is compulsory. IFAD procurement plan template[2] will be used for preparation and monitoring implementation progress of project procurement plans. The first 18-month procurement plan and subsequently updated annual procurement plan must include as a minimum: (i) A brief description of each procurement activity to be undertaken during the period; (ii) The estimate value of each procurement activity; (iii) The method of procurement or selection to be adopted for each procurement activity; and (iv) An indication as to whether IFAD shall carry out prior or post review in respect of every procurement activity. Similar goods or works should be bulked to sizable packages for procurement when taking into account implementation capacities of potential suppliers/ contractors. Splitting goods or works into smaller packages with an intention to use less competitive procurement methods must be avoided.

60. Procurement methods. The application of procurement methods for goods and non-consulting services under CSAT will be as follows:

Procurement methods for Goods, and Non-consulting Services	Thresholds
National Competitive Bidding (NCB)	Above US$ 90,000
Shopping	Up to US$ 90,000
Direct Contracting (DC)	Below US$ 10,000 or as exceptionally cleared by IFAD

61. The application of procurement methods for works under CSAT will be as follows:

Procurement methods for Works	Thresholds
National Competitive Bidding (NCB)	Above US$ 120,000
Shopping	Up to US$ 120,000
Procurement with Community	For infrastructure schemes that can use intensive unskilled labour and simple

[2] IFAD Procurement Plan Template can be accessible at https://www.ifad.org/en/document-detail/asset/41917572

Participation or Force Account	techniques with the estimated cost up to US$ 120,000
Direct Contracting (DC)	Below US$ 10,000 or as exceptionally cleared by IFAD

62. Selection method for consultancy services. Consultancy services shall be selected in accordance with any one of the selection methods as per the IFAD Project Procurement Guidelines and its Project Procurement Handbook as listed below:

- Quality and Cost Based Selection (QCSB);
- Fixed Budget Selection (FBS);
- Least Cost Selection (LCS);
- Selection Based on Consultants Qualification (CQS);
- Single Source Selection (SSS).

Selection Methods for Consultancy Services (Consulting Firms)	Thresholds
Quality and Cost Based Selection (QCBS), Fixed Budget Selection (FBS) and Least Cost Selection (LCS)	Above US$ 30,000
Selection Based on Consultant Qualification (CQS)	Up to US$ 30,000
Single Source Selection (SSS)	Below US$ 10,000 or as exceptionally cleared by IFAD

63. Selection of individual consultants (ICS). Individual consultants are selected on the basis of their qualifications for the assignment through competitive selection procedures with public advertisement for expressions of interest. Individuals employed shall meet all relevant qualifications requirements and shall be fully capable of carrying out the assignment. Capacity is judged based on academic background, experience and, as appropriate, knowledge of the local conditions, such as local language, culture, administrative system, and government organization.

64. Single Source Selection (SSS). Individual consultants or consultancy firms may be selection on a sole-source basis with due justification in exceptional cases such as: (i) tasks that are a continuation of previous work that the consultant has carried out and for which the consultant was selected competitively; (ii) very small assignments; (iii) emergency situations resulting from natural disasters; and (iv) when the consultant is the only consultant qualified for the assignment.

65. Prior review requirements. IFAD will undertake to review the provisions for the procurement of goods, works and services to ensure that the procurement process is carried out in conformity with IFAD Project Procurement Guidelines. The following procurement decisions shall be subject to prior review by the IFAD for the award of any contract for goods, equipment, materials, works, consultancy and services under the Project:

(i) Procurement of goods, works and non-consultancy services:

- Prequalification documents and shortlist when prequalification is undertaken;
- Draft bidding document, and draft procurement notice;

- Evaluation report and supporting documents; and
- Draft contract and the minutes of contract negotiation; Contract amendments if any.

(ii) Procurement of consultancy services:

- The draft Term of Reference (TOR), and the draft request for expression of interest (REoI);
- The EOI evaluation report, the shortlist and supporting documents when prequalification is undertaken;
- Draft request for proposal;
- Technical evaluation report[3] and supporting documents;
- Combined (technical and financial) evaluation report and supporting documents; and
- Draft contract the minutes of contract negotiation; Contract amendments if any.

(iii) Procurement of individual consultants:

- The draft Term of Reference, and the draft request for expression of interest (REoI);
- Evaluation report and supporting documents; and
- Draft contract and the minutes of contract negotiation; Contract amendments if any.

66. Except as IFAD may otherwise agree, the prior review which applies to various procurement of goods, works and consultant recruitments shall be defined as follows:

Procurement method	Prior review threshold
Procurement of Goods and Non-consulting Services	All procurement valued above US$ 90,0000
Procurement of Works	All procurement valued above US$ 120,0000
Selection of Consulting Firms	All procurement valued above US$ 40,000
Selection of Individual Consultants	All procurement valued above US$ 20,000

67. The aforementioned thresholds may be modified by IFAD during the course of Project implementation. All requests for IFAD prior review and no objection (including AWPB, Procurement Plan, procurement documents at different stages subjected to IFAD prior review, project guidelines and manuals, etc.) will be managed through No Objection Tracking Utility System[4] (NOTUS). All procurement of goods, works and services financed from IFAD funds under the Project shall require the inclusion of the following safeguard provision requiring suppliers, contractors and consultants:

[3] This is not applied for CQS method.
[4] https://notus.ifad.org

- To permit IFAD to inspect their accounts, records and other documents relating to the procurement and contract performance and to have them audited.
- Compliance with the IFAD Policy on Preventing Fraud and Corruption in its Activities and Operations and with its Policy on Preventing and Responding to Sexual Harassment, Sexual Exploitation and Abuse.

68. In compliance with IFAD Policy on Preventing Fraud and Corruption in its Activities and Operations5 and with its Policy on Preventing and Responding to Sexual Harassment, Sexual Exploitation and Abuse, Annexes on Additional Provisions and Self-certification Form shall be included in bidding document/RFP and contract documents. The self certification form will be signed by bidder/supplier/service provider/consultant as an integral part of bid/proposal and contract documents.

69. Contract registers will be prepared by PPMUs and frequently updated to monitor the implementation progress and to provide reporting data. The contract register should provide information on all the awarded contracts for the whole life of the project up to date. The PPMUs will update regularly "actual" against "plan" procurement data and information in the procurement plan.

70. The procurement risk assessment for CSAT shows that country procurement risk and project institutional risk are low. The inherent procurement risk rating is low at 2.62 points (Annex ? - CSAT Procurement Risk Matrix). Measures for mitigation of project procurement risks are: (i) Using IFAD template of procurement plan to monitor and update regularly implementation progress of the procurement plan with both "plan" and "actual" data; (ii) Request bidders, contractors/ service providers/ suppliers signing Self Certification Form on anticorruption, sexual harassment, sexual exploitation and abuse as a part of bids/ proposals and contract documents; (iii) Conduct prior and ex-post reviews, annual audits to strengthen enforcement of the debarment system; (iv) Carry out coaching, on-the-job trainings and refresher trainings for project procurement staff on IFAD project procurement guidelines, NOTUS, e-procurement; (v) Develop a project procurement manual with detailed guidelines on different procurement methods in compliance with IFAD project procurement guidelines and the Letter to the Recipient.

71. IFAD will not finance expenditures for goods, works or consulting services that have not been procured in accordance with IFAD Project Procurement Guidelines and the Financing Agreement. In such cases, IFAD may, in addition, take other remedial action under the financing agreement, including cancellation of the amount in question from the loan account by declaring it ineligible. Even if the contract was awarded following IFAD's "no objection" statement, IFAD may still declare mis-procurement if it concludes that this statement was issued on the basis of incomplete, inaccurate or misleading information furnished by the Borrower/Recipient.

3.8. Annual Work Plan and Budget (AWPB) and Procurement Plan (PP)

See details in Appendix 2 and Appendix 3.

72. The draft AWBP and the draft 18-month Procurement Plan will be reviewed and finalized by the PPMUs based on the Project Financing Agreement, the Letter to the Borrower and the final Project Design Document.

[5] https://www.ifad.org/en/anti-corruption

3.9. Monitoring and Evaluation, and Reporting

73. The objective for project Monitoring and Evaluation (M&E) will be the on-going real-time assessment of the processes employed in project activities as well as their outputs, outcomes and impact with respect to development goals and objectives. The M&E system will monitor performance and assess the outcome and impact of the project activities. Monitoring will focus on activities/Inputs, outputs, outcome, performance and risks while evaluation will assess the relevance, efficiency, effectiveness and impact on poverty reduction, business growth and environment, empowerment and partnership, sustainability, replicability, lessons learned, and knowledge up-take. The M&E system will cover both the operational and financial aspects of the Project.

74. Monitoring: Monitoring will be an integral part of the project coordination role. All staff will be involved in strengthening project progress and performance monitoring in their particular areas of responsibility. A large part of the monitoring data will be collected and communicated by the participating districts and communes. The monitoring will provide quarterly, semi-annual and annual feedback on the extent to which the project is achieving its outputs, implementing the activities, identifying potential problems at an early stage and proposing possible solutions. The accessibility of the project to all sectors of the target population, as well as the technical and financial efficiency will be monitored and possible improvements suggested.

75. Evaluation: Project evaluation will be initiated and managed by the Strategic Management Section under the PMU in two major forms (i) impact evaluation and (ii) thematic evaluation. At the same time, the full reviews at mid-term and at the conclusion of the project will be conducted by IFAD and GoV. These two official reviews are the Mid-term Review (MTR) and Project Completion Review (PCR).

76. Monitoring and evaluation is an essential function that would support project management. M&E will be supported by a management information system (MIS) which will be specifically developed for the project, and that will integrate information regarding project management, financial management and physical progress, allowing real-time reporting. The project M&E system will be designed to track and verify the levels of achievement of the project components and sub-components through their associated outcomes, and the project impacts in achieving the project objectives and its development goal. These outputs/outcomes/impacts indicators are all causally connected as set out in the Project Logical Framework (Appendix 1) which includes relevant core indicators from the Operational Results Management System (ORMS). All people-specific indicators will be disaggregated by gender, poverty & vulnerability groups, and youth and ethnic groups (for Tra Vinh only). The PMU will fine-tune progress, performance and impact indicators at the Start-Up Workshop with support from IFAD and will define targets annually as part of the internal planning processes. The project will use IFAD's revised Results and Impact Management System (RIMS) framework and Core Indicators to enhance the measurement of IFAD's results at the outcome level. To a large extent, the M&E system will be participatory, involving relevant government agencies such as the Province Statistics Office, DPI, DOLISA, WU, FU, DPCs, CPCs and local communities in data collection and management. Project evaluation will be in two major forms (i) annual outcome/impact evaluations and (ii) thematic evaluation. At the same time, the full survey/evaluation at baseline, mid-term (MTR) and conclusion (Project Completion Review) will be conducted. As part of IFAD commitment to being gender and youth transformative, pro-women and pro-youth surveys will be undertaken at baseline, MTR and completion.

3.10. Project Target Group Engagement and Feedback.

77. **Project Target Group Engagement and Feedback.**The targeting strategy describes how CSAT will reach out to its target groups. The participatory planning process builds the starting block for active participation of CSAT target groups and project stakeholders in the VCAP. The promotion of common interest groups is a key element to self-targeting i.e. to include as much as possible poor and vulnerable people. The Free Prior Informed Consent (FPIC) and Ethnic Minority Plan (EMP) will ensure feedback mechanism where demands, concerns and risks are voiced and risk mitigation measures developed. Transparency is key in CSAT. All decisions under CSAT will be published to attract participation and enable expression of dissents.

78. **Grievance redress.** The current grievance redress mechanism will be strengthened in line with relevant Viet Nam's laws and regulations. The project grievance mechanisms will be two tiered. Tier 1 is internal and targets the communities concerned and tier 2 involves third-party/external mediation. CSAT will empower Grievance Redress Committees from villages/districts to provincial levels upwards and link across departments, FU, WU and ethnic minorities representations. At the village level, the present grievance mechanisms is chaired by elder and/or spiritual/tribal leaders, which are largely accepted by local communities, particularly the ethnic minority groups.

79. The grievance redress mechanism targets individuals or groups who are directly or indirectly affected by the project, as well as those that may have interests in a project and/or have the ability to influence its outcomes, either positively or negatively. The project will strengthen existing structures and make it widely known to the communities and project parties in order to enhance awareness and to ensure an effective and efficient handling of grievances during project implementation and beyond. The provincial PMU must properly documented all complaints and grievances, with copies filed at commune and district levels.

80. If the affected peoples are not satisfied with the process, compensation or mitigation measures, or any other issue, the people themselves or their representatives or village leaders can register their complaints to the PPC or to the PMU. All grievances will be addressed promptly, and in way that is culturally appropriate to the affected peoples. The complainant is exempted from covering any costs associated to the complaints. PMU and independent monitoring consultants are responsible for monitoring the progress of the complaint resolution. All cases must be recorded in PMU project files, and be reviewed regularly by independent monitoring consultant.

3.11. Knowledge Management

81. The project knowledge management (KM) strategy would be built by the PMU for IFAD no objection and PSC approval. The KM strategy should include the following key elements: (i) a knowledge management program for purposes of supporting learning and replicating the project good practices and lessons learnt among the project stakeholders; and (ii) support for a broader program of knowledge management aimed at informing government decision-makers and influencing innovation upscaling and policy development. PMUs will coordinate the project stakeholders to collect all available relevant information to document lessons learnt, best practices and cases of success from progress reports, meetings and interviews, monitoring and evaluation reports. Based on the collected information the project will produce communication materials summarizing some of the success stories to be distributed through conferences, workshops, learning routes, and the communication systems including radio, TVs, emails, website networks. The project will closely cooperate with National Coordination Offices for NTPs and the ARD policy research institutions such as IPSARD under MARD and CIEM under MPI through on-going IFAD-supported grant projects to upscale the project innovations through implementation of the NTPs and formulation/consolidation of the agriculture and rural development policies.

82. One of the main objectives of the project is to introduce, test, pilot, and demonstrate innovative models, approaches, mechanisms, that - if successful - could be replicated and scaled-up, inform policy-making - through cooperation among provinces under the Mekong Delta Agriculture Transformation Program, among the development partners under the Mekong Delta Partnership Group, and between IFAD and national policy makers for implementation of the NTP-NRD, NTP-EMD and the Agriculture Restructuring programme. Anticipated innovations include: (i) Agriculture transformation planning and local level using the land-scape development approach, climate adaptation and value chain action plans; (ii) Inter-provinces SEDPs with climate-smart value chain support coordination mechanism; (iii) Innovative infrastructure models supporting value chains such as the processing cum trading hubs at the district and commune levels combined with development of cooperatives and other types of farmer's organizations for pro-women and pro-youth job creation; (iv) Efficient water treatment and inlet-outlet-separated water canals for high-productivity and disease-controlled development of brackish aquaculture/shrimp value chains; (v) ICT-based "smart agriculture village" with 4.0 technologies for salinity and water management, pest control combined with digitalized applications for market linkages and socio-economic activities such as eco-tourism; (vi) a new type of agriculture cooperatives for contract-farming to serve VC-leading larger private enterprises; (vii) innovative agriculture value chain financing mechanisms that works for SMEs, cooperatives, collaborative groups and small-holder farmers who lack access to commercial banks.

3.12. Sustainability

83. In order to ensure its sustainability, the project shall prepare for IFAD no objection, PSC approval and implement a Project Exit Strategy. This Strategy aims at the following objectives: a) enhancing effectiveness and sustainability of project interventions and values during and after project implementation and; b) potential scaling out/up project experiences and lessons to advocate government strategies and policies in agriculture and rural development. To achieve these objectives the project exit strategy should apply the following principles:

84. A- Alignment with national ARD strategies and policies for 2021-2030. The design of CSAT is the project exit strategy itself since the project is fully designed to serve the national policies and programs, in particular the following: (i) The Government issued the Agricultural Restructuring Plan (ARP) for the 2017-2020 period. Final draft ARP for 2021 – 2025 has recently been discussed with local development partners including IFAD prior to Government approval; (ii) The National Target Program on New Rural Development (NTP-NRD) for the 2016-2020 period to which IFAD provided with an on-going technical assistance project is very successfully implemented and being proposed for extension up to 2025. Under the NTP-NRD the One Commune One Product program (OCOP) being implemented since 2018 is the first national initiative in developing "short" value chains of agriculture in Viet Nam. The Government has also launched the National Target Program for Ethnic Minorities Development (NTP-EMD) for 2021-2030 aiming at the SDG – "no one left behind" targeting the areas where the ethnic minority people live including the Khmer group's villages in Tra Vinh province. All these national programs under the Socio-Economic Development Strategy 2020 – 2030 (SEDS) and Socio-Economic Development Plan 2021-2025 (SEDP) for Viet Nam aim at developing sustainable agriculture and rural development, increasing added value, efficiency and competitiveness of the sector, improving livelihood of farmers, contributing to poverty reduction and environmental protection. In particular, the ARP has emphasized the development of three groups of key agricultural commodities, i.e. national products, provincial products, and local specialty products. Accordingly, each

province must develop a specific implementation plan, with policies and solutions, to develop climate-smart agriculture value chains. NTP-NRD, OCOP and NTP-EMD are resources for implementation of the ARP, promoting value chain linkages, linking production with product consumption and innovating production organization in agriculture. In addition, the Government has also issued mechanisms and policies to attract enterprises to invest in agriculture and rural areas and policies to encourage cooperation and linkages in the production and consumption of agricultural products . More policy and institutional analysis on how CSAT will be aligned with the national strategic framework to ensure its impacts and sustainability could be found in the working paper number xxx.

85. B- Institutional capacity building for Government agencies to continue innovation up-scaling after the project completion. When aligning with the national strategy and programs, an action plan for the CSAT exit strategy is prepared by the PMUs for approval by the PSCs and IFAD. The exit strategy action plan is consisted of the following phases: (i) Government agencies will undertake positions of co-implementing agencies which will start pilot implementation of innovative approaches, and then (ii) evaluate, consolidate and upscale these innovative approaches/models through NTPs and other donor-supported programs and projects; and finally (iii) organize policy engagement activities contributing to institutionalization of the innovative approaches/models.

86. CSAT will develop their capacities and assist the DPI, DARD, DONRE, DOTI in integrating climate change adaptation and agriculture value chain action plans into the next Five-year Socioeconomic Development Plans (SEDPs) for the project provinces. The project supports for building capacities of DARD to: (i) formulate and/or update VCAPs for priority commodities in each Province (e.g., rice, coconut, fruits, aquaculture, livestock); (ii) strengthen the Provincial Climate Change Adaptation Plan and the Provincial Agriculture Sector Restructuring Plan for the period 2021-2025. The MoP-SEDP planning process is institutionalized and implemented every year with a strong focus on beneficiaries' participation and market-oriented VCD. It is also to serve as an important instrument to integrate CCA and disaster prevention instruments into the planning mechanism. The MoSEDP process as a holistic planning instrument that covers different sectors including economic, social, environmental development dimensions will be an important element of the project exit strategy. DPI is in charge of the MoPSEDP during and after the project implementation.

87. C- Beneficiary empowerment and farmer's organization capacity building. The project exit strategy will strictly follow the newly-issued Operational Manual for IFAD Engagement in Pro-Poor Value Chain Development. Mainstreaming participation of the poor and the smallholders in agriculture value chains that can benefit the vulnerable groups are the key strategic activities of the project exit strategy. Human resources development support especially focusing on the youth and disadvantaged women will be its essential part.

88. Sustainable development of farmer's organizations namely the CIGs, collaborative groups, cooperatives is the major objective of the project exit strategy. Throughout the CSAT implementation, the project shall focus on demonstrating an inclusive, equitable and sustainable value chain approach that could be up-scaled and institutionalized through the Mekong Delta Agriculture Transformation Program.

89. D- Partnership with market-based BDS providers and private economic entities to ascertain business continuity after the project termination. Markets are always functioning after any project termination, thus the project will be as better sustainable as more market principles are promoted. The project will adopt competitive

and transparent process to select agri-business partners for leading the pro-poor value chains. The private enterprises which produce local specialties and have market comparative advantages should be prioritized for partnering with the project through value chain mapping activities. Public finance to the business partnership will not constitute any subsidy to the enterprises or cooperatives. Instead, the project will be catalyst to promote business relation with farmer's CIGs and start/expand their business operation. The partnership among the private enterprises and the CIGs will continue to service the markets after the project completion.

90. E - Adequate resources budget for project M&E, knowledge management and policy engagement. The exit strategy on scaling up dimensions will be successful if adequate budget and human resources are allocated by the PSCs and PMUs. The exit strategy should build synergy with other interventions of the IFAD country program, in particular the IFAD grant projects with policy research institutions which would co-organize and co-finance for analytical works, technical assistance, impact assessments, and policy dialogues. Partnerships between the province-level CSAT implementation agencies and the central policy makers such as the IPSARD under MARD, CIEM under MPI will allow a process of knowledge capturing, sharing and policy influence to explore scaling up of best practices derived from the project. Engagement of the national level stakeholders as drivers to replicate and scale up the effective and innovative ideas and experiences derived from CSAT.

91. In order to successfully implement the above-outlined project exit strategy, best efforts and adequate resource provisions should be made throughout project implementation. Among others, it will be important for PSC members and PMU staff to comprehend and appreciate the project strategy and its key design features as mentioned here. Project management staff trainings and exchange visits between the two PMUs shall be regularly conducted, especially during the project start up and MTR. Adequate budget for project M&E and knowledge management should be made available. The project management should utilize any unplanned opportunity which may arise as requested by the Government central agencies or IFAD Country Office to engage and cooperate with development partners and policy makers.

IV. Components / outcome

4.1. Component 1/outcome - Effective provincial & regional coordination for sustainable and inclusive rural transformation

92. This component aims at improving the effectiveness of the regional/interprovincial cooperation on the socio-economic development plans (SEDP) at provincial, the Mekong Delta Plan at regional levels and stronger integration of climate resilience. The integrated SEDP forms the basis for climate resilient value chain action plans, planning, capacity building and public-private collaboration. CSAT joins the efforts for improved coordination led by GoV and with other donors including the World Bank, the Netherland Embassy, Japanese International Co-operation Agency (JICA), and the Canadian International Development Agency (CIDA). Such coordination facilitates convergence of co-financing along VCAP and business proposals developed in output 1.2 and forming the basis of component 2.

- Sub-component / output 1.1 – Provincial and sectoral plans for the period 2021-2025 promote innovative pro-poor, gender empowerment and climate resilient VC development .
- Sub-component / output 1.2 - Value chain action planning (VCAP) for climate resilient, inclusive, and remunerative value chain investment.
- Sub-component / output 1.3 - Functioning of 4P multi-stakeholder platforms in support of priority value chains & Mekong Delta Plan

- Sub-components / output 1.4 - Enhanced Capacities for building inclusive value chains

93. Sub-component 1.1.Regional integrated, climate resilient and inclusive socio economic planning. This sub-component supports Ben Tre and Tra Vinh authorities to promote landscape planning that, among others, emphasises: (a) the importance of regional integration, inter-provincial, and inter- sectoral cooperation in resource management and market integration; (b) the integration of socio-economic aspects, land and water management as a sound base for sustained economic development; and (c) the planning and construction of climate smart infrastructure, services, and finances which is of great importance to achieve prosperity in the province. To do so, CSAT delivers three activities:

94. Activity 1.1.1. Review and update the provincial Socio Economic Development Plans (SEDP) in the medium (2021-2025) with vision to 2050, that well informs and be informed by the Resolution 120 and the Mekong Delta Plan.

95. The Department of Planning and Investment (DPI) in two provinces is the lead implementing agency of this activity. A step-wise approach would be taken to implement the activities, as follows:

- Step 1. Consultation phase. DPI with support from the project collects and reviews all relevant national, regional, and provincial policies and documents relating to planning, followed by a series of technical consultations with key actors, especially private sectors.
- Step 2. Development phase. CSAT provides TA and training, where appropriate, to the agencies including:
  - (i) DONRE to prepare the Provincial Climate Change Adaptation and Disaster Risk Management Action Plans 2021-2025 with a vision to 2050;
  - (ii) DARD to update the master plans (2021-2025) for four subsectors (horticulture, aquaculture, livestock, and irrigation) that address the climate change, resource management, and regional market integration;
  - (iii) DOIT to update the agricultural industry and trade strategy (2021-2025) with emphasis on digital technology and e-commerce; and
  - (iv) The districts to update the medium district socio economic development plan including: (a) climate change and disaster risk assessment and zoning utilizing both down-scaled provincial-level climate change predictions and impact data as well as aggregating the outputs from the commune-level participatory processes that would have captured local knowledge and understanding of impacts, vulnerabilities and risks; (b) sectorial development situation and vision over five years; (c) strategic commodities, their distribution along the eco-sub-regions, and potential market for development; (d) priorities for investment consolidated from annual commune SEDP that was introduced by AMD and institutionalized by PPC; and most importantly; and (e) existing and committed financial sources for investment over the five year period.
- Step 3. Consolidation and rolling out phase. DPI consolidates all outcomes and outputs of the previous phases in the provincial SEDP. CSAT supports the consolidation and rolling out phase by organising the technical discussions and workshops with participation of all relevant actors from central to local levels. The final product, the SEDP, must inform and be informed by the national policies and regional plans, and must be effective in coordinating actors and funneling resources for sustainable socioeconomic development. The SEDP must be endorsed by PPC as a legal document for implementation.

- In order to ensure the synergy between the provincial SEDP and the regional plans, the project will support PPCs and agencies of two provinces to actively organise and/or participate in the dialogue and consultations on policies and actors regarding regional integrated planning; the studies on aspects of regional/landscape planning; and the development of measures to ensure the effective regional coordination platform both horizontally (between sectors, agencies) and vertically (between levels region – province – district – commune). It is noted that apart from the MDP, the Agricultural Transformation Programme/Platform (ATP) has been recently established by the Dutch Government and the Ministry of Agriculture and Rural Development (MARD) in Mekong Delta which sets an important platform for regional sustainable agricultural development.

Implementation arrangement and responsibilities of concerned parties

- DPI leads the planning process and the development of the provincial SEDP.
- DONRE develops the Provincial Climate Change Adaptation and Disaster Risk Management Action Plans 2021-2025 with a vision to 2050.
- DARD updates the master plans (2021-2025) for four subsectors (horticulture, aquaculture, livestock, and irrigation).
- DOIT updates the agricultural industry and trade strategy (2021-2025) with emphasis on digital technology and e-commerce.
- Districts develop the district SEDP.
- Communes develop the commune SEDP.
- Private sector participates and provides technical and financial supports to the planning process.
- CSAT assists DPI in leading the process, provides TA and capacity building to concerned parties, and organises meetings, workshops, cross visits where appropriate.

Time frame

This activity is implemented in the first year of the project implementation.

96. Activity 1.1.2. Value Chain Action Planning (VCAP). The provincial SEDP with concrete strategy, including financial resources, for socio economic development sets foundation for VCAP. Each VCAP will be developed within the context of the provincial SEDP using the inputs from SEDP including land-use planning/zoning, sectoral plans, and financial resources for planning. Depending on the functions and responsibilities, DARD or DOIT[6] in each province is tasked to lead the VCAP process in cooperation with 4P platform and assisted by the CSAT. In the first year, DOIT/DARD, the project, supported by experienced consultants, where appropriate, and in partnership with the 4P platform (see activity 1.1.3 below) collectively conducts the value chain action planning (VCAP). Steps include:

- Step 1. Commodity analysis.

  - Background research on the chosen commodity/crop by reviewing websites and other secondary sources of information concerning the commodity provincial and national importance, environmental requirements, role in household economies, end-markets, etc. This will be followed by primary market research in the provinces through interviews, focus groups, surveys and observation involving VC actors, and target groups (farm households, processors, input suppliers, advisors etc.);
  - Using the aforementioned information, map the commodity/crop sectors in the province. VC mapping enables the visualization of the product flow from conception to end consumer through various actors, as well as the supporting markets and enabling environment affecting the VC; this will

[6] Along the eleven IFAD funded provinces in Viet Nam, DOIT in some provinces (Ninh Thuan, Bac Kan) successfully leads the role of VCAP, meanwhile in others (Tuyen Quang, Ha Giang, Quang Binh) DARD takes the lead. CSAT will undertake a capacity needs and willingness assessment for DOIT and DARD in Tra Vinh and Ben Tre before making final decision on which agency should take the lead.

also enable to combine such socio-economic factor with poverty maps, agro-ecological zoning, current production systems and areas most vulnerable to climate change; such shall enable to identify list of eligible communes

- Prepare a table listing the structural and dynamic factors in the VC, and briefly describe the current situation, opportunities, constraints and recommendations for addressing those constraints including tangible How, Who and Financing, and reviewing more specifically pathways for target group to improve their participation and to ensure improved sharing of value addition;

- Step 2. Value chain selection. Using a set of criteria developed including (i) value chain readiness, (ii) innovation, (iii) inclusion, (iv) resilience, and (v) possibility for value chain financing and co-financing (see appendix 2 for details). This will also help identify priority communes as in fine the potential of VC investment to contribute to social and environmental criteria also depends on where investments will be made and for whom.

- Step 3. Value chain action planning.

  - Prepare a financial and economic analysis of each VC detailing the estimated potential incremental benefits from investment in their development, including, inter alia, rates of return on investment, increased household income and resilience to climate change/salinity intrusion, number and type of household benefiting; job creation; increased export; import substitution, etc.;
  - Conduct workshops bringing together key actors from various levels in the VC to vet the findings of the analysis and discuss if the chosen strategy for increasing VC competitiveness, inclusiveness and environmental values is valid.

97. Detailed guideline for VCAP is available in the appendix 7 of this PIM.

98. The VCAP for each value chain is required to be endorsed by the Provincial People's Committee as a legal document helping DARD/DOIT, the project, and the 4P to facilitate the agencies and to coordinate financial resources for VC development. The VCAP is also a living document and requires a regular update by DOIT/DARD, PMU and 4P platform during the implementation process.

Implementation arrangement and responsibilities of concerned parties

- DOIT/DARD leads the VCAP process.
- 4P/Private sector participates and provides technical and financial supports to the planning process.
- CSAT assists DOIT/DARD in leading the process, provides TA and capacity building to concerned parties, and organises meetings, workshops, cross visits where appropriate.

Time frame

This activity is implemented in the first year of the project implementation.

99. Activity 1.1.3.Public Private Producer Partnership (4P) platform established.

100. To support implementation of the VCAP, linkages to the different value chain actors is critical to agree who is interested to be involved and who is able to provide technical assistance, transportation, storage and processing, financing and contract arrangements etc. CSAT will therefore support the establishment of Public-Private-Producer-Partnerships (4P) platforms. These consists of a multi and flexible stakeholder platform that aims to improve value chain governance by enhancing coordination and strengthening relationships between actors in selected value chains. 4P is organised throughout all instruments and processes of the project from planning, through capacity building and investment. Depending on the nature and state of each

instrument at each period of the project, agenda for 4P will be developed and implemented (one an annually basis with long term vision). The Provincial Entrepreneur Association (PEA)[7] in each province is tasked to lead the establishment and implementation of the 4P. Steps include:

- Step 1. 4P establishment. PEA issues invitations/policies to invite members from public and private sector to participate in the 4P. It is flexible membership depending on the nature of each value chain and/or each event.
- Step 2. Development of guidelines and regulations for the operation of the 4P. CSAT supports PEA in development of guidelines and regulations for 4P operation.
- Step 3. Capacity building for 4P members. Where applicable, CSAT coordinates the capacity building events in all forms for the members according to the needs/demands of the 4P members.
- Step 4. Operations of 4P. Based on the VCAP, the AWBP, and the calls from the other sub-components, 4P will lead/participate in the activities, that help governance the value chains.

Implementation arrangement and responsibilities of concerned parties

- PEA leads the 4P
- Concerned agencies including DARD, DOIT, DPI, DONRE, FU, WU, YU, CEMA. participate in the 4P as per request by 4P.
- Private sector participates and provides technical and financial supports to 4P implementation process.
- CSAT assists 4P during operations, provides TA and capacity building to concerned parties, and organises meetings, workshops, cross visits where appropriate.

Time frame

- 4P establishment and guideline development is in the first year of implementation.
- The operation of 4P will be throughout, and if possible, beyond the project lifespan

101. Sub-component 1.2. Enhanced Capacities for building inclusive value chains. This sub-component supports value chain actors by improving actors' capacity and position in the value chains they engaged, preparing an enabling business environment, and creating incentives to attract investments.

102. CSAT will design a specific capacity building programme starting by conducting the capacity needs assessments to all public and private actors followed by theme studies including market scanning, risks assessment, food safety, certification, digitalization, and e-commerce. The capacity building of CSAT will strengthen fragmented linkages between VC actors, improve knowledge flows and coordination within the chain, consolidate the position of actors, and thus improve their share of benefits the chain has to offer. The capacity building programme of CSAT, therefore, will need to address the following:

- Inclusiveness and pro-poor. The capacity building must address the specific constraints faced by the project target groups in order to access the specific value chains;.
- Climate change and resource use. Climate-related risks can cause major revenue losses for all value chain actors, especially for vulnerable groups. However, climate change forces to adapt production, processing and

[7] The Provincial Entrepreneur Association (PEA) in Ben Tre is currently led by a big enterprise (BeinCO) with participation of around 100 enterprises and SMEs. PEA actively supports the enterprises and farmers accessing to market and financial resources, defending their rights, contributing to assurance of the quality and standard of products. This good example will be further strengthened and replicated to Tra Vinh province.

distribution levels of the value chain. VC actors need to be able to tap into innovations and opportunities that reduce risks, save resources, and open new and safer ways to produce, process and trade.

- Food safety and distribution. Along the market development trend with the increasing demand for safe and green products as well as the increased application of online instruments for buying and selling, CSAT capacity building interventions will focus on improving the market readiness for the strategic products in order to help present their best value proposition (i.e. product design, green and safety standards with certificates, branding in combination with fair-trade/ cultural/ traditional/ ethnic elements, etc.), and on improving distribution channels especially the digital channels with new marketing, selling and delivery methods.
- "Long" and "short" value chain. For ensuring better/ proper distribution of value in the supported value chains, CSAT prioritizes and selects both long and short value chains (see sub-component 1.1.), hence the capacity building is required to improve the actors positioning in these VCs, with a special attention to encouraging the participation of vulnerable groups as the actors. Planning and M&E capacity building will be strengthened to ensure the business linkages and the 4P are properly arranged, and the contents of contracts/ agreements between the enterprises and farmers are secured.
- Value chain Infrastructure. As required by the new ODA management policy, CSAT applies a smart approach for its interventions relating to infrastructure investment (Sub-component 2.1). CSAT promotes smart investments in the most value-added stages, areas that trigger the development of inclusive value chains, hence requires proper capacity building on planning, design, and investment.

103. Activity 1.2.1: Improve business linkages among value chain actors. The PPMU, with the project recruited value chain staff[8] and/or external expertise will be in cooperation with 4P to lead the implementation of the activity through studies, consultations, identification, and selection of themes/programmes for business linkage capacity strengthening. The implementation of this activity, as well as other below activities, will rely on results from the VCAP and the capacity needs assessment mentioned above. Areas of interventions include, but not limits to the followings:

- Strengthening public policy environment. Policy dialogues and other training forms regarding property rights, business licensing and procedures, tax structures, and regulatory compliance requirements ensure transparency, and attract more investments to value chain.
- Engagement of banks and other financial institutions: Financial institutions need good customers for development, while enterprises/producers require finance for growth. Trust and procedure/collateral are two factors currently preventing the efficient and effective linkages of the above actors. TA, trainings, dialogues, models will help foster (a) the trust with participation of additional actors (government agencies, large enterprise) as broker/facilitators, (ii) non-traditional forms of collateral including joint liability groups, business plans, contracts, third party reputation, and stock financing, (iii) arrangement of bank-agribusiness-smallholders in which the bank invests through the private sector enterprise in the operations of small farmers; and (iv) insurance.
- Communication, monitoring, and evaluation. Capacity building on these would ensure that the flow of knowledge among actors is transparent and smooth, the agreements/linkages are monitored and evaluated in view of outputs and outcomes.

[8] CSAT will recruit experience value chain staff to ensure efficient and effective facilitation of value chain development. The value chain staff must act as a facilitator – a broker for all forms of business linkages including contract farming, access to finance, and other types of value chain financing.

104. Activity 1.2.2. BDS and "farming as business" coaching. CSAT stimulates demand driven BDS through facilitation of multi service providers and promotion of diversified forms of provision (Enterprise to enterprise – E2E, Enterprise to farmer - E2F, and Famer to farmer – F2F, etc). Mechanisms to deliver this activity are as follows:

For BDS to enterprises

- Step 1. The 4P with assistance by the project reviews and consolidates the BDS demands from actors as described in the VCAP. Where appropriate, additional technical assistance is mobilized to further identify and evaluate the demands;
- Step 2. The Project assists 4P to develop BDS capacity building plan for selected value chains;
- Step 3. The 4P, supported by PPMU, facilitates the BDS capacity building to enterprises and SME, focusing on the E2E, and initiating the private payment system for BDS.

For Farming as business coaching

- Step1. CSAT invites FU, WU, CEMA, YU, and Cooperative Alliance to facilitate the farming as business coaching to farmers, specifically the CGs/SCGs (see sub-component 2.3), making the best use of the AMD experience in E2F and F2F. In cooperation with the above agencies, CSAT will update the curriculum, including: (a) CSA techniques (sub-component 2.3), (b) marketing, (c) production planning, (d) cost-benefit assessment, (e) business planning, and (f) others. Technical assistance will be brought in by CSAT where appropriate.
- Step 2. At this step, capacity building/strengthening will be provided to the agencies through TOT training to ensure staff of the agencies having adequate capacity for further delivery to farmers. Step 3. FU, WU, and Cooperative Alliance and/or enterprises deliver the coaching. The coaching results are the production/business plans of famers for CSA investments (see sub-component 2.3), and especially for access to rural finance (sub-component 2.2). The project aims to build capacity for at least 4000 CGs/SCGs equivalent to around 60000 households.

105. Activity 1.2.3. Empower youth, women, and ethnic minorities to engage in value chains. CSAT emphasizes the gender transformative, youth sensitive, and ethnic minority mainstreaming, hence designs specific capacity building instruments/programs for these groups to enable them equally, actively, and beneficially participating in the value chains. In order to do so:

- The project develops the Gender Transformative Action Plan, Youth Sensitive Action Plan, and Ethnic Minority Participation Plan specifying, among others, concrete capacity building agendas for each group. The current policies and programmes, and the VCAPs are inputs for development of the plans.
- The focus of CSAT on agricultural value chains would generate employment, input supply and business opportunities. Women, youth and EM can only tap such opportunities if they gain skills from vocational training/coaching/mentoring. Due to entrenched roles, women, youth, and EM have less opportunity to participate in education, decision-making, and economic development. Consequently, they have become highly vulnerable to climate, social, and economic shocks compared to their peers. Therefore, tailored capacity building is required for these groups. CSAT will work closely with Women Union, Famer Union, Youth Union, and Committee for Ethnic Minority. These agencies offer vocational training and

coaching using budget from national target programs including the NTPNRD, the vocational training programme, and the NTP for Ethnic Minority. Besides, BDS for women, youth, and EM led SME is facilitated by 4P with E2E, E2F mentioned above.

- Digital technology presents a growing opportunity especially for women and youth. Farm management, business planning, training and new technology, agricultural trade is increasingly "digitalised" in Viet Nam as elsewhere. CSAT, through the UN COVID-19 Response and Recovery Multi-Partner Trust Fund[9] will develop programmes to train and equip rural women and youth with skills and digital equipment, so that they can engage in new professional areas and boost their economic and social advancements. They can therefore become the agent of change for the sub-component 2.3, yielding income from facilitating access of groups to such digital innovations.

106. Activity 1.2.4. Capacity building for value proposition and differentiation. CSAT aims to improve the performance and competitiveness of value chains through boosting value proposition and differentiation. This includes interventions such as traceability and certification systems, food safety and quality, COVID sanitized system, market access and application of good environmental practices, design, branding, market entry and marketing, and digital technology and platforms (e.g. digital extension, digital processing, ecommerce). These are part of the overall capacity building programme of the project and in relation to activity 1.2.1 and 1.2.2. CSAT will coordinate, and where appropriate partners including 4P, enterprises, FU, WU, DOIT will be mobilised to facilitate and deliver the capacity building.

107. Activity 1.2.5. Develop local capacities for value chain infrastructure. As CSAT selects the most value-added potential areas to support investments and operation of infrastructure which fosters value additions under prevalent production (climate) and market conditions. Market value chain infrastructure will include new and various types of capacities, expertise and human resources. CSAT will mobilize external expertise to: (i) support the 4P, the relevant public agencies and local governments to design, build, and operate the infrastructures with clear guidelines on O&M; (ii) support the villages and communes with strong commitment and readiness to pilot models of smart village and commune[10], and (iii) support the provinces to pilot an R&D centre for innovative product development. Such centre would help improving the market readiness of strategic products in terms of product design, green and safety standards with certificates, packaging, labelling, branding etc. In addition, it would aim at enhancing distribution channels such as digital market channels through building the digital and market infrastructure. (This activity is related to Sub-Component 2.1 and will be elaborated after the VCAP is developed and during implementation).

108. Activity 1.2.6. Develop a pool of inclusive value chain expertise. Comprehensive inclusive/pro-poor value chain approaches require a wide range of technical services at all three stages of a value chain. Further, new standards, technologies, and others will emerge during value chain development that also requires expertise. The proposed activity should preferably start during project preparation and is maintained beyond project lifespan in order to have the required expertise ready for the project implementation. CSAT in close cooperation with GoV funded programs (NTP-NRD / EMD

[9] IFAD and UNIDO develop a project: "Building Forward Better: A Resilient Women and Youth Centered and Digitally Enhanced Value Chain Development in Viet Nam Project in Dong Thap and Ben Tre provinces, - US$ 850,000 from The UN COVID-19 Response and Recovery Multi-Partner Trust Fund. The project focuses on empowering women and youth in digitalized value chain development. CSAT will closely work with this project in this aspect.

[10] Smart village/commune refers to a concept developed in rural area that provides solutions to problems occurred and improves the quality of life. The main problems faced by rural areas are cover poverty, low level of education, and limited access to technology. The smart village model is categorized into 6 dimensions including 1) Governance, (2) Technology and infrastructure, (3) Resources, (4) Village Service, (5) Living, and (6) Tourism. In the context of CSAT, special attention will be paid to technology and infrastructure.

and others), committed lead firms, active CSOs, CBOs, and projects of relevant development partners, would develop a pool of value chain expert in relevant areas, including Business Development Services (BDS), CSA technologies, ICT technologies, market research, financing, insurance, etc. The operation of this pool aims to ensure sourcing technical supplies, coaching and mentoring, as well as establishing invaluable connections with national and global networks for technical services as well as funding.

Implementation arrangement and responsibilities of concerned parties

- 4P leads the BDS training programme.
- Concerned agencies including FU, WU, YU, CEMA leads the farming as business coaching
- Private sector participates and provides technical and financial supports to the sub-component.
- CSAT assists 4P and agencies through providing TA and capacity building to concerned parties, and organises meetings, workshops, cross visits where appropriate.

Time frame

- BDS and farming as business coaching will be implemented in the first two years of the project.
- Capacity building for infrastructure will be implemented throughout the project lifespan.

4.2. Component /outcome 2 - Inclusive, remunerative, and climate smart value chain established.

109. The outcomes of this component build on component 1, notably value chain action plans (VCAP) and converging finance along SEDP and 4P. They comprise: Smallholders engage in value chains ; they have improved access to financial services, water and market infrastructure and extension services; they adopt environmentally sustainable and climate resilient technologies, including efficient water usage. All contribute to create jobs for women, youth and ethnic minorities.

110. Sub-component 2.1. Climate resilient infrastructure for sustainable water usage and enhanced access to markets. CSAT invests in infrastructure that support production, processing and sale of produce. Henceforth infrastructure for water, transport, communication, digital, electricity, protection and so forth would be eligible for project funding. This investment can trigger revenues through lowering production costs and transaction costs, increasing the total factor productivity, and crowding in other productive factors such as private sector investment, foreign direct investment. Infrastructure connects supply of production inputs and products, movement of goods, outreach to technical and business services, fast and reliable information transfer, coordination of goods and services, flow of market information and so forth. By this, infrastructure that focuses on value chain development leads to productivity increases and adds value increases along the value chain.

- Step 1. Planning and selection of infrastructure. The CSAT Provincial Project Management Unit (PPMU) jointly with the 4P leads the infrastructure identification, prioritization, and scale selection within the value chain action planning (VCAP) process. Where appropriate, other public and private partners including enterprises, technical agencies, districts, communes, and communities will be involved to ensure each selected infrastructure is social, environmental, technical, and economic sound. Capacity building is provided along the process from identification to implementation and O&M as mentioned in sub-component 1.2 (activity 1.2.5). The full list of infrastructure along each value chain will be endorsed by the PPC (together with the VCAP) as legal framework for investment. The selection and planning of infrastructure follows a set of criteria that relate with the value chain planning

process (See Appendix 3 for details). The following aspects need to be duly considered:

- Inclusive value chain development will require sophistication, diversity and the right mix of infrastructure. While the conventional infrastructure (road, irrigation) remains fundamental, other infrastructure (e.g. storage, information, logistics, marketing) are an essential element especially for developing regional/global or "long" value chains.
- The agricultural sector annually looses 15-35%[11] profit due to raw agricultural material export. Therefore, processing and other post-harvest infrastructure would capture and redistribute the "loss" to the actors at the lower part of the value chain, especially the vulnerable groups.
- High logistics cost affects supply chains and constitutes a barrier for the Mekong Delta. Logistics need to improve to form stable supply chains.
- Digital infrastructure such as E-extension and E-commerce can significantly reduce logistics and service costs; by better link efficiently producers and consumers.
- The efficiency, effectiveness, and sustainability of value chain investments are highly correlated with climate change. Hence, the choice and design of infrastructure should take into account the risks posed by climate change.
- Infrastructure investments require high maintenance and operating costs. Participation of the private sector (e.g. leasing contracts) would ease the burden on public funds and ensure ownerships.
- CSAT investments in infrastructure must benefit the vulnerable groups over proportionally.
- Infrastructure investment must align with the Decree 56/2020-ND-CP on ODA management, the Resolution 120, the provincial master plans and 5-year socio-economic development plan, and the sectoral development plans.

- In view of the above, eligible public climate resilient infrastructure under CSAT would include and not limits to the following examples:
  - Newly constructed, rehabilitated or upgraded rural roads, bridges to production areas or linkages between collecting points/ warehouses and production areas;
  - Newly constructed, rehabilitated or upgraded small-scaled irrigation embankments or irrigation embankments cum rural roads;
  - Newly constructed, rehabilitated or upgraded small-scaled irrigation canals, sluices and sluice gates, irrigation pumping stations to supply, store and regulate freshwater for agricultural productions;
  - Redesign of sluices and sluice operation procedures to enable the transformation from rice towards brackish aquaculture. This should preferably be done at a landscape level and with participatory governance at the level of the hydrological unit. Areas with failed rice harvests could be selected with priority;
  - Water infrastructure which enables the poly-culture fish-shrimp-mangrove systems;
  - As applicable, the aquifer storage and recharge which doesn't have the disadvantage of evaporation, and already pilot by the Dutch funded FAME project[12].
  - Redesign of shrimp infrastructure to separate inlet and outlet canals, ensure adequate water management and protection of clean water resources.
  - Small-scaled multi-use reservoirs covered by solar panels to reduce evaporation for crop cultivation, livestock raising and domestic use.

[11] http://tapchitaichinh.vn/nghien-cuu-trao-doi/that-thoat-nong-san-sau-thu-hoach-diem-nghen-lon-cua-nong-nghiep-144670.html

[12] Freshwater Availability in the Mekong Delta (FAME) is a collaborative, multiphase project focusing on scoping, piloting and providing upscaling advice to national partners in Viet Nam on how and where to implement Aquifer Storage and Recovery (ASR) systems. ASR systems would provide farm scale solutions aimed at addressing water quality and availability issues being faced within the Ben Tre and Tra Vinh provinces of the Mekong Delta, Viet Nam.

    - Newly constructed, rehabilitated or upgraded drainage canals for frequently flooded and/or alum contaminated production lands;
    - Water supply and/or drainage canals; waste water treatment systems for aquaculture activities;
    - Medium/Low-voltage electricity lines to supply power for agriculture productions;
    - Centre for management and development of plant varieties and seedlings;
    - Collection points/ warehouse for collecting, pre-processing and packaging of agriculture products; Wholesale market places for agricultural products;
    - Transit warehouses, cool/cold storages for logistics services;
    - Product introduction showrooms/shops; E-commercial platform;
    - Salinity and/ or water quality monitoring facilities for agricultural and aquaculture production; Centre for environmental monitoring and testing;
    - Pest monitoring systems for agricultural production (rice, fruit trees);
    - Other public climate resilient infrastructures (to be determined during project implementation) for selected agricultural VC developments.
- Additionally, the proposed infrastructure sub-projects will undergo environmental and social screening and assessment following the Environmental and Social Management Framework (ESMF) prepared during the design. Sub-projects will not be eligible for financing under CSAT when: i) meeting one or more ineligible criteria according to sub-project eligibility screening; ii) fall under Category A or High Risk according to sub-project risks screening and classification. For any sub-project that fall under Category B (Moderate Risk) based on the results of screening form, a site-specific Environmental and Social Management Plan (ESMP) will be required to include specific mitigation measures addressing the identified risks and impacts, as well as monitoring and implementation arrangements of such mitigation measures. For more details, see SECAP Review Notes, Appendix 2 - ESMF.
- Step 2. Infrastructure investment. The Provincial Project Management Units (PPMUs) in Ben Tre and Tra Vinh are the investment owner of infrastructure investment schemes. Depending on size, type, scale, location of each scheme, and capacity of partner agencies/authorities, the investment management can be assigned, on a contractual basis, to the project communes or the district construction management boards in line with current investment management regulations. Design consultants, construction contractors are selected through competitive bidding in accordance with IFAD's Project Procurement Guidelines and Viet Nam's procurement regulations. The Government's counterpart financing will cover taxes (VAT of 10%) for investments. Benefiting groups will contribute about 10% of the construction cost in term of land acquisition and site clearance, labor, locally collected construction materials and cash. Force account method (implementation by community) is encouraged for the construction of small projects, simple techniques, using intensive manual labor.
- Step 3. Operation and Maintenance (O&M). Value chain infrastructure under CSAT is diversified and different in type from production to processing and distribution stage, mechanism for O&M therefore is also distinctive. Infrastructure that requires intensive O&M in view of cost and capacity such as salinity intrusion system, water pump station, water reservoir, processing unit, logistic unit might be leased out to a private sector or to a specialized government agency. The small in-field irrigation canals and embankments will require establishment of local Water use groups (WUGs) for O&M. Similarly, the O&M group will also be established for rural road. Both IFAD and the provincial governments have long experience in management of infrastructure investments through many projects and programmes. PPMU will ensure that every single invested infrastructure scheme will have regulations and unit that sustainably operates and maintains the scheme.

111. In line with the IFAD - SECAP (2017), CSAT was as a category B project in terms of environmental and social risks. This requires that public infrastructure investments are small-scale, prior consulted through the FPIC, and in line with the following criteria:

- Small scaled rural roads[13] with total length of less than 10 kilometres per scheme;
- Small-scaled irrigation canals with base width less than 10m; small-scaled sluices with total drainage width less than 10m; small-scaled irrigation embankments to protect cultivation areas of 500 hectares or less[14];
- Small-scaled reservoirs with capacity of less than 3 million cubic meters[15];
- Affected people (economic displacement or physical resettlement) from investments: physical resettlement (if any) less than 20 people per scheme; and impacting (if any) less than 10 percent of individual household's assets;

Implementation arrangement and responsibilities of concerned parties

- CSAT (PPMU) leads the investments of infrastructure following the VCAP. Also, CSAP provides TA, capacity building, and support O&M.
- Private sector participates and provides technical supports to the sub-component.
- Partnered agencies, districts, and communes implement the investments as per agreement with CSAP (endorsed by the PPC), and are responsible for establishment and implementation of O&M and to ensure such infrastructure increase service delivery to target beneficiaries. Such commitments would be spelt in dedicated partnership agreement between government and entities.

Time frame

- Infrastructure investment and O&M will be implemented throughout the project lifespan.
- Exit strategy for each infrastructure will be developed after completion and implemented beyond the project life.

112. Sub-component 2.2. Rural finance services support value chain development. This sub-component, through the value chain planning process, aims to unlock the access to rural finance and converge it into the value chain development.

113. Activity 2.2.1. Enhance access to finance for producers and SMEs. The project will enable the access of producers and SMES to several existing financial sources including:

- Women Development Fund (WDF)[16]. This fund is technically and finically support by IFAD through the AMD project. It is oversight by the Women Union with 98% participated members are women. It facilitates the poor, low-income women, and women start-up in accessing to preferential micro credit. The loan, together with capacity building, helps women start businesses, increase incomes, improve their status within the family and society at large, and hence establish norms for equitable roles of women at household. The WDF is on the way to become the Micro Finance Institution (MFI). Current loan portfolio is VND 125 billion (US$ 6 million) in Ben Tre, and VND 75 billion (US$ 3.5 million) in Tra Vinh with two loan products: (i) loan to individual household through saving and credit groups (SCG) with ~ 2,500 SCGs in each province with maximum amount of VND 35 million (US$ 1,500)/household/year, and (ii) loan to start-up and SME with maximum VND 200 million (US$ 9,000) for each/year.
- Collaborative Group Revolving fund under AMD project. During the AMD, 1200 CGs have already received a co-financing amount of $3500/group from the project. The grant was guided by the project to use on a revolving basis to which the budget for purchasing inputs was requested to return to the group at the end of the season. In this way, the grant was managed within the group sustainably and can be reinvested in the next season.

[13] According to Rural Road Standard TCVN10380-2014, Type A of rural road having surface width 3.5m, embankment width 6.0 – 6.5m Type B of rural road having surface width 3.0 – 3.5m, embankment width 4.0 – 5.0m; Type C of rural road having surface width 2.0 – 3.0m, embankment width 3.0 – 4.0m.

[14] Based on classification of irrigation schemes under Decree 67/2018/ND-CP.

[15] The proposed reservoirs in Ba Tri district, Ben Tre province are less than 0.5 million cubic meter capacity.

[16] See more details in the Project Completion Report.

- Famer Support Fund (FSF). The fund is managed by the Famer Union (FU) with total portfolio in each province of VND 20 billion (US$ 900,000). The operation of FSF is similar to WDF providing preferential micro credit to farmer through famer groups (Collaborative Group - CG). Target group of the fund is large including all farmers having membership of the FU and joining CG. Each member can borrow maximum VND 20 million (US$ 900) per year.
- The Start-up Support Fund oversight by the Department of Planning and Investment. The fund exists in Ben Tre province with contribution from enterprises and other donors. Current portfolio is VND 8 billion (US$ 360,000) providing seed grant to start-up ~ VND 100 million (US$ 4,500).
- The SME support fund managed by the Department of Industry and Trade in Tra Vinh province. The fund with current portfolio of VND 7 billion (US$ 350,000) providing grant maximum VND 300,000 (US$ 14,000) to SME that promotes climate smart technology including ICT (E-extension, E-comerce).
- The Canadian Government funded SME development project in Tra Vinh of CAD 12 million (US$ 9 million) (2015-2022) is providing technical and financial support to SME along the gradient of value chain focusing on coconut and eco-tourism value chains with four key instruments including BDS provided through public and private sectors to SMEs, SME support matching fund ($ 500,000), Start-up seed fund ($ 50,000), and SME loan channelled through the WDF ($ 80,000).
- Other funds oversight by other agencies including Youth Union, Department of Science and Technology, Department of Sport, Culture, and Tourism, Enterprise Association, etc will be further investigated and mobilised during project implementation.

- Step 1. Development of MOU/Agreement with the funds. CSAT will organise various meetings with each fund to discuss possibilities for cooperation. The discussions will address (i) the situation of each fund, (ii) the disadvantages, advantages, challenges, and opportunities for cooperation, and (iii) the action plans if cooperation is made. Result of this step is a MOU/Agreement specifying the terms, conditions, roadmap, and M&E plan for cooperation. Template of MOU/Agreement is in Appendix 13.
- Step 2. MOU/Agreement implementation/enforcement. CSAT and the fund will implement the activities specified in the MOU/Agreement. During the implementation, both parties will frequently organise meetings and evaluations that ensure the smooth implementation of the MOU/Agreement. During the course of implementation, the MOU/Agreement can be updated to be appropriate with the condition and subjected to the agreement of the fund and CSAT.
- Step 3. M&E and reporting. CSAT and the respective fund will be responsible for periodic implementation of the M&E and reporting mechanism to ensure the smooth implementation of the MOU/Agreement. Results of the M&E will be important inputs for the updates/adjustments of the MOU/Agreement.

Implementation arrangement and responsibilities of concerned parties

- CSAT facilitates the cooperation process and leads the preparation of MOU/Agreements and actions plans. CSAT provides TA, capacity building where appropriate.
- Funds are responsible for the MOU/Agreement implementation and enforcement.

Time frame

- MOU/Agreement will be implemented throughout the project lifespan.

114. Activity 2.2.2: Mobilise VC finance for enterprises. CSAT will mobilise additional value chain financing for participated and interested enterprises. In this way, enterprises could build their business capacity along with financial support that would help them graduate to a higher level of performance, and that would benefit other actors, especially the smallholder households, a long the gradient of value chain.

115. The Dutch Fund for Climate Change and Development (DFCD)[17] with total budget of Euro 160 million covering different developing countries, including Viet Nam with special focus in Mekong Delta. The fund provides credits to lead enterprises for value chain development with each package up to Euro 5 million soft loan and Euro 45,000-150,000 grant for capacity building and BDS.

116. Initial agreement has been reached during the design that the DFCD is provided through the 4P platform and the VCAP, by which eligible lead firms and/or SMEs will be identified and supported. The main focus would be on building their business capacity of business skills alongside financial support for investments to enlarge current production and its quality or start a new product. It is intended to create a "pull" for smallholder producers and SMEs down the value chain. Climate adaptation is a key criteria of the DFCD, which fits well with CSAT's objective.

117. DFCD funds are a time bound, results oriented investments under strictly commercial criteria. Investments need to be commercially viable, environmentally neutral or favourable and promote climate change adaptation. It can be safely assumed that the strong screening of business proposals enhances the likelihood of success. It enhances also the chances for sustained business expansion as only investments with a promising market opportunity will be able to obtain funding. The strong element of environmental concerns and climate adaptation will ensure sustainability under this aspect.

118. Beside the consortium with DFCD which is shaped during the design, there are other potential funding sources including the DRIVE (Development Related Infrastructure Investment Vehicle) programme is funded by the Dutch Government and offers grants and guarantees to finance infrastructure projects in 58 countries including Viet Nam, the Dutch research fund for water infrastructure and technology with an amount of Euro 20,000 per project, the EU funded Development of Smart Innovation through Research in Agriculture (DeSIRA) implemented by CIRAD which is under the process of selecting project areas with special attention to Tra Vinh and Ben Tre provinces. CSAT will further discuss and build cooperation mechanism during project implementation.

119. Steps for implementation of this subcomponent include:

- Step 1. Development of MOU/Agreement with the funds. CSAT will organise various meetings with each fund to discuss possibilities for cooperation. The discussions will address (i) the situation of each fund, (ii) the disadvantages, advantages, challenges, and opportunities for cooperation, and (iii) the action plans if cooperation is made. Enterprises, especially lead enterprises in the selected value chains will be closely consulted on how and which stage of the fund implementation they can participate and/or be benefited. The Memorandum of Understanding/Agreement would outline an investment strategy with clear targets in term of soft investment size, numbers, other benefits such as climate resilience of producers and other value chain actors. The MOU/Agreement would also specify the terms, conditions, roadmap, and M&E plan for cooperation. Template of MOU/Agreement is in Appendix 13.
- Step 2. MOU/Agreement implementation/enforcement. CSAT and the fund will implement the activities specified in the MOU/Agreement. During the implementation, both parties will frequently organise meetings and evaluations that ensure the smooth implementation of the MOU/Agreement. During the course of implementation, the MOU/Agreement can be updated to be appropriate with the condition and subjected to the agreement of the fund and CSAT.
- Step 3. M&E and reporting. CSAT and the respective fund will be responsible for periodic implementation of the M&E and reporting mechanism to ensure the smooth

[17] https://thedfcd.com/ - In Viet Nam, the DFCD is led by SNV and WWF. The fund solely focuses in Mekong Delta Region. IFAD already had initial discussions with both organisations (SNV and WWF) on the possibility for cooperation that CSAT would lead the value chain selection and planning with VC potential lead enterprises identified, DFCD will participate in planning process and work with lead enterprises to build business - financing plan. This trinity will help secure a viable and sustainable value chain development.

implementation of the MOU/Agreement. Results of the M&E will be important inputs for the updates/adjustments of the MOU/Agreement.

Implementation arrangement and responsibilities of concerned parties

- CSAT facilitates the cooperation process and leads the preparation of MOU/Agreements and actions plans. CSAT provides TA, capacity building where appropriate.
- Funds are responsible for the MOU/Agreement implementation and enforcement.

Time frame

- MOU/Agreement will be implemented throughout the project lifespan.

120. Sub-component 2.3. Smallholder farmers adopt climate smart agriculture (CSA) for value chain development. This sub-component expands the existing CSA approaches, instruments, and results of the AMD project and aims to scale out climate smart agriculture (CSA) practices, services, and technologies to smallholder farmers.

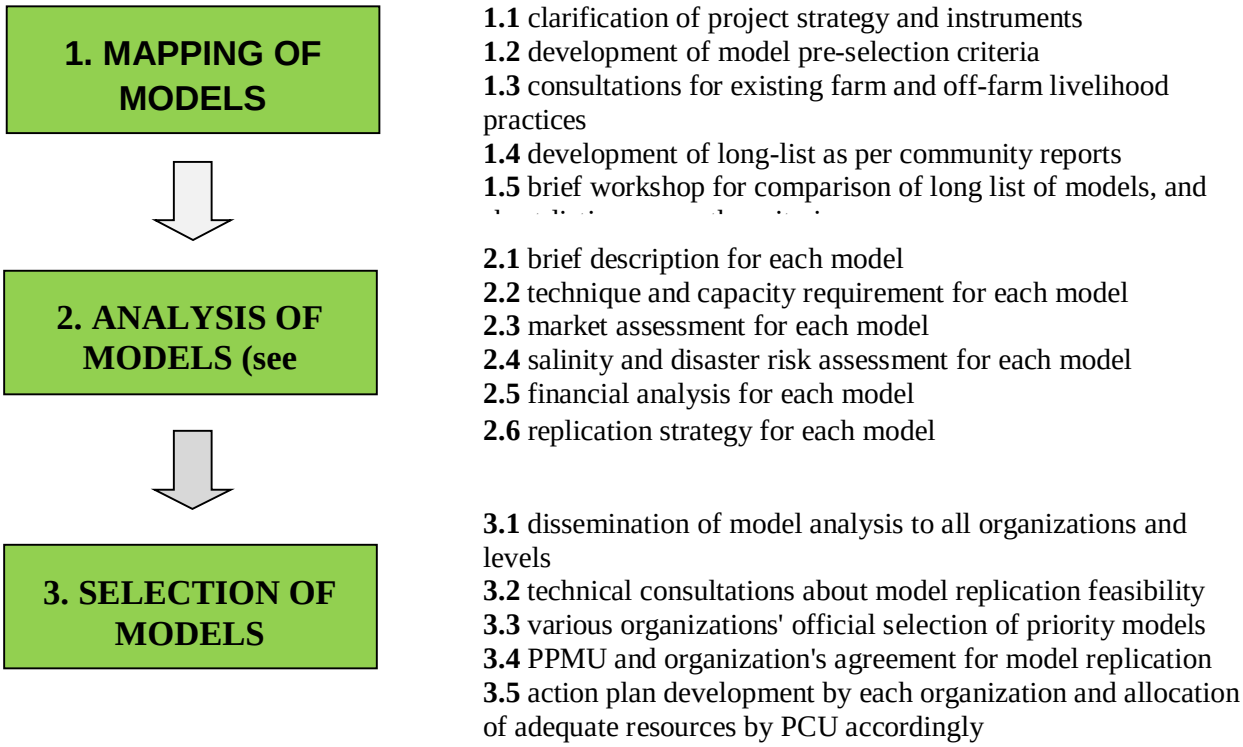
121. Activity 2.3.1.CSA selection and packaging. Result of this activity will be a range of location-specific CSA technologies and practices identified, selected, and documented.

122. CSAT will make use of the existing CSA methods and results from the AMD project. Beside the well packaged 120 CSA models selected under the AMD, CSAT will further identify and select CSA technologies and practices beyond the AMD project areas using the AMD method consisting of (i) identify the technologies and practices, (ii) review and analysis of the CSA, and (iii) selection and packaging of the CSA. The identification and selection of the additional CSA technologies and practices should include the new elements such as digital technology, food safety and quality standards, and especially it should consider pro-poor, youth sensitive, and gender transformative.

123. The CSA identification and selection process will be led by the PPMU and linked with the value chain action planning in which relevant agencies (FU, WU) and private sectors (enterprises and cooperatives) are closely involved/consulted to ensure the CSA is deliverable and beneficial to value chain actors within the value chain action plans. The selected CSA has to achieve four outcomes: (i) Increased productivity, (ii) Enhanced resilience, and (iii) Reduced CO2, CH2, and N2O emissions[18] and (iv) proven potential for value chain development (see details in Appendix 12).

- Step 1. Development of guidelines/templates for CSA practice selection. PPMU develops the guidelines and templates for CSA selection based on (i) existing documents from the AMD project, and (ii) discussions with public and private partners.
- Step 2. Identification and selection of the CSA. Using the guidelines and templates, CSAT works with partner agencies including DARD, FU, WU, CEMA, YU at all levels in identifying and selecting the models. The CSA models which were well tested and implemented under the AMD project should be continuously selected under CSAT. Figure below indicates the process of identification and selection the CSA.

[18] https://www.worldbank.org/en/topic/climate-smart-agriculture



- Step 3. Packaging the CSA. PPMU packages the CSA into the knowledge products using the templates developed under step 1. Knowledge products includes full set of selected CSA, posters, pamphlets, and technical guidance serving for CSA dissemination, application, and replication at later stage.

Implementation arrangement and responsibilities of concerned parties

- CSAT leads the process. CSAT provides TA, capacity building where appropriate.
- Related agencies including DARD, FU, WU, CEMA, YU provide guidance and technical supports to the process.

Time frame

- The packaging process will be implemented in the first two years of the project lifespan.

124. Activity 2.3.2. CSA dissemination and roll-out. The CSA technologies and practices will be primarily disseminated through the established smallholder collaborative groups (CGs) and saving and credit groups (SCGs). Over the period of AMD project implementation, there were 1200 CGs and 4000 SGCs (Saving and Credit Group) – equivalent to ~ 40,000 households, established and financed in two provinces. Besides, there are additional 20,000 CGs (~80,000 households) established and financed by Famer's Union, Women's Union, NTP-NRD, and others.

- Step 1. Assessment of capacity and willingness of the groups. PPMU, in cooperation with related agencies (FU, WU, CEMA, YU), will assess the existing CGs and SCGs regarding capacity and willingness (both financially and technically) to upgrade and/or adopt/align the CSA along the CSAT selected value chains. Result of the assessment will be a full list of participated CGs/SCGs with framework/roadmap for dissemination, training, and application/update of the CSA. CSAT will target at least 4,000 CGs/SCGs (at least 30,000 households - 30% poor/near poor, 50% women, 20% youth) to benefit from the CSA activities.
- Step 2. Dissemination of the CSA to VC platform. PPMU facilitates the dissemination of the CSA products to VC platform either directly or through the partner

agencies including FU, WU, CEMA, YU to the groups. Dissemination process will be conducted in the forms of meetings, media, and handing the leaflet, pamphlet.

- Step 3. Facilitation of financial supports for CSA implementation. While infrastructure investments (sub-component 2.1) will ultimately serve the purpose of the CSA investments, PPMU with support of 4P and other partner agencies will facilitate the access of groups to financial support as indicated under sub-component 2.2. The facilitation process will be in the forms of meetings, training, direct discussion, contract farming with the results of proper access to the agreed financial sources.
- Step 4. Hands-on technical support to groups in CSA. While sub-component 1.2 helps farmer groups have sufficient capacity to develop their bankable production business plans, under this sub-component the PPMU and partner agencies (FU, WU, CEMA, YU) will deliver hands-on technical supports to farmers in their daily application of the CSA activities. Capacity strengthening will be provided by CSAT to partner agencies to ensure they have proper capacity to hands-on coaching the farmer groups.

Implementation arrangement and responsibilities of concerned parties

- CSAT leads the process. CSAT provides TA, capacity building where appropriate.
- Related agencies including FU, WU, CEMA, YU provide hands-on technical supports to the process.

Time frame

- The support to CSA investment will be implemented in the whole project lifespan.

V. Appendixes

Appendix 1: CSAT Logical Framework

Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Logical Framework

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Outreach	1 Persons receiving services promoted or supported by the project				MIS	Annual	PMU	
	Females	0	19200	48000				
	Males							
	Young	0	9600	24000				
	Not Young							
	Indigenous people	0	11000	21000				
	Non-Indigenous people	0	37000	99000				
	Total number of persons receiving services	0	48000	120000				
	Poor persons receiving services promoted or supported by the project				MIS	Annual	PMU	
	Poor	0	4000	10000				
	Near poor	0	8000	20000				
	Vulnerable	0	30000	70000				
	1.a Corresponding number of households reached				MIS	Annual	PMU	
	Women-headed households	0	4000	10000				
	Non-women-headed households	0	20000	50000				
	Households	0	24000	60000				
	Corresponding number of poor households reached				MIS	Annual	PMU	

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
	Poor households	0	1500	3000				
	Near-poor households	0	2000	5000				
	Indigenous households	0	6000	11000				
	Vulnerable households	0	17000	35000				
	1.b Estimated corresponding total number of households members				MIS	Annual	PMU	
	Household members	0	100000	210000				
	1.c. Groups receiving project services				MIS	Annual	PMU	
	Groups	0	2000	4000				
	# HH satisfied with project services	0	7200	45000				
Project Goal Sustainable and climate resilient rural transformation in Ben Tre and Tra Vinh province	Decrease in provincial multi-dimensional poverty incidence for BT and TV				Outcome & Impact survey, DOLISA report	Benchmark, Mid-term, Final	PMU, DOLISA	Provincial governments committed to regional integrated market-led socio-economic development planning as indicated in Resolution 120, and Decision 324 Economic and social stability in target provinces Law and policies on gender equality are strongly enforced at all levels
	Decrease	0	10	20				
	Smallholder households report increased resilience to climate, environmental and economic shocks of > 20% , by P, V, S, A, EM				Outcome survey	Benchmark, Mid-term, Final	PMU	
	Tra Vinh smallholder HH	0	10000	24500				
	Ben Tre smallholder HH	0	7000	17500				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Development Objective Sustainable income opportunities and improved rural livelihoods for poor households and their women, men, EM and youth in Tra Vinh and Ben Tre provinces	Percentage of income increase among vulnerable and poor people in BT and TV				Outcome & Impact survey, MIS	Benchmark, Mid-term, Final	PMU	Provincial governments committed to regional integrated market-led socio-economic development planning as indicated in Resolution 120, and Decision 324 Economic and social stability in target provinces Law and policies on gender equality are strongly enforced at all levels
	Income increase	0	10	15				
	IE.2.1 Individuals demonstrating an improvement in empowerment				Outcome & Impact survey with specific indicators measuring empowerment	Benchmark, Mid-term, Final	PMU	
	Indigenous people	0	40	80				
	Young	0	30	80				
	Total persons	0	30	80				
	Females	0	30	80				
	Males	0	40	80				
Outcome 1. Effective provincial & regional coordination for sustainable and inclusive rural transformation established	SF.2.2 Households reporting they can influence decision-making of local authorities and project-supported service providers				Outcome survey	Annual at mid-term	PMU	Provincial governments committed to prov. & regional participatory integrated market-led socio-economic development planning as indicated in Resolution 120, and Decision 324 Provincial authorities maintain ARD as priority sector for Provincial investment.
	Households (%)	0	30	70				
	Policy 3 Existing/new laws, regulations, policies or strategies proposed to policy makers for approval, ratification or amendment				MIS, Outcome survey	Annual at mid-term	PMU	
	Number	0	1	2				
	2.2.3 Rural producers' organizations engaged in formal partnerships/agreements or contracts with public or private entities				MIS, Outcome survey	Annual at mid-term	PMU	
	Percentage of POs	0	40	70				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Output 1.1. Provincial and sectoral plans for the period 2021-2025 promote innovative pro-poor, gender empowerment and climate resilient VC development completed	Policy 1 Policy-relevant knowledge products completed				MIS	Annual	PPCs/PMU	Provincial governments committed to prov. & regional participatory integrated market-led socio-economic development planning as indicated in Resolution 120, and Decision 324 Provincial authorities maintain ARD as priority sector for Provincial investment.
	Number	0	8	10				
Output 1.2. Value chain action planning (VCAP) for climate resilient, inclusive, and remunerative value chain investment.	At least 8 value chain action plans (VCAP) prepared in each province.				MIS	Annual	PMU	Farm households are able to finance their part of the investment facility
	Action Plans	0	8	8				
Output 1.3. Functioning of 4P multi-stakeholder platforms in support of priority value chains & Mekong Delta Plan supported	Policy 2 Functioning multi-stakeholder platforms supported				MIS	Annual	PMU	Provincial governments committed to prov. & regional participatory integrated market-led socio-economic development planning as indicated in Resolution 120, and Decision 324 Provincial authorities maintain ARD as priority sector for Provincial investment.
	Number	0	5	10				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Output 1.4 Enhanced Capacities for building inclusive value chains	2.1.1 Rural enterprises accessing business development services				MIS	Annual	PMU	Private investors are interested in investing in business opportunities in smallholders agriculture along conditions promoted by the programme Producer groups are interested in inclusive value chain, and willing to invest in CSA Adequate skills base amongst local service providers
	Rural enterprises	0	300	600				
	2.1.3 Rural producers' organizations supported				MIS	Annual	PMU	
	Rural POs supported	0	2000	4000				
Outcome 2. Inclusive and climate resilient value chains established	2.2.6 Households reporting improved physical access to markets, processing and storage facilities				Outcome survey	Annual at Mid term	PMU	Private investors are interested in investing in business opportunities in smallholders agriculture along conditions promoted by the programme Local enterprises are able to finance their part of the investment facility Valid agricultural innovations available from research institutions and private sector
	Households reporting improved physical access to markets	0	10000	30000				
	Households reporting improved physical access to processing facilities	0	7000	18000				
	Households reporting improved physical access to storage facilities	0	10000	25000				
	2.2.1 New jobs created				Outcome survey	Annual at Mid term	PMU	
	Job owner - men	0	100	300				
	New jobs	0	500	1000				
	Job owner - women	0	400	700				
	Job owner - indigenous	0	100	200				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
	Job owner - young	0	100	400				
	3.2.2 Households reporting adoption of environmentally sustainable and climate-resilient technologies and practices				MIS, Outcome survey	Annual at Mid term	PMU	
	Households	0	30	70				
	Total number of household members	0	20000	42000				
	Women-headed households	0	3000	7000				
	Households	0	18000	42000				
	1.2.3 Households reporting reduced water shortage vis-à-vis production needs				Outcome survey	Annual at Mid term	PMU	
	Households	0	10	20				
Output 2.1 Climate resilient infrastructure for sustainable water usage and enhanced access to markets	2.1.5 Roads constructed, rehabilitated or upgraded				MIS	Annual	PMU	Provincial governments integrate other financial resources as co-financing for infrastructure investment. No major change in financial climate, lending terms Project financing is disbursed in time to support field implementation
	Length of roads	0	100	260				
	1.1.2 Farmland under water-related infrastructure constructed/rehabilitated				MIS	Annual	PMU	
	Hectares of land	0	8000	15000				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Output 2.2 Rural producers and enterprises access RF services for VC development	1.1.5 Persons in rural areas accessing financial services				MIS	Annual	PMU	Private investors are interested in investing in business opportunities in smallholders agriculture along conditions promoted by the programme Financial service providers remain interested to invest in project targeted value chains
	Total number of accesses to financial services							
	Women in rural areas accessing financial services - savings	0	6000	12000				
	Young people in rural areas accessing financial services - savings	0	3000	7000				
	Men in rural areas accessing financial services - savings	0	2000	5000				
	Indigenous people in rural areas accessing financial services - savings	0	1500	3000				
	Total persons accessing financial services - savings	0	8000	17000				
Output 2.3 Smallholder farmers invest in climate smart agriculture (CSAT)	3.1.1 Groups supported to sustainably manage natural resources and climate-related risks				MIS	Annual	PMU	Farm households Producer groups are interested in inclusive value chain, and are able to finance their part of the investment facility
	Groups supported	0	2500	4000				
	Males	0	12500	20000				
	Females	0	12500	20000				
	Young	0	9000	16000				
	Indigenous people	0	2500	6000				

Appendix 2: Annual Work Plan and Budget (draft)

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	Component 1 - Effective provincial & regional coordination for sustainable and inclusive rural transformation									301,231	-	-	301,231	-	-
	1.1. Regional integrated, climate resilient and inclusive socio economic planning														
	I. Investment Costs														
	A. Tra Vinh														
	1. Review and update the provincial medium (2021-2025) and long term (vision to 2050) Socio Economic Development Plans (SEDP)					DPI									
1.1.1.1	Assessment of Climate Change and Disasters Risk Management and development of plan for 2021-2025		x	x		DPI	lump sum	1	3,000	3,060			3,060		
1.1.1.2	Assessment of agricultural situation and development of plan		x	x		DARD	lump sum	1	3,000	3,060			3,060		
1.1.1.3	Assessment of industry and trade and development of plan		x	x		DOIT	lump sum	1	3,000	3,060			3,060		
1.1.1.4	Assessment and development of district SEDP		x	x		District	District	8	1,500	12,240			12,240		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
1.1.1.5	Development of integrated provincial SEDP		x	x	x	DPI	lump sum	1	4,000	4,080			4,080		
1.1.1.6	Key stakeholder progress review & evaluation workshops				x	DPI/ PPMU	Each	1	500	510			510		
1.1.1.7	Training needs assessment and subsequent capacity building		x	x	x	DPI/ PPMU	Lump sum	1	3,000	3,060			3,060		
1.1.1.8	Study tour of advanced SEDP or climate change planning provinces & lead CCA technical institutions				x	DPI/ PPMU	Each	1	1,500	1,530			1,530		
1.1.1.9	Cross-visits, district & commune staff			x	x	District	Each	8	200	1,632			1,632		
1.1.1.10	Technical assistance contract with national, lead CCA/SEDP/planning technical institution to support process		x	x	x	DPI/ PPMU	Lump sum	1	5,100	5,202			5,202		
1.1.1.11	Dissemination Provincial SEDP - publications, brochures, newspaper, radio programmes, etc.		x	x	x	DPI/ PPMU	lump sum per year	1	2,000	2,029			2,029		
1.1.1.12	Participation in national/regional dialogues, workshops, events regarding planning and development		x	x	x	DPI	Each	5	600	3,060			3,060		
1.1.1.13	Other assessments, studies on planning and development		x	x	x	DPI/ PPMU	each	3	1,000	3,060			3,060		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	Subtotal									45,583	-	-	45,583	-	-
	2. Value Chain Action Planning (VCAP)														
1.1.2.1	Technical assistance contract with national lead value chain technical institution to support process	x	x	x	x	PPMU	Lump sum	1	5,000	5,100			5,100		
1.1.2.2	Capacity building for value chain planning and development	x	x	x	x	PPMU	Lump sum	1	1,000	1,020			1,020		
1.1.2.3	Technical workshops, meetings for VCAP	x	x	x	x	PPMU	Workshop	3	300	918			918		
1.1.2.4	Study tour of advanced VC development provinces/institutions				x	PPMU	Unit	4	1,000	4,080			4,080		
1.1.2.5	Dissemination VCAP - publications, brochures, newspaper, radio programmes, etc.			x	x	PPMU	Lump sum	1	1,000	1,014			1,014		
1.1.2.6	Cross-visits, district and communes staff			x	x	District	Visit	8	200	1,632			1,632		
	Subtotal									13,764	-	-	13,764	-	-
	3. Public Private Producer Partnership (4P) platform established														

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
1.1.3.1	Formation of 4P platform (guideline, manual, etc)	x	x			PEA/ PPMU	Lump sum	1	3,000	3,060			3,060		
1.1.3.2	Workshops, meetings for 4P members and partners	x	x	x	x	PEA/ PPMU	Lump sum	10	300	3,060			3,060		
1.1.3.3	Development and dissemination of training and other documents	x	x	x	x	PEA/ PPMU	Lump sum	1	1,000	1,020			1,020		
1.1.3.4	Cross-visits, 4P members, province, district, commune staff, & other partners			x	x	PEA/ PPMU	Visit	10	200	2,040			2,040		
	Subtotal									9,180	-	-	9,180	-	-
	Subtotal									68,527	-	-	68,527	-	-
	B. Ben Tre														
	1. Review and update the provincial medium (2021-2025) and long term (vision to 2050) Socio Economic Development Plans (SEDP)					DPI									
1.1.1.1	Assessment of climate change and Disasters Risk Management and development of plan for 2021-2025		x	x		DPI	lump sum	1	3,700	3,774			3,774		
1.1.1	Assessment of agricultural situation		x	x		DARD	lump	1	3,000	3,060			3,060		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
.2	and development of plan						sum								
1.1.1.3	Assessment of industry and trade and development of plan		x	x		DOIT	lump sum	1	3,000	3,060			3,060		
1.1.1.4	Assessment and development of district SEDP		x	x		District	District	8	1,000	8,160			8,160		
1.1.1.5	Development of integrated provincial SEDP		x	x	x	DPI	lump sum	1	4,000	4,080			4,080		
1.1.1.6	Key stakeholder progress review & evaluation workshops				x	DPI/ PPMU	Each	1	400	408			408		
1.1.1.7	Training needs assessment and subsequent capacity building		x	x	x	DPI/ PPMU	Lump sum	1	3,000	3,060			3,060		
1.1.1.8	Study tour of advanced SEDP or Climate change planning provinces & lead CCA technical institutions				x	DPI/ PPMU	Each	1	1,000	1,020			1,020		
1.1.1.9	Cross-visits, district & commune staff			x	x	District	Each	8	200	1,632			1,632		
1.1.1.10	Technical assistance contract with national, lead CCA/SEDP/planning technical institution to support process		x	x	x	DPI/ PPMU	Lump sum	1	4,000	4,080			4,080		
1.1.1.11	Dissemination Provincial SEDP - publications, brochures, newspaper, radio programmes, etc.		x	x	x	DPI/ PPMU	lump sum per year	1	800	812			812		
1.1.1	Participation in national/regional		x	x	x	DPI	Each	5	300	1,530			1,530		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
.12	dialogues, workshops, events regarding planning and development														
1.1.1.13	Other assessments, studies on planning and development		x	x	x	DPI/ PPMU	each	1	1,000	1,020			1,020		
	Subtotal									35,696	-	-	35,696	-	-
	2. Value Chain Action Planning (VCAP)														
1.1.2.1	Technical assistance contract with national, lead value chain technical institution to support process	x	x	x	x	PPMU	Lump sum	1	3,300	3,366			3,366		
1.1.2.2	Capacity building for value chain planning and development	x	x	x	x	PPMU	Lump sum	1	1,000	1,020			1,020		
1.1.2.3	Technical workshops, meetings for VCAP	x	x	x	x	PPMU	Work shop	2	300	612			612		
1.1.2.4	Study tour of advanced VC development provinces/institutions				x	PPMU	Unit	2	800	1,632			1,632		
1.1.2.5	Dissemination VCAP - publications, brochures, newspaper, radio programmes, etc.			x	x	PPMU	Lump sum	1	800	812			812		
1.1.2.6	Cross-visits, 4P members, district and communes staff			x	x	District	Visit	5	200	1,020			1,020		
	Subtotal														

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
										8,462	-	-	8,462	-	-
	3. Public Private Producer Partnership (4P) platform established														
1.1.3.1	Formation of 4P platform (guideline, manual, etc)	x	x			PEA/ PPMU	Lump sum	1	3,000	3,060			3,060		
1.1.3.2	Workshops, meetings for 4P members and partners	x	x	x	x	PEA/ PPMU	Lump sum	5	300	1,530			1,530		
1.1.3.3	Development and dissemination of training and other documents	x	x	x	x	PEA/ PPMU	Lump sum	1	1,000	1,020			1,020		
1.1.3.4	Cross-visits, 4P members, province, district, commune staff, & other partners			x	x	PEA/ PPMU	Visit	5	200	1,020			1,020		
	Subtotal									6,630	-	-	6,630	-	-
	Subtotal									50,787	-	-	50,787	-	-
	Total									119,314	-	-	119,314	-	-
	1.2. Enhanced capacities for building inclusive value chains								Unit						

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	I. Investment Costs														
	A. Tra Vinh														
	1. Improve business linkages among value chain actors														
1.2.1.1	Policy dialogues for strengthening public policy environment		x	x	x	PPMU	each	5	300	1,530			1,530		
1.2.1.2	Value chain fairs/business matching events		x	x	x	PPMU	Unit	3	300	918			918		
1.2.1.3	TA for capacity needs assessment and other studies	x	x	x	x	PPMU	lump sum	2	2,000	4,080			4,080		
	Subtotal									6,528	-	-	6,528	-	-
	2. Business Development Services and "Farming as a Business Coaching"												-		
1.2.2.1	Consultations for BDS needs assessment	x	x			PPMU	meeting	5	200	1,020			1,020		
1.2.2.2	BDS coaching	x	x	x	x	PPMU	session	30	200	6,120			6,120		
1.2.2.3	Technical assistance and studies for BDS		x	x	x	PPMU	lump sum	3	500	1,530			1,530		
1.2.2.4	Meetings/workshops for farming as business capacity building		x	x	x	PPMU	unit	300	30	9,180			9,180		
1.2.2	Curriculum development and	x	x	x	x	PPMU	unit	6	300	1,836			1,836		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
.5	training for CGs/SCGs														
1.2.2.6	Additional technical assistance and studies					PPMU	lump sum	3	500	1,530			1,530		
										21,216	-	-	21,216	-	-
													-		
1.2.3.1	Consultations for development of Gender Transformative Action Plan, Youth Sensitive Action Plan, and Ethnic Minority Participation Plan	x	x	x		WU/ YU/ CEM	Meeting	9	500	4,590			4,590		
1.2.3.2	Tailored capacity building for women, youth and ethnic minorities		x	x	x	WU/ YU/ CEM	lump sum	6	200	1,224			1,224		
1.2.3.3	Meetings/workshops for women, youth, ethnic minority engagement		x	x	x	WU/ YU/ CEM	meeting	30	50	1,530			1,530		
1.2.3.4	TA and other studies	x	x	x	x	PPMU	lump sum	3	1,000	3,060			3,060		
	Subtotal									10,404	-	-	10,404	-	-
	4. Capacity building for value proposition and differentiation												-		
1.2.4	Meetings/workshops for value	x	x	x		PPMU	meeti	25	300	7,650			7,650		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
.1	proposition and differentiation						ng								
1.2.4.2	Specific training for value proposition and differentiation		x	x	x	PPMU	Training	10	200	2,040			2,040		
1.2.4.3	TA and other studies	x	x	x	x	PPMU	lump sum	6	300	1,836			1,836		
	Subtotal									11,526	-	-	11,526	-	-
	5. Develop local capacities for value chain infrastructure												-		
1.2.5.1	TA and studies on related climate smart infrastructure	x	x	x		PPMU	lump sum	10	250	2,550			2,550		
1.2.5.2	Capacity building on the design and operations and maintenance of infrastructure		x	x	x	PPMU	lump sum	8	200	1,632			1,632		
1.2.5.3	Technical workshops, meetings for infrastructure implementation and management		x	x	x	PPMU	workshop	3	200	612			612		
	Subtotal									4,794	-	-	4,794	-	-
	6. Develop a pool of inclusive value chain expertise												-		
1.2.6.1	Meetings/workshops/events for identification and development of	x	x	x	x	PPMU	meeting	20	100	2,040			2,040		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	pool of experts														
1.2.6.2	Mobilization of experts to value chain activities		x	x	x	PPMU	lump sum	15	150	2,295			2,295		
	Subtotal									4,335	-	-	4,335	-	-
	Subtotal									58,803	-	-	58,803	-	-
	B. Ben Tre												-		
	1. Improve business linkages among value chain actors												-		
1.2.1.1	Policy dialogues for strengthening public policy environment		x	x	x	PPMU	each	8	300	2,448			2,448		
1.2.1.2	Value chain fairs/business matching events		x	x	x	PPMU	Unit	5	300	1,530			1,530		
1.2.1.3	TA for capacity needs assessment and other studies	x	x	x	x	PPMU	lump sum	5	2,000	10,200			10,200		
	Subtotal									14,178	-	-	14,178	-	-
	2. Business Development Services and "Farming as a Business Coaching"												-		
1.2.2	Consultations for BDS needs	x	x			PPMU	meeti	10	200	2,040			2,040		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
.1	assessment						ng								
1.2.2.2	BDS coaching	x	x	x	x	PPMU	session	60	200	12,240			12,240		
1.2.2.3	Technical assistance and studies for BDS		x	x	x	PPMU	lump sum	20	500	10,200			10,200		
1.2.2.4	Meetings/workshops for farming as business capacity building		x	x	x	PPMU	unit	300	40	12,240			12,240		
1.2.2.5	Curriculum development and training for CGs/SCGs	x	x	x	x	PPMU	unit	14	300	4,284			4,284		
1.2.2.6	Additional technical assistance and studies					PPMU	lump sum	5	500	2,550			2,550		
	Subtotal									43,554	-	-	43,554	-	-
	3. Empower, youth, women and ethnic minorities to engage in value chains												-		
1.2.3.1	Consultations for development of Gender Transformative Action Plan, Youth Sensitive Action Plan, and Ethnic Minority Participation Plan	x	x	x		WU/ YU/ CEM	Meeting	9	500	4,590			4,590		
1.2.3.2	Tailored capacity building for women, youth and ethnic minorities		x	x	x	WU/ YU/ CEM	lump sum	15	200	3,060			3,060		
1.2.3	Meetings/workshops for women,		x	x	x	WU/	meeti	30	100	3,060			3,060		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
.3	youth, ethnic minority engagement					YU/ CEM	ng								
1.2.3.4	TA and other studies	x	x	x	x	PPMU	lump sum	8	1,000	8,160			8,160		
	Subtotal									18,870	-	-	18,870	-	-
	4. Capacity building for value proposition and differentiation												-		
1.2.4.1	Meetings/workshops for value proposition and differentiation	x	x	x		PPMU	meeting	40	200	8,160			8,160		
1.2.4.2	Specific training for value proposition and differentiation		x	x	x	PPMU	Training	30	300	9,180			9,180		
1.2.4.3	TA and other studies	x	x	x	x	PPMU	lump sum	10	500	5,100			5,100		
	Subtotal									22,440	-	-	22,440	-	-
	5. Develop local capacities for value chain infrastructure												-		
1.2.5.1	TA and studies on related climate smart infrastructure	x	x	x		PPMU	lump sum	10	250	2,550			2,550		
1.2.5.2	Capacity building on the design and operations and maintenance of infrastructure		x	x	x	PPMU	lump sum	30	200	6,120			6,120		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
1.2.5.3	Technical workshops, meetings for infrastructure implementation and management		x	x	x	PPMU	workshop	3	200	612			612		
	Subtotal									9,282	-	-	9,282	-	-
	6. Develop a pool of inclusive value chain expertise												-		
1.2.6.1	Meetings/workshops/events for identification and development of pool of experts	x	x	x	x	PPMU	meeting	40	100	4,080			4,080		
1.2.6.2	Mobilization of experts to value chain activities		x	x	x	PPMU	lump sum	35	300	10,710			10,710		
	Subtotal									14,790	-	-	14,790	-	-
	Subtotal									123,114	-	-	123,114	-	-
	Total									181,917	-	-	181,917	-	-
	Component 2 - Inclusive and climate smart value chain established														

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	2.1. Climate resilient infrastructure for sustainable water usage and enhanced access to markets.														
	I. Investment Costs														
	A. Tra Vinh														
	1. Roads														
2.1.1.1	Construction					PPMU	km		81,197	-	-	-	-	-	
2.1.1.2	Design, supervision and other			x	x	PPMU	km	40	11,155	446,200	405,636		40,564		
	Subtotal									446,200	405,636	-	40,564	-	-
	2. Water infrastructure									-					
2.1.2.1	Construction					PPMU	Hectare		687	-	-	-	-	-	
2.1.2.2	Design, supervision and other			x	x	PPMU	Hectare	2,300	96	220,800	200,727		20,073		
	Subtotal									220,800	200,727	-	20,073	-	-
	3. Other									-					

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
2.1.3.1	Construction					PPMU	Lump sum		4,176,575	-	-	-	-	-	
2.1.3.2	Design, supervision and other			x	x	PPMU	Lump sum	0.25	584,720	146,180	132,891		13,289		
	Subtotal									146,180	132,891	-	13,289	-	-
	Subtotal									813,180	739,255	-	73,925	-	-
	B. Ben Tre									-					
	1. Roads									-					
2.1.1.1	Construction					PPMU	km		81,197	-	-	-	-	-	
2.1.1.2	Design, supervision and other			x	x	PPMU	km	25	11,155	278,875	253,523		25,352		
	Subtotal									278,875	253,523	-	25,352	-	-
	2. Water infrastructure									-					
2.1.2.1	Construction					PPMU	Hectare		687	-	-	-	-	-	
2.1.2	Design, supervision and other			x	x	PPMU	Hecta	1,50	96	144,000					

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
.2							re	0			130,909		13,091		
	Subtotal									144,000	130,909	-	13,091	-	-
	3. Other									-					
2.1.3.1	Construction					PPMU	Lump sum		3,156,211	-	-	-	-	-	
2.1.3.2	Design, supervision and other			x	x	PPMU	Lump sum	0.25	441,870	110,468	100,425		10,043		
	Subtotal									110,468	100,425	-	10,043	-	-
	Total Investment Costs									1,346,523	1,224,111	-	122,411	-	-
	II. Recurrent Costs									-					
	A. Tra Vinh, operations and maintenance of infrastructure									-					
2.1.4.1	1. Roads					Commune	km	-	2,309	-					
2.1.4.2	2. Water infrastructures					WUGs	Hectare	-	22	-					
2.1.4	3. Other infrastructures					User	lump	-	208,82	-					

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
.3						groups	sum		9						
	Subtotal									-	-	-	-	-	-
	B. Ben Tre, operations and maintenance of infrastructure									-					
2.1.4.1	1. Roads					Commune	km	-	2,309	-					
2.1.4.2	2. Water infrastructures					WUGs	Hectare	-	22	-					
2.1.4.3	3. Other infrastructures					User groups	lump sum	-	157,811	-					
	Total									1,346,523	1,224,111	-	122,411	-	-
	2.2. Rural finance services support value chain development.														
	I. Investment Costs														
	A. Tra Vinh														
	1. Enhance access to finance for producers and SMEs														
2.2.1.1	Meetings, workshops at provincial, district, commune levels /a		x	x		PPMU	lump sum	2	500	1,020			1,020		
2.2.1.2	Study tours and cross visits			x		PPMU	unit	1	2,500	2,550			2,550		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
2.2.1.3	Technical assistance and studies /b	x	x			PPMU	Lump sum	1	3,000	3,060			3,060		
2.2.1.4	Publications, manuals, agreements, brochures, newspaper, radio programmes, etc.	x	x	x	x	PPMU	Lump sum per year	1	1,000	1,014			1,014		
2.2.1.5	Support to establishment, consolidation, and strengthening of SCGs/CIGs	x	x	x	x	WDF/ FSF	Lump sum	1	7,000	7,140			7,140		
2.2.1.6	Women Development Fund, individual loans through SCG /c		x	x	x	WDF	Loan	-	1,300	-			-		
2.2.1.7	Women Development Fund, SME loans /d		x	x	x	WDF	Loan	-	7,000	-			-		
2.2.1.8	Farmer Support Fund /e		x	x	x	FSF	Loan	-	900	-			-		
2.2.1.9	SME support fund /f		x	x	x	DOTI (TV)	Grant	-	14,000	-			-		
	Subtotal									14,784	-	-	14,784	-	-
	2. Mobilize VC finance for enterprises												-		
2.2.2.1	Meetings, workshops at provincial, district, commune levels /g	x	x	x	x	PPMU	Lump sum	1	500	510			510		
2.2.2	Study tours and cross visits			x	x	PPMU	Lump	1	2,000	2,040			2,040		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
.2							sum								
2.2.2.3	Technical assistance and studies /h	x	x	x		PPMU	Unit	1	300	306			306		
2.2.2.4	Publications, brochures, newspapers, radio programme	x	x	x	x	PPMU	Lump sum	1	1,000	1,014			1,014		
2.2.2.5	Enterprise loans from the Dutch Fund for Climate Change and Development /i			x	x	DFCD	Loan	1	5,000,000	5,000,000					5,000,000
	Subtotal									5,003,870	-	-	3,870	-	5,000,000
	Subtotal									5,018,655	-	-	18,655	-	5,000,000
	B. Ben Tre														
	1. Enhance access to finance for producers and SMEs														
2.2.1.1	Meetings, workshops at provincial, district, commune levels /j		x	x		PPMU	lump sum	2	500	1,020			1,020		
2.2.1.2	Study tours and cross visits			x		PPMU	unit	1	2,500	2,550			2,550		
2.2.1.3	Technical assistance and studies /k	x	x			PPMU	Lump sum	1	3,000	3,060			3,060		
2.2.1.4	Publications, manuals, agreements, brochures, newspaper, radio	x	x	x	x	PPMU	Lump sum	1	1,000	1,014			1,014		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	programmes, etc.						per year								
2.2.1.5	Support to establishment, consolidation, and strengthening of SCGs/CIGs	x	x	x	x	WDF/ FSF	Lump sum	1	7,000	7,140			7,140		
2.2.1.6	Women Development Fund, individual loans through SCG /l		x	x	x	WDF	Loan	-	1,300	-			-		
2.2.1.7	Women Development Fund, SME loans /m		x	x	x	WDF	Loan	-	7,000	-			-		
2.2.1.8	Farmer Support Fund /n		x	x	x	FSF	Loan	-	900	-			-		
2.2.1.9	Start-up Support Fund /o		x	x	x	DPI (BT)	Grant	-	4,500	-			-		
	Subtotal									14,784	-	-	14,784	-	-
	2. Mobilize VC finance for enterprises												-		
2.2.2.1	Meetings, workshops at provincial, district, commune levels /p	x	x	x	x	PPMU	Lump sum	1	500	510			510		
2.2.2.2	Study tours and cross visits			x	x	PPMU	Lump sum	1	2,000	2,040			2,040		
2.2.2.3	Technical assistance and studies /q	x	x	x		PPMU	Unit	1	300	306			306		
2.2.2	Publications, brochures,	x	x	x	x	PPMU	Lump	1	1,000	1,014			1,014		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
.4	newspapers, radio programme						sum								
2.2.2.5	Enterprise loan from the Dutch Fund for Climate Change and Development /r			x	x	DFCD	Loan	1	5,000,000	5,000,000					5,000,000
	Subtotal									5,003,870	-	-	3,870	-	5,000,000
	Subtotal									5,018,655	-	-	18,655	-	5,000,000
	Total									10,037,310	-	-	37,310	-	10,000,000
	2.3. Majority of farmers adopt climate smart agriculture (CSA) along the value chains.														
	I. Investment Costs														
	A. Tra Vinh														
	1. Support to CSA identification and selection processes														
2.3.1.1	Support to CSA identification and selection processes	x	x	x		PPMU	Lump sum	1	3,000	3,060			3,060		
2.3.1.2	Study tours and cross visits			x	x	PPMU	Unit	1	2,000	2,040			2,040		
2.3.1	CSA packaging /a		x	x	x	PPMU	lump	1	3,500	3,551			3,551		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
.3							sum								
	Subtotal									8,651	-	-	8,651	-	-
	2. CSA dissemination												-		
2.3.2.1	Meetings, workshops at provincial, district, commune levels for CSA dissemination	x	x	x	x	PPMU	Lump sum	8	500	4,080			4,080		
	3. CSA investments												-		
2.3.3.1	Technical support to CSA investments (CIG administration, techniques for CSA, CSA replication, access to finance, etc)	x	x	x		PPMU	Package	1	11,000	11,220			11,220		
2.3.3.2	CSA monitoring and updates	x	x	x	x	PPMU	Package	-	3,000	-			-		
	Subtotal									11,220	-	-	11,220	-	-
	Subtotal									23,951	-	-	23,951	-	-
	B. Ben Tre												-		
	1. Support to CSA identification and selection processes												-		
2.3.1	Support to CSA identification and	x	x	x		PPMU	Lump	1	3,000	3,060			3,060		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
.1	selection processes						sum								
2.3.1.2	Study tours and cross visits			x	x	PPMU	Unit	1	2,000	2,040			2,040		
2.3.1.3	CSA packaging /b		x	x	x	PPMU	lump sum	1	3,500	3,551			3,551		
	Subtotal									8,651	-	-	8,651	-	-
	2. CSA dissemination												-		
2.3.2.1	Meetings, workshops at provincial, district, commune levels for CSA dissemination	x	x	x	x	PPMU	Lump sum	8	500	4,080			4,080		
	3. CSA investments												-		
2.3.3.1	Technical support to CSA investments (CIG administration, techniques for CSA, CSA replication, access to finance, etc)	x	x	x		PPMU	Package	1	11,000	11,220			11,220		
2.3.3.2	CSA monitoring and updates	x	x	x	x	PPMU	Package	-	3,000	-			-		
	Subtotal									11,220	-	-	11,220	-	-
	Subtotal									23,951	-	-	23,951	-	-

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	Total									47,901	-	-	47,901	-	-
	Component 3 - Project Coordination and Management									1,531,548	-	-	1,531,548	-	-
	Table 3.1. Coordination and management														
	I. Investment Costs														
	A. Tra Vinh														
	1. Audit														
3.1.1.1	Audit				x	PPMU	Units	1	15,000	15,000			15,000		
	2. Office equipment, 6550												-		
3.1.2.1	Stationary /a	x	x	x	x	PPMU	Lump sum per month	12	238	2,854			2,854		
3.1.2.2	Office equipment /b	x	x	x	x	PPMU	Lump sum per month	12	99	1,193			1,193		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
3.1.2.3	Others /c	x	x	x	x	PPMU	Lump sum per year	12	225	2,698			2,698		
	Subtotal									6,745	-	-	6,745	-	-
	3. Purchase of project management, 9050												-		
3.1.3.1	Specialized technical equipment	x	x			PPMU	Lump sum per year	50	865	43,236			43,236		
3.1.3.2	Air conditioners	x	x			PPMU	Unit	40	432	17,294			17,294		
3.1.3.3	Computer equipment	x	x			PPMU	Unit	50	216	10,809			10,809		
	Subtotal									71,339	-	-	71,339	-	-
	Subtotal									93,084	-	-	93,084	-	-
	B. Ben Tre												-		
	1. Audit												-		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
3.1.1.1	Audit				x	PPMU	Units	1	15,000	15,000			15,000		
	2. Office equipment, 6550												-		
3.1.2.1	Stationary /d	x	x	x	x	PPMU	Lump sum per month	12	238	2,854			2,854		
3.1.2.2	Office equipment /e	x	x	x	x	PPMU	Lump sum per month	12	99	1,193			1,193		
3.1.2.3	Others /f	x	x	x	x	PPMU	Lump sum per year	12	225	2,698			2,698		
	Subtotal									6,745	-	-	6,745	-	-
	3. Purchase of project management, 9050												-		
3.1.3.1	Specialized technical equipment	x	x			PPMU	Lump sum per	50	865	43,236			43,236		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
							year								
3.1.3.2	Air conditioners	x	x			PPMU	Unit	40	432	17,294			17,294		
3.1.3.3	Computer equipment	x	x			PPMU	Unit	50	216	10,809			10,809		
	Subtotal									71,339	-	-	71,339	-	-
	Subtotal									93,084	-	-	93,084	-	-
	Total Investment Costs									186,168	-	-	186,168	-	-
	II. Recurrent Costs														
	A. Tra Vinh														
	1. Salaries and allowance /g														
	a. Full time officers at provincial level /h														
3.1.4.1	Director	x	x	x	x	PPMU	Per month	12	968	11,622			11,622		
3.1.4.2	Vice directors	x	x	x	x	PPMU	Per month	24	968	23,244			23,244		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
3.1.4.3	Administrative staff	x	x	x	x	PPMU	Per month	24	761	18,263			18,263		
3.1.4.4	Chief accountant	x	x	x	x	PPMU	Per month	12	968	11,622			11,622		
3.1.4.5	Accountants	x	x	x	x	PPMU	Per month	36	692	24,904			24,904		
3.1.4.6	Cashier	x	x	x	x	PPMU	Per month	12	692	8,301			8,301		
3.1.4.7	M&E staff	x	x	x	x	PPMU	Per month	36	692	24,904			24,904		
3.1.4.8	Strategic management staff	x	x	x	x	PPMU	Per month	156	692	107,916			107,916		
	Subtotal									230,775	-	-	230,775	-	-
	b. Full-time officers at district level /i												-		
3.1.4.9	Coordinators	x	x	x	x	PPMU	Per mont	216	519	112,067			112,067		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
							h								
3.1.4.10	District accountants	x	x	x	x	PPMU	Per month	108	519	56,034			56,034		
	Subtotal									168,101	-	-	168,101	-	-
	c. Part-time officers (project supporting departments) /j												-		
3.1.4.11	Departments	x	x	x	x	PPMU	Per month	312	145	45,325			45,325		
3.1.4.12	Heads of PMUs	x	x	x	x	PPMU	Per month	108	145	15,689			15,689		
3.1.4.13	Cashiers (full time)	x	x	x	x	PPMU	Per month	108	104	11,207			11,207		
	Subtotal									72,221	-	-	72,221	-	-
	Subtotal									471,097	-	-	471,097	-	-
	2. Contributions (social												-		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	insurance, health insurance etc...)														
	a. Full time officers at provincial level /k												-		
3.1.5.1	Director	x	x	x	x	PPMU	Per month	12	213	2,557			2,557		
3.1.5.2	Vice directors	x	x	x	x	PPMU	Per month	24	213	5,114			5,114		
3.1.5.3	Administrative staff	x	x	x	x	PPMU	Per month	24	167	4,018			4,018		
3.1.5.4	Chief accountant	x	x	x	x	PPMU	Per month	12	213	2,557			2,557		
3.1.5.5	Accountants	x	x	x	x	PPMU	Per month	36	152	5,479			5,479		
3.1.5.6	Cashier	x	x	x	x	PPMU	Per month	12	152	1,826			1,826		
3.1.5.7	M&E staff	x	x	x	x	PPMU	Per month	36	152	5,479			5,479		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
3.1.5.8	Strategic management staff	x	x	x	x	PPMU	Per month	156	152	23,742			23,742		
	Subtotal									50,771	-	-	50,771	-	-
	3. Public service costs, 6500 (i.e. utilities)												-		
3.1.6.1	Electricity	x	x	x	x	PPMU	Lump sum per month	12	238	2,854			2,854		
3.1.6.2	Water	x	x	x	x	PPMU	Lump sum per month	12	22	259			259		
3.1.6.3	Fuel	x	x	x	x	PPMU	Lump sum per month	12	130	1,556			1,556		
3.1.6.4	Environment sanitation	x	x	x	x	PPMU	Lump sum	1	130	130			130		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
							per year								
3.1.6.5	Others	x	x	x	x	PPMU	Lump sum per year	1	259	259			259		
	Subtotal									5,059	-	-	5,059	-	-
	4. Communications, propaganda and information, 6600												-		
3.1.7.1	Telephone and fax	x	x	x	x	PPMU	lump sum per month	12	121	1,453			1,453		
3.1.7.2	Post services	x	x	x	x	PPMU	lump sum per month	12	65	778			778		
3.1.7.3	Internet	x	x	x	x	PPMU	lump sum per mont	12	104	1,245			1,245		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
							h								
3.1.7.4	Media publications	x	x	x	x	PPMU	lump sum per year	1	43	43			43		
3.1.7.5	Mobile phones	x	x	x	x	PPMU	lump sum per month	12	15	182			182		
	Subtotal									3,701	-	-	3,701	-	-
	5. Meetings, 6650												-		
3.1.8.1	Printing for meetings /l	x	x	x	x	PPMU	Per person	100	0.43	43			43		
3.1.8.2	Meals, tea breaks /m	x	x	x	x	PPMU	Per person	100	9	865			865		
3.1.8.3	Others	x	x	x	x	PPMU	Lump sum	4	22	86			86		
	Subtotal	x	x	x	x					994	-	-	994	-	-
	6. Per diem (i.e. travel), 6700												-		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
3.1.9.1	Airplane tickets	x	x	x	x	PPMU	Lump sum per month	12	259	3,113			3,113		
3.1.9.2	Working trip allowance	x	x	x	x	PPMU	Lump sum per month	12	346	4,151			4,151		
3.1.9.3	Accommodation	x	x	x	x	PPMU	Lump sum per month	12	86	1,038			1,038		
3.1.9.4	Fixed costs norms	x	x	x	x	PPMU	Lump sum per month	12	627	7,523			7,523		
3.1.9.5	Others	x	x	x	x	PPMU	Lump sum per month	12	86	1,038			1,038		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	Subtotal									16,862	-	-	16,862	-	-
	7. Rental costs, 6750												-		
3.1.10.1	Office, land	x	x	x	x	PPMU	Lump sum	1	4,324	4,324			4,324		
3.1.10.2	Domestic experts and trainers	x	x	x	x	PPMU	Lump sum	1	2,162	2,162			2,162		
3.1.10.3	Domestic labor	x	x	x	x	PPMU	Lump sum per quarter	4	1,297	5,188			5,188		
	Subtotal									11,674	-	-	11,674	-	-
	8. Asset maintenance from regular costs, 6900												-		
3.1.11.1	Car maintenance	x	x	x	x	PPMU	Lump sum per year	4	1,297	5,188			5,188		
3.1.11.2	Maintenance of assets and specialized equipment	x	x	x	x	PPMU	Lump sum per	1	432	432			432		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
							year								
3.1.11.3	IT equipment maintenance	x	x	x	x	PPMU	Lump sum per year	1	2,162	2,162			2,162		
3.1.11.4	Assets and office equipment maintenance	x	x	x	x	PPMU	Lump sum per year	1	2,162	2,162			2,162		
3.1.11.5	Power lines, water supply and drainage	x	x	x	x	PPMU	Lump sum per year	1	1,621	1,621			1,621		
	Subtotal									11,566	-	-	11,566	-	-
	9. Professional expenses of each unit, 7000												-		
3.1.12.1	Printing	x	x	x	x	PPMU	Lump sum per month	12	173	2,075			2,075		
	10. Others, 7750												-		
3.1.1	Fees and charges of the unit that	x	x	x	x	PPMU	Lump	1	432	432			432		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
3.1	prepares the cost estimation						sum per year								
3.1.13.2	Assets & vehicle insurance of units that prepares cost estimation	x	x	x	x	PPMU	Lump sum per year	1	2,162	2,162			2,162		
3.1.13.3	Cost to receive and work with delegations	x	x	x	x	PPMU	Lump sum per month	12	368	4,410			4,410		
3.1.13.4	Others	x	x	x	x	PPMU	Lump sum per month	12	432	5,188			5,188		
	Subtotal									12,192	-	-	12,192	-	-
	Subtotal									585,990	-	-	585,990	-	-
	B. Ben Tre												-		
	1. Salaries and allowance /n												-		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	a. Full time officers at provincial level /o												-		
3.1.4.1	Director	x	x	x	x	PPMU	Per month	12	968	11,622			11,622		
3.1.4.2	Vice directors	x	x	x	x	PPMU	Per month	24	968	23,244			23,244		
3.1.4.3	Administrative staff	x	x	x	x	PPMU	Per month	24	761	18,263			18,263		
3.1.4.4	Chief accountant	x	x	x	x	PPMU	Per month	12	968	11,622			11,622		
3.1.4.5	Accountants	x	x	x	x	PPMU	Per month	36	692	24,904			24,904		
3.1.4.6	Cashier	x	x	x	x	PPMU	Per month	12	692	8,301			8,301		
3.1.4.7	M&E staff	x	x	x	x	PPMU	Per month	36	692	24,904			24,904		
3.1.4.8	Strategic management staff	x	x	x	x	PPMU	Per mont	156	692	107,916			107,916		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
							h								
	Subtotal									230,775	-	-	230,775	-	-
	b. Full-time officers at district level /p												-		
3.1.4.9	Coordinators	x	x	x	x	PPMU	Per month	216	519	112,067			112,067		
3.1.4.10	District accountants	x	x	x	x	PPMU	Per month	108	519	56,034			56,034		
	Subtotal									168,101	-	-	168,101	-	-
	c. Part-time officers (project supporting departments) /q												-		
3.1.4.11	Departments	x	x	x	x	PPMU	Per month	312	145	45,325			45,325		
3.1.4.12	Heads of PMUs	x	x	x	x	PPMU	Per month	108	145	15,689			15,689		
3.1.4.13	Cashiers (full time)	x	x	x	x	PPMU	Per mont	108	104	11,207			11,207		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
							h								
	Subtotal									72,221	-	-	72,221	-	-
	Subtotal									471,097	-	-	471,097	-	-
	2. Contributions (social insurance, health insurance etc...)												-		
	a. Full time officers at provincial level /r												-		
3.1.5.1	Director	x	x	x	x	PPMU	Per month	12	213	2,557			2,557		
3.1.5.2	Vice directors	x	x	x	x	PPMU	Per month	24	213	5,114			5,114		
3.1.5.3	Administrative staff	x	x	x	x	PPMU	Per month	24	167	4,018			4,018		
3.1.5.4	Chief accountant	x	x	x	x	PPMU	Per month	12	213	2,557			2,557		
3.1.5	Accountants	x	x	x	x	PPMU	Per	36	152	5,479			5,479		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
.5							month								
3.1.5.6	Cashier	x	x	x	x	PPMU	Per month	12	152	1,826			1,826		
3.1.5.7	M&E staff	x	x	x	x	PPMU	Per month	36	152	5,479			5,479		
3.1.5.8	Strategic management staff	x	x	x	x	PPMU	Per month	156	152	23,742			23,742		
	Subtotal									50,771	-	-	50,771	-	-
	3. Public service costs, 6500 (i.e. utilities)												-		
3.1.6.1	Electricity	x	x	x	x	PPMU	Lump sum per month	12	238	2,854			2,854		
3.1.6.2	Water	x	x	x	x	PPMU	Lump sum per mont	12	22	259			259		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
							h								
3.1.6.3	Fuel	x	x	x	x	PPMU	Lump sum per month	12	130	1,556			1,556		
3.1.6.4	Environment sanitation	x	x	x	x	PPMU	Lump sum per year	1	130	130			130		
3.1.6.5	Others	x	x	x	x	PPMU	Lump sum per year	1	259	259			259		
	Subtotal									5,059	-	-	5,059	-	-
	4. Communications, propaganda and information, 6600												-		
3.1.7.1	Telephone and fax	x	x	x	x	PPMU	lump sum per month	12	121	1,453			1,453		
3.1.7	Post services	x	x	x	x		lump	12	65	778			778		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
.2							sum per month								
3.1.7.3	Internet	x	x	x	x		lump sum per month	12	104	1,245			1,245		
3.1.7.4	Media publications	x	x	x	x		lump sum per year	1	43	43			43		
3.1.7.5	Mobile phones	x	x	x	x		lump sum per month	12	15	182			182		
	Subtotal									3,701	-	-	3,701	-	-
	5. Meetings, 6650												-		
3.1.8.1	Printing for meetings /s	x	x	x	x	PPMU	Per person	100	0.43	43			43		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
3.1.8.2	Meals, tea breaks /t	x	x	x	x	PPMU	Per person	100	9	865			865		
3.1.8.3	Others	x	x	x	x	PPMU	Lump sum	4	22	86			86		
	Subtotal	x	x	x	x					994	-	-	994	-	-
	6. Per diem (i.e. travel), 6700												-		
3.1.9.1	Airplane tickets	x	x	x	x	PPMU	Lump sum per month	12	259	3,113			3,113		
3.1.9.2	Working trip allowance	x	x	x	x	PPMU	Lump sum per month	12	346	4,151			4,151		
3.1.9.3	Accommodation	x	x	x	x	PPMU	Lump sum per month	12	86	1,038			1,038		
3.1.9.4	Fixed costs norms	x	x	x	x	PPMU	Lump sum	12	627	7,523			7,523		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
							per month								
3.1.9.5	Others	x	x	x	x	PPMU	Lump sum per month	12	86	1,038			1,038		
	Subtotal									16,862	-	-	16,862	-	-
	7. Rental costs, 6750												-		
3.1.10.1	Office, land	x	x	x	x	PPMU	Lump sum	1	4,324	4,324			4,324		
3.1.10.2	Domestic experts and trainers	x	x	x	x	PPMU	Lump sum	1	2,162	2,162			2,162		
3.1.10.3	Domestic labor	x	x	x	x	PPMU	Lump sum per quarter	4	1,297	5,188			5,188		
	Subtotal									11,674	-	-	11,674	-	-
	8. Asset maintenance from												-		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	regular costs, 6900														
3.1.11.1	Car maintenance	x	x	x	x	PPMU	Lump sum per year	4	1,297	5,188			5,188		
3.1.11.2	Maintenance of assets and specialized equipment	x	x	x	x	PPMU	Lump sum per year	1	432	432			432		
3.1.11.3	IT equipment maintenance	x	x	x	x	PPMU	Lump sum per year	1	2,162	2,162			2,162		
3.1.11.4	Assets and office equipment maintenance	x	x	x	x	PPMU	Lump sum per year	1	2,162	2,162			2,162		
3.1.11.5	Power lines, water supply and drainage	x	x	x	x	PPMU	Lump sum per year	1	1,621	1,621			1,621		
	Subtotal									11,566	-	-	11,566	-	-
	9. Professional expenses of each												-		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	unit, 7000														
3.1.12.1	Printing	x	x	x	x	PPMU	Lump sum per month	12	173	2,075			2,075		
	10. Others, 7750												-		
3.1.13.1	Fees and charges of the unit that prepares the cost estimation	x	x	x	x	PPMU	Lump sum per year	1	432	432			432		
3.1.13.2	Assets & vehicle insurance of units that prepares cost estimation	x	x	x	x	PPMU	Lump sum per year	1	2,162	2,162			2,162		
3.1.13.3	Cost to receive and work with delegations	x	x	x	x	PPMU	Lump sum per month	12	368	4,410			4,410		
3.1.13.4	Others	x	x	x	x	PPMU	Lump sum per month	12	432	5,188			5,188		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	Subtotal									12,192	-	-	12,192	-	-
	Subtotal									585,990	-	-	585,990	-	-
	Total Recurrent Costs									1,171,981	-	-	1,171,981	-	-
	Total									1,358,148	-	-	1,358,148	-	-
	3.2. Management capacity building and technical assistance														
	I. Investment Costs														
	A. Tra Vinh and Ben Tre														
	1. Monitoring and Evaluation TA and studies														
3.2.1.1	Project baseline survey		x	x		PPMU	Unit	1	30,000	30,600			30,600		
3.2.1.2	Mid-term review survey					PPMU	Unit	-	30,000	-			-		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
3.2.1.3	Impact survey					PPMU	Unit	-	40,000	-			-		
3.2.1.4	other thematic studies			x	x	PPMU	Lump sum	2	5,000	10,200			10,200		
3.2.1.5	Set up of Management Information System		x	x		PPMU	Lump sum	1	15,000	15,300			15,300		
	Subtotal									56,100	-	-	56,100	-	-
	2. Technical Assistance												-		
3.2.2.1	Technical assistance for M&E set-up		x	x		PPMU	lump sum	1	10,000	10,200			10,200		
3.2.2.2	TA for revision of M&E system at MTR					PPMU	lump sum	-	7,000	-			-		
3.2.2.3	TA for gender and youth targeting, and social inclusion		x	x		PPMU	Monthly	4	3,000	12,240			12,240		
3.2.2.4	Other TA	x	x	x	x	PPMU	lump sum	0.25	20,000	5,100			5,100		
	Subtotal									27,540	-	-	27,540	-	-
	3. Trainings												-		
3.2.3.1	Training for monitoring and evaluation, including participation in the PRIME initiative, PMU		x	x		PPMU	lump sum	1	10,000	10,200			10,200		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
3.2.3.2	M&E training, provincial and district level		x	x		PPMU	Per province	2	10,000	20,400			20,400		
3.2.3.3	Training on project approach and management	x	x			PPMU	Lump sum	2	5,000	10,200			10,200		
3.2.3.4	Training on gender and youth targeting		x	x		PPMU	Lump sum	2	5,000	10,200			10,200		
	Subtotal									51,000	-	-	51,000	-	-
	Total									134,640	-	-	134,640	-	-
	3.3. Knowledge management communication and policy development														
	I. Investment Costs														
	A. Tra Vinh and Ben Tre														
	1. Knowledge management														
3.3.1.1	Support for project website design		x	x		PPMU	days	20	200	4,080			4,080		
3.3.1.2	Lump sum for KM products or outreach	x	x	x	x	PPMU	Lump sum for KM	5	3,000	15,300			15,300		

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
							products or outreach								
3.3.1.3	Documentation on best practice for gender, youth and social inclusion targeting			x	x	PPMU	Lump sum for KM products or outreach	2	3,000	6,120			6,120		
3.3.1.4	Thematic workshops for cross-provincial KM				x	PPMU	workshop	1	3,000	3,060			3,060		
	Subtotal									28,560	-	-	28,560	-	-
	2. Policy development												-		
3.3.2.1	Policy development engagement				x	PPMU	lump sum	1	10,000	10,200			10,200		
	Total									38,760	-	-	38,760	-	-

Ref. No.	Activity Description	Implementation time				Responsible	Unit	Quantities	Unit Cost (US$)	Budget (US$)					
		Q1	Q2	Q3	Q4					2022 Budget Plan including contingencies (US$)	IFAD Loan (US$)	IFAD Grant (US$)	Gov (US$)	Beneficiary (US$)	Rural Finance Funds (US$)
	Total (for all Components)									13,264,513	1,224,111	-	2,040,402	-	10,000,000

Appendix 3: 18-month Procurement Plan (draft)

Procurement Plan SUMMARY				
Country:	Viet Nam			
Project Name:	Climate Smart Agriculture Transformation Project (CSAT)			
Project ID:				
Version	1.0			
Version Date	23-Feb-21			
Prepared by:	CSAT Design Mission Team			
Approved by:				
Procurement Category	Plan		Actual	
Currency	USD	LCU	USD	LCU
Goods	184,844.00	-	-	-
Works	9,025,160.00	-	-	-
Consulting Services	3,047,617.00	-	-	-
Non-Consulting Services	-	-	-	-
TOTAL	12,257,621.00	-	-	-

Prior Review Thresholds				
Thresholds	Goods	Works	Firms - Consulting Services	Individuals - Consulting Services
Prior Review	≥ US$ 90,000.00	≥ US$ 120,000.00	≥ US$ 40,000.00	≥ US$ 20,000.00

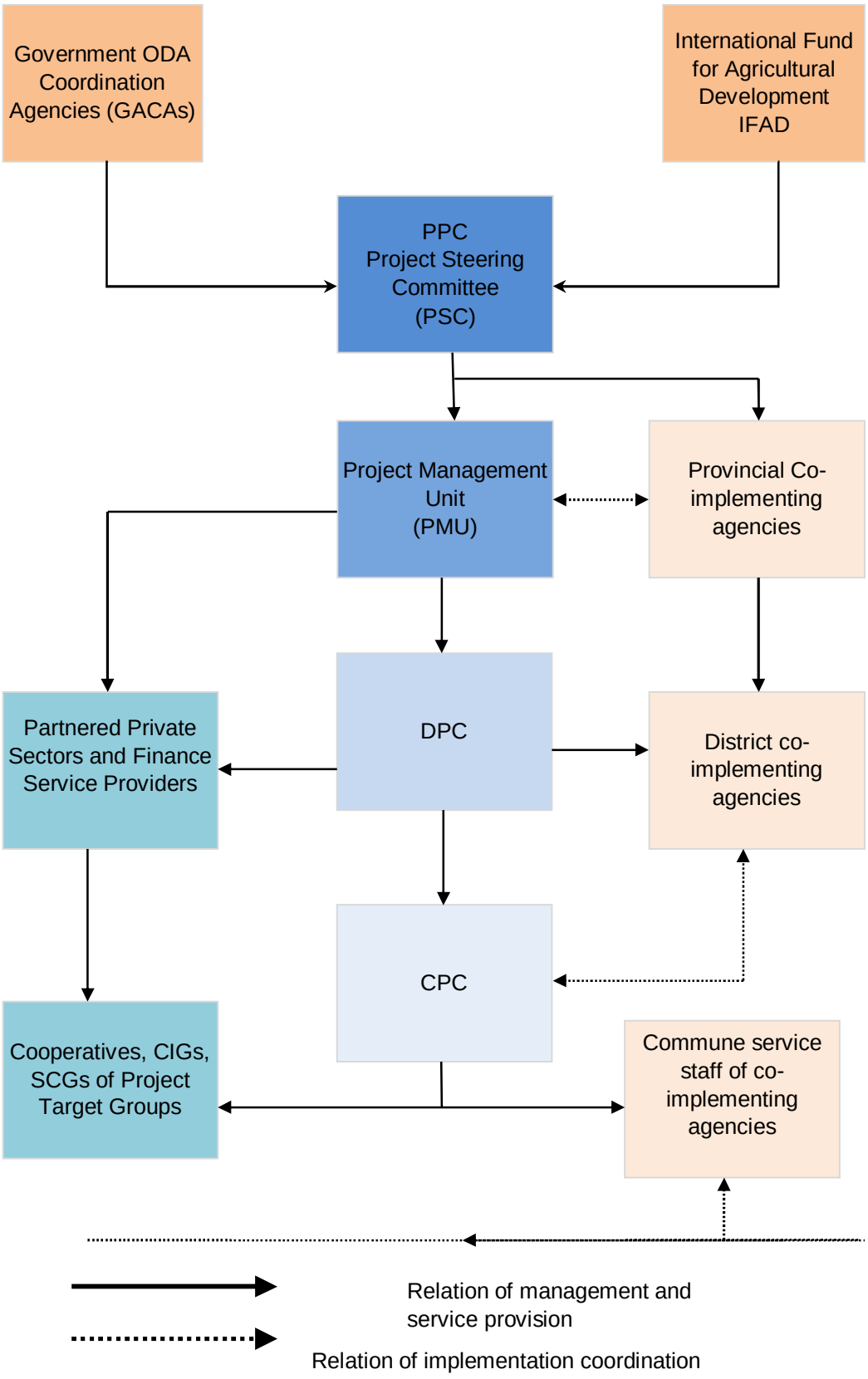
Procurement Method Thresholds			
	Shopping	NCB	ICB
Goods	< US$ 90,000.00	≥ US$	N.A

		90,000.00	
Works	< US$ 120,000.00	≥ US$ 120,000.00	N.A
Non-Consulting Services	< US$ 90,000.00	≥ US$ 120,000.00	N.A
	CQS	QBS/LCS/FBS	QCBS
Firms	< US$ 30,000.00	≥ US$ 30,000.00	> US$ 30,000.00

CSAT – 18 months Procurement Plan – Draft (to open the excel file by double click the icon below).

CSAT - 18 months Procurement Plan - Dr

Appendix 4: CSAT organisational relationships diagram



Appendix 5: Terms of References

The following are draft terms of reference for key project staff and serve as a starting point for recruitment processes.

Project Director

Project Director will have overall responsibility for managing the PPMU and the coordination of planning, financing and implementation of the Project among all implementing agencies, on behalf of the PPC and the PSC. The PD will be required for the whole Project period and will be based at project province with frequent travel to the Project districts and communes. The PD will report to the PSC.

Tasks:

- Oversee the work of the PPMU on a day-to-day basis in line with the requirements of the Financing Agreement, the Letter to the Recipient, the Project Design Report, and the Project Implementation Manual.
- Provide overall direction and guidance to the Project.
- Report to the Project Steering Committee (PSC) and supervise the implementation of the decisions of the PSC.
- Liaise with IFAD and other development institutions that are working with the Project area.
- Ensure that the PPMU coordinates planning, financing and implementation of the Project in a coordinated way.
- Ensure that the PPMU and all implementing agencies comply with the Project FMM for planning and budgeting, reporting and accounting and the timely submission of withdrawal applications.
- Ensure that the procurement of goods and services and works financed under the Project are in compliance with IFAD project procurement guidelines and national procurement regulations.
- Assign responsibilities of each staff of the PPMU and review their performance on annual basis and make appropriate recommendation.
- Coordinate the work of all TA personnel.
- Coordinate the preparation of aggregate project annual and quarterly work plans and budgets.
- Monitor project progress and performance and carrying out internal reviews of projects; Comply with the reporting arrangements as stated in the project financing agreement;
- Provide support and other facilities to IFAD supervision missions, participate in their field visits and ensure compliance of the recommendations of these missions.

Experience and Qualifications

- A recognized academic qualification and extensive experience at a senior level in the administration and management of agriculture and rural development Projects, including working with TA and loan funded projects.
- Experience with decentralized financing and development, planning, budgeting, procurement, monitoring and managing staff.
- Knowledge of procedures of financial management, accounting and loan disbursement.
- Good leadership skills and teamwork spirit; Social communication skills and

experience of working effectively with local authorities and communities.

Chief Accountant Officer

The Chief Accountant Officer is the head of the Finance and Accounting Section and overall responsible for all project budget planning, finance management, accounts recording and financial reporting in compliance with the PIM and the project FMM. The Chief Accountant Officer will work on full-time basis with frequent travel to the districts and communes. The duration of the contract is 12 months with possible extensions subject to the performance assessment. The Chief Accountant Officer will report to the Project Director.

Tasks:

- Prepare and maintain accounts and records for project activities, as specified in the Project FMM; consolidate and produce annual Project accounts and financial statements, submit the detailed statement of Project expenditures to IFAD at due course.
- Arrange for the completion of the external audit and submit the audit report to IFAD at due course.
- Consolidate and process, on a regular basis, eligible project expenditures and withdrawal applications for submission to MOF for signature and then to IFAD for reimbursement.
- Assign work and duties and responsibilities to other accounting staff and ensure that their performance is satisfactory.
- Provide training to the concerned staff and ensure that the project follows the procedures in the Project FMM in relation to the operation of the Project Account and sub-accounts in the implementing agencies and the disbursement of loan and grant funds and the government counterpart funds.
- Prepare regular financial statements and reports according to government and IFAD requirements.
- Maintain all records and files relating to the project and make them available for review of the IFAD supervision missions and auditors; Comply with the recommendations of the IFAD missions.
- Undertake periodic visits to the project implementing agencies, project districts and communes and ensure that financial records and reports are maintained as required by the project and where necessary arrange for their training and orientation.
- Make arrangements for transport (vehicles and motorcycles) for the official use by the Project staff and implement a system for recording vehicle use and associated operating expenditures.
- Maintain physical records and inventory of goods, equipment vehicles and all accountable items purchased with project funding.
- Ensure the delivery of quarterly and annual consolidated reports for the PD review and approval.
- Carry out any other tasks assigned by the Project Director in the interest of the Project.

Experience and Qualifications

- At least Bachelor's Degree in financial management/accounting or related field; Relevant working experience of more than seven years.

- Knowledge of the financial, management and accounting procedures of loan funded Projects.
- Experience with decentralized planning, financing and development, project planning, budgeting, procurement and monitoring.
- Good social communication skills and teamwork spirit.
- Experience of working effectively with local authorities and ethnic minorities.

Procurement Officer

The Procurement Officer in collaboration with assigned technical and financial staff at PPMU will be responsible for carrying out procurement planning and implementation, training and supporting project staffs at PPMU and implementing agencies undertaking project procurement activities. The Procurement Officer will work on full-time basis with frequent travel to the districts and communes. The duration of the contract is 12 months with possible extensions subject to the performance assessment. The Procurement Officer will report to the Head of Planning and M&E Section?

Tasks:

- Ensure the procurement of goods and services and works financed under the Project are in compliance with IFAD project procurement guidelines and national procurement regulations.
- Synthesize the first 18-month procurement plan and subsequently annual procurement plans for submission to IFAD for review and no objection, and to the PPC for approval; Update the procurement plans as needed for submission to IFAD for review and no objection, and to the PPC for approval;
- Undertake the procurement of goods, works and services at the PPMU in compliance with the IFAD project procurement guidelines, the PIM and the project procurement manual.
- Provide training and assist PPMU staff and the implementing agencies to prepare the procurement documents and ensure that appropriate procurement process and procedures are followed in compliance with the IFAD project procurement guidelines, the PIM and the project procurement manual.
- Supervise the process and procedures of contract management of the goods, works and services procured by the implementing agencies to ensure compliance with the IFAD project procurement guidelines, the PIM and the project procurement manual.
- Update regularly “actual” against “plan” procurement data and information in the procurement plan and monitor procurement progress towards the achievement of procurement schedules; Prepare and update regularly contract registers; Prepare procurement progress reports as required.
- Work closely with Climate Resilient Infrastructure Engineer to ensure that environmental and safeguard requirements are incorporated into the project procurement plans.
- Maintain and keep all records of project procurement and contract documents at the PPMU in appropriate files.
- Develop operational and maintenance manuals and organize training on operation and maintenance for benefiting groups. Instruct beneficiary groups to form O&M groups, and develop regulations on the operation and maintenance of the invested infrastructure works.

Experience and Qualifications

- A least bachelor qualification in a relevant discipline (e.g. economics, business

management, civil engineering, project management) and more than seven years of relevant working experience.

- Experience working with loan-funded Projects and knowledge of the procurement procedures of multilateral donor institutions and national procurement regulations.
- Experience with decentralized planning, budgeting, procurement and monitoring.
- Good social communication skills and teamwork spirit.
- Experience of working effectively with local authorities and communities.

Social inclusion, youth, gender and rural institutions officer

The social inclusion officers will be responsible to mainstream gender, youth, ethnic minority and poverty considerations and targeting across project activities, implement social safeguard, reinforce staff and service providers social inclusion capacities as well as facilitate partnership with FU, WU, YU to ensure their strong participation to project activities and to facilitate strong demand driven capacity development of their members (CIG)

- Establish and oversee implementation the Youth Plan and Gender Action Plan ensuring all the targets regarding the youth and women within the project are closely and effectively implemented, monitored & evaluated, and reported.
- Establish and oversee implementation of targeting strategies of beneficiaries, including setting of targets for women, youth and EM as a percentage of beneficiaries
- Facilitate implementation of IFAD social safeguard including FPIC and grievance redress mechanisms
- Allocation of budget for specific EM, youth and gender-related activities and facilitate tracking of budget allocations
- Pproviding staff capacity building on social inclusion related issues, and supporting colleagues in addressing gender equality and women's empowerment considerations into their operations,
- Collaborate with KM/M&E officers to ensure that knowledge management, M&E indicators and results measurement incorporate sex-age disaggregated data and social inclusion issues (gender, youth, EM, poverty etc.)
- Responsibility for mainstreaming gender will be included in the TORs of all key project staff as well as in TORs for service providers
- In all its activities, compliance will be sought with IFAD's policy to preventing and responding to sexual harassment, sexual exploitation and abuse. This will be reflected in the TORs of all key project staff and service providers
- Support capacity development of CIG and CSG groups : facilitate capacity needs assessment, curriculum development and collaborations with mass local organizations to implement required CIG, CSG and mass organization capacity development
- Develop and facilitate Strong partnership with the Women's Unions,the Youth Union and the Committee for Ethnic Minorities

M&E cum Knowledge Management,

The M&E Officer will be responsive for establishing and operating the project M&E system to monitor project implementation progress, outputs and outcomes in effective and timely manner. Further, he/she will be in charge of KM, The M&E Officer will work on full-time basis with frequent travel to the districts and communes. The duration of the

contract is 12 months with possible extensions subject to the performance assessment. The M&E officer will report to the Head of Planning and M&E Section.

Tasks:

- Establish a Project M&E system and ensure that all Project indicators in the logframe (outputs and outcomes) are incorporated.
- Ensure that that the monitoring and evaluation of the Project, including regular reporting, is carried out in accordance with the procedures specified in the PIM.
- Take part in consolidation and preparation of the annual work Project and budget (AWPB) based on the AWPBs of all implementing agencies and districts.
- Provide training to M&E staff of the PPMU and implementing agencies on the reporting and monitoring systems that are in use.
- Provide support and training to relevant staff of the implementing agencies to ensure that they are capable of consolidating planning data according to requirements and their M&E system provides the information required by PPMU for effective monitoring.
- Based on the progress and annual reports from the implementing agencies, prepare and submit six-monthly and annual progress reports to IFAD and the PPC at due course.
- Provide training to concerned staff in impact assessment and ensure that the annual outcome survey is carried out in the project areas and the outcome survey reports are submitted to IFAD for its review and comments.
- Arrange for external evaluations of the Project (mid-term and completion) and submit the reports to IFAD for its review and comments.
- Establish and implement a KM plan that retain and share the knowledge and experience within and outside the project contributing to improvement of the project effectiveness and efficiency.Carry out any other tasks assigned by the Project Director in the interest of the Project.

Experience and Qualifications

- A minimum bachelor qualification in a relevant discipline (e.g. economics, business management) and more than seven years of relevant working experience.
- Experience working with loan-funded projects.
- Experience with decentralized planning, budgeting, procurement and monitoring.
- Good social communication skills and teamwork spirit.
- Experience of working effectively with local authorities and community.

Knowledge management Officer

The Knowledge Management Officer will work on full-time basis with frequent travel to the districts and communes. The duration of the contract is 12 months with possible extensions subject to the performance assessment. The KM officer will report to the Head of Planning and M&E Section.

Tasks:

- Plan to implement and monitor all aspects of development communication needs of the project;

- Develop communication strategies and methodologies for dissemination of information relating to the project with the active participation of the stakeholders.
- Organize production of communication materials and coordinate application of these materials for awareness generation and technology to the target groups.
- Organize communication skill training workshops for the project staff and other project partners.
- Network with projects across the country and region, especially those assisted by IFAD for sharing and learning good practices.
- Establish a resource centre of audio-visual, print and electronic media and communication material at the PPMU.
- Prepare and produce media press releases, brochures, reports, articles, project newsletters with focus on documentation dissemination of project activities, processes and progress.
- Coordinate production of audio-visual documentaries and other documentation activities of the project activities and impact.
- Coordinate the activities of developing an interactive Website for the project on the Internet.
- Establish and coordinate the communication network across the implementing agencies and partners through project website and social media for efficient and effective real time dissemination of information.
- Carry out any other tasks assigned by the Project Director in the interest of the Project.

Experience and Qualifications

- A minimum bachelor qualification in a relevant discipline (e.g. journalism, economics, business management) and more than five years of relevant working experience.
- Experience working with loan-funded projects and/or Projects.
- Good social communication skills and teamwork spirit.
- Experience of working effectively with local authorities and communities.
- Good IT skills; Report writing skills; Good in spoken and written English.

Value Chain Development Officer

The Value Chain Finance Officer will work on full-time basis with frequent travel to the project districts and communes. The duration of the contract is 12 months with possible extensions subject to the performance assessment. The VC Finance Officer will report to the Head of Strategic Management Section.

Tasks:

- Coordinate VC finance activities during development of VCAPs under the project; Take part in consolidation and preparation of the Project's annual work plan and budget (AWPB) based on the AWPBs of all implementing agencies and districts.
- Coordinate formulation and operation of partnerships between Project's parties and micro finance sources (WU, FU, etc.), commercial banks, and other financial institutions.

- Facilitate capacity building on inclusive VC finance arrangements for project staff, implementing agencies and partners.
- Facilitate and support specific VC actors in specific value chains to prepare necessary financing arrangements that meet requirements of micro finance sources (WU, FU, etc.), commercial banks, and other financial institutions, based on actors' business plans.
- Facilitate and monitor financing flows supported by VCAPs in specific value chains.
- Contribute to the knowledge development in terms of VC financing by facilitating case studies, best practice sharing, and document and promote learning activities.
- Contribute to the establishment and operation of the off-line and online platform (pool of inclusive value chain expertise and networks).
- Carry out any other tasks assigned by the Project Director in the interest of the Project.

Experience and Qualifications

- A minimum bachelor degree in a relevant discipline (banking and finance, accounting and audit, business administration, financial management, etc.) with at least seven years of practical experience in relevant field.
- Experience in the implementation of integrated rural development projects with emphasis on agri-business development and management.
- Experience of capacity building and participatory planning techniques.
- Experience in business investment planning, financing new businesses and products.
- Good social communication skills and teamwork spirit; Experience of working effectively with local authorities and ethnic communities.
- Good in spoken and written English.

Climate Resilient Infrastructure Engineer

The Climate Resilient Infrastructure Engineer will be overall responsive for planning and implementation of climate resilient infrastructure investments under Sub-component 2.1 to ensure soundly economic, technical, environmental and social safeguards requirements of investments along Environmental and Social Management Framework and Free and prior informed consent where needed. S/he will also be responsible in overseeing and monitoring the environment and climate related activities under the CSAT. The Climate Resilient Infrastructure Engineer will work on full-time basis with frequent travel to the districts and communes. The duration of the contract is 12 months with possible extensions subject to the performance assessment. The VC Development Officer will report to the Head of VC and Infrastructure Section.

Tasks:

- Coordinate site survey and review of the proposed climate resilient infrastructures in accordance with the selection criteria.
- Coordinate the environment and social assessments for the sub-projects, including screening, risks classification, and preparation of site-specific ESMPs

based on ESMF provisions.

- Coordinate with the project implementing agencies, DPCs and CPCs to consolidate and prepare the list of climate resilient infrastructures for the annual planning process; Participate in the VCAP and AWPB process.
- Coordinate with the consulting firms to check the design survey, the BoQ and the cost estimate to ensure the technical, environmental and social requirements, and climate resilient requirements along Environmental Social Management Framework, climate risk analysis study and Free and prior informed consent where needed.
- Coordinate with the Procurement Officers to select consultants/ contractors for survey and design, construction, technical supervision for construction works.
- Train the Procurement Officers in the PMUs on the ESMF requirements, and provide support to the Procurement Officers in incorporating environmental and social safeguards requirements into the procurement plans.
- Periodically inspect the construction site to ensure that construction works are done to meet the quality and progress requirements under the contract, to ensure environmental and social requirements and climate resilient requirements.
- Participate in the completion certification and handing over completed works.
- Develop operational and maintenance manuals and organize training on operation and maintenance for benefiting groups. Instruct beneficiary groups to form O&M groups, and develop regulations on the operation and maintenance of the invested infrastructure works.
- Oversee and monitor the implementation of environment and climate related activities within the project, including climate smart adaptation (CSA) and capacity building activities.
- Monitor the implementation of SECAP provisions, including the ESMF and site-specific ESMPs for the sub-projects.
- Submit progress on the implementation of environment and climate related activities and the implementation of SECAP provisions for integration into the project's progress reporting.
- Carry out any other tasks assigned by the Project Director in the interest of the Project.

Experience and Qualifications

- A least bachelor qualification in a relevant discipline (e.g. civil engineering, project management) and more than seven years of relevant working experience.
- Experience in survey and design and/or technical supervision for rural infrastructure works; Knowledge of climate change and climate resilient solutions.
- Experience working with loan-funded Projects and knowledge of the procurement procedures of multilateral donor institutions; Knowledge of the national investment regulations.
- Experience with decentralized planning, budgeting, procurement and monitoring.
- Good social communication skills and teamwork spirit; Experience of working effectively with local authorities and communities.

Other TORs is to be updated during the project implementation

Appendix 6: Gender, Ethnic Minority, Youth - Working Paper version Final

File attached

APPENDIX 6.
Gender, Ethnic Minori

Appendix 7. Guidance for value chain action planning

File attached

APPENDIX 7.
Guidance for value ch

Appendix 8. Value Chains Working Paper

File attached

APPENDIX 8. Value
Chains Working Pape

Appendix 9. Working paper on climate resilient infrastructure

File attached

Annex 9 - Climate
resilient infrastructure

Appendix 10. CSA practices

File attached

APPENDIX 10. CSA
practices.docx

Appendix 11. Policy Institution Working Paper final

File attached

APPENDIX 11. Policy
Institution Working Pa

Appendix 12. Template of MoU between CSAT and the funds (sub-component 2.2)

Appendix 13. CSA model Identification, Selection, and Packaging

1. MAPPING OF MODELS

1.1 clarification of project strategy and instruments
1.2 development of model pre-selection criteria
1.3 consultations for existing farm and off-farm livelihood practices
1.4 development of long-list as per community reports
1.5 brief workshop for comparison of long list of models, and short-listing as per the criteria

2. ANALYSIS OF MODELS (see template)

2.1 brief description for each model
2.2 technique and capacity requirement for each model
2.3 market assessment for each model
2.4 salinity and disaster risk assessment for each model
2.5 financial analysis for each model
2.6 replication strategy for each model

3. SELECTION OF MODELS

3.1 dissemination of model analysis to all organizations and levels
3.2 technical consultations about model replication feasibility
3.3 various organizations' official selection of priority models
3.4 PMU and organization's agreement for model replication
3.5 action plan development by each organization and allocation of adequate resources by PMU accordingly

4. TRAINING FOR REPLICATION

4.1 trainings of government and project staff in replication instruments
4.2 TOTs for potential trainers in the technique of each model (lead farmers, FU – WU, YU, CEMA, enterprises, local authorities, as feasible)
4.3 trainings of farmers in the model technique, by TOT-trained trainers

KEY INSTRUMENTS FOR REPLICATION OF THE MODELS

INFRA INVEST-MENT	FARMER GRANTS	ENTERPRISE INVESTME	MFI/SCG
Sub-component 2.1 of CSAT	Sub-component 2.2	PPMU, 4P play as brokers to facilitate the investments in CSA with secured farming contracts	Investment by households' micro loans (WDF, FSF).

MODEL ANALYSIS TEMPLATE FOR PACKAGING

Brief description
(Explain in brief about the commodity)

Technique and capacity requirement
(Explain required techniques and technologies and capacity of the HHs)

Market assessment
(Explain the market opportunity, including buyer and price stability and risks)

Financial analysis narrative (see details in the next page)
(Explain the required initial investment. Explain yearly costs and revenues and profit for households)

Salinity and disaster risk assessment
(Explain climate change related risks of the model and risk management)

Replication strategy
(Explain feasible and realistic replication methods, as per available AMD instruments and/or other opportunities)

Model Budget Table format									
Area:	**1HA**		**Estimated situation in 2015**						
Harvest Period:	**xx - xx**		**Existing practice**			**Optimized practice**			
Produce:			xx			xx			
Sold to:			xx			xx			
		Unit	**No. of Units**	**Unit cost**	**Value**	**No. of Units**	**Unit cost**	**Value**
				vnd'000	**vnd'000**		**vnd'000**	**vnd'000**
Output	Output 1	kg						
	Output 2 …	kg						
Total Output / Revenue								
1. Input materials								
Seedlings								
Fertilizer								
Pesticides								
Herbicides								
…								
2. Machinery/Animal Power								
Investment cost								
Operation cost								
Costs of rent machinery								
3. Other Variable Costs								
Tools								
Packaging								
Transport								
Materials								
4. Labour								
Land preparation		day						
Planting								
Tending								
Harvesting								
…								
Total costs								
Profits (revenue-costs)								

Appendix 13. Template for MoU between project and partners

MEMORANDUM OF UNDERSTANDING (MOU) between

_____[insert name of Party A]

and

_____[insert name of Party B]

This is an agreement between “Party A”, hereinafter called _____ and “Party B”, hereinafter called _____.

I. PURPOSE & SCOPE

The purpose of this MOU is to clearly identify the roles and responsibilities of each party as they relate to….

In particular, this MOU is intended to:

Examples:

• Enhance
• Increase
• Reduce costs
• Establish

II. BACKGROUND

Brief description of the parties involved in the MOU with mention of any current/historical ties to this project.

III. [PARTY A] RESPONSIBILITIES UNDER THIS MOU

[Party A] shall undertake the following activities:

Examples:

• Develop
• Deliver
• Share
• Support
• Provide
• Promote
• Refer
• Review
• Comply
• Train
• Maintain records
• Sponsor
• Evaluate

IV. [PARTY B] RESPONSIBILITIES UNDER THIS MOU

[Party B] shall undertake the following activities:

Examples:

• Develop
• Deliver
• Share
• Support
• Provide
• Promote
• Refer
• Review
• Comply
• Train
• Maintain records
• Sponsor

• Evaluate

V. IT IS MUTUALLY UNDERSTOOD AND AGREED BY AND BETWEEN THE PARTIES THAT:

1. Modification
2. Termination

VI. FUNDING

This MOU does (does not) include the reimbursement of funds between the two parties.

VII. EFFECTIVE DATE AND SIGNATURE

This MOU shall be effective upon the signature of Parties A and B authorized officials. It shall be in force from (date)_____ to (date) _____.

Parties A and B indicate agreement with this MOU by their signatures.

Signatures and dates

[insert name of Party A] [insert name of Party B]

_____

_____

_____ Date _____ Date

(Adapted from USDA.gov - http://www.nal.usda.gov/fsn/Guidance/mou_example_final.pdf)

Appendix 14. Gender and Youth strategy

Gender Strategy

Background

In 2020, Viet Nam ranked 87 out of 153 countries in the Global Gender Gap index with a score of 0.7 (ranking 31 in economic participation, 110 in political empowerment, 151 in health and survival and 93 in educational attainment). Viet Nam is advanced in protecting women's rights legally, but the practical application of this is weak in rural areas where social norms regarding women's roles and rights are more traditional. Viet Namese society continues to face significant challenges, such as violence against women and girls and a sex ratio imbalance at birth. Though the ratio of women in the labour force is high, they are more engaged in the informal economy and in unpaid family labour and own-account work, which places them in a vulnerable position. In terms of leadership, women's representation in government bodies is low. Social inequalities are becoming more visible, especially for ethnic minorities and other marginalised and disadvantaged groups, such as the rural poor. Gender inequality is recognised as one of the key underlying causes of poverty among ethnic minority groups, as a result of socio-cultural practices which define and compound the vulnerability and marginalisation of ethnic minority women and girls.

Gender inequality is one of the most pervasive threats to sustainable development in Viet Nam. It has negative impacts on access to, use of and control over a wide range of resources, and on the ability to fulfil human rights. It is also a determinant of exposure to climate change risks as women and girls are more vulnerable to the impacts of extreme events. Good adaptation provides options to manage these risks. To address gender inequality, an amplifier of risk, adaptation must therefore address gender-based vulnerability. In the area of agriculture, gender-transformative adaptation can enhance food and nutrition security and bring other benefits such as increased socio-economic wellbeing and poverty reduction.

Pathways

CSAT's gender-specific aim to increase its impact on gender equality and strengthen women's empowerment in poor rural areas. This will be achieved through three strategic pathways:

- Promoting economic empowerment to enable rural women and men to have equal opportunity to participate in, and benefit from, profitable economic activities;
- Enabling women and men to have equal voice and influence in rural institutions and organizations; and,
- Achieving a more equitable balance in workloads and in the sharing of economic and social benefits between women and men.

Ai	To increase CSAT's impact on gender equality and strengthen women's empowerment in Ben Tre and Tra Vinh province		
Ou	At least 40 percent of the beneficiaries will be women		
Ob	Economic empowerment	Decision-making and representation	Equitable workload balance and well-
Ac	· Investment in value chains where large numbers of women are engaged as producers or processors · Facilitating women's access to demand-driven business development services (and recruitment of female value chain experts) · Facilitating and support capacity-building in ICT and other technical skills for women-led producer groups, SMEs, workers, and entrepreneurs · Increasing women's access to finance (especially through the Women's Development Fund) · Facilitating access to climate-smart agriculture technologies · Creating new spaces/ opportunities/markets and support for women's economic engagement · Supporting women as role models to break through barriers, demonstrate by example, change mind-sets and provide inspiration to other women	· Close collaboration with the Women's Unions · Ensure involvement of women during the updating of the socio-economic development plans (SEDP) · Ensure involvement of women in the development of the Value Chain Action Plans (VCAP) · Representation of women in the Public-Private-Producer-Partnerships (4P) platforms · Strengthening of women's leadership	· Promotion of labour- and time-saving technologies (e.g. ICTs, improved access to water, feeder roads,…) · Partnership with the Women's Union to carry out public education campaigns on preventing and addressing gender-based violence
M	Sex-disaggregated indicators		

Targeted sub-groups

Women in general constitute a main target group of AIWRDP, with at least 30 percent of all beneficiaries being women. Nevertheless, there are a number of sub-groups that given their vulnerability will be specifically targeted:

- Young women (e.g. facilitating access to finance through the WDF and strong collaboration with the Youth Union)
- Women from ethnic minorities (e.g. supporting value chains where women from ethnic minorities are involved and strong collaboration with the Committee for Ethnic Minorities)
- Women-headed households

Implementation arrangements

The following provisions have been taken to ensure the gender-responsiveness of project management:

- Development of a project gender strategy and action plan
- Setting of targets for women as a percentage of beneficiaries
- Allocation of budget for specific gender-related activities
- One person in the project management team will be responsible for youth and social inclusion issues (overseeing the implementation of the gender strategy, providing staff capacity building, and supporting colleagues in addressing gender equality and women's empowerment considerations into their operations, including knowledge management, M&E indicators and results measurement)
- Responsibility for mainstreaming gender will be included in the TORs of all key project staff
- Responsibility for mainstreaming gender will be included in TORs for service providers
- In all its activities, compliance will be sought with IFAD's policy to preventing and responding to sexual harassment, sexual exploitation and abuse. This will be reflected in the TORs of all key project staff and service providers
- Sex-disaggregated data will be collected and analysed
- Studies undertaken by the project will include an gender perspective
- Strong partnership with the Women's Unions (but also with the Youth Union and the Committee for Ethnic Minorities)

Youth strategy

Background

In Viet Nam, young persons aged 15-29 account for around a quarter of the country's population. This is the highest youth population ever for Viet Nam, providing the country with a unique socio-economic development opportunity. Youth represents an asset for the nation's prosperity, which can only be tapped if young people have access to quality education, healthcare, decent employment and active social and political lives. However, Viet Namese youth face challenges on multiple fronts. Employment is perhaps the biggest challenge for youth in Viet Nam. Though youth unemployment rate increased from 2006 when it was 5.2%, it remains relatively low at 7.3% in 2019. Low unemployment rate, however, does not reflect the quality of jobs young people have. Informality remains the norm for most young wage workers and over half of employed youth are poorly paid, i.e. earning below the average wages or income. Skills mismatch also affects close to half of working youth. Efficient linkages from agricultural production to processing and sales are not well-developed in agricultural regions and producers lack business skills to develop their products. Youth often face difficulties in transiting from traditional agriculture to modern and sustainable methods of production. Although VET in agriculture provides some technical knowledge, young people face additional challenges from lack of financial resources and access to land.

Climate change ranks among the most important dynamics shaping livelihoods of young people now and in the future in Viet Nam. Investments targeting rural youth need to address climate for two simple reasons: the success and sustainability of efforts to create jobs for young people will depend on the future climate (as well as myriad other uncertainties in the economic and policy environments); and today's youth will bear the costs of failure throughout their lifetimes. Moreover, Viet Nam, where the youth

population accounts for a sizeable share of the total population, also depends heavily on agriculture – a sector that is highly exposed to climate change.

Pathways

CSAT will take a youth inclusive approach that focuses on the economic, political, economic and cultural causes of vulnerability of different groups. Value chains in which youth were already engaged will be selected. The project will support their profitable engagement in on-and off-farm activities, make sure their voices are heard and empower them as agents of change.

Ai	To increase CSAT's impact on the social and economic empowerment of youth in Ben Tre and Tra Vinh province	
O	At least 20 percent of the beneficiaries will be young people (making up 80% of youth population in the project area)	
O	Economic empowerment	Decision-making and representation
A	· Investment in value chains where youth are already involved · Access to demand-driven business development services through the 4P platforms · Capacity-building in ICT and other technical skills for youth-led producer groups, SMEs, workers, and entrepreneurs · CSAT investments in infrastructure tailored to the needs of youth · Access to finance (especially the Start-up Support Fund and the Women's Development Fund) · Promotion of climate-smart agriculture technologies that include new elements such as digital technology, food safety and quality standards	· Close collaboration with the Youth Unions · Ensure involvement of youth during the updating of the socio-economic development plans (SEDP) · Ensure involvement of youth in the development of the Value Chain Action Plans (VCAP) · Representation of youth in the Public-Private-Producer-Partnerships (4P) platforms · Strengthening leadership of youth (especially young women)
M	Age-disaggregated indicators	

Targeted sub-groups

Youth in general constitute a main target group of CSAT, with at least 20 percent of all beneficiaries being between 18 and 29 years old. Nevertheless, there are a number of sub-groups that given their vulnerability will be specifically targeted:

- Landless youth (e.g. supporting them to engage in off-farm activities)
- Young smallholders (e.g. supporting them to engage in climate smart agriculture)
- Young women (e.g. facilitating access to finance through the WDF and strong collaboration with the Women's Union)
- Youth from ethnic minorities (e.g. supporting value chains where young people from ethnic minorities are involved and strong collaboration with the Committee for Ethnic Minorities)

Implementation arrangements

The following provisions have been taken to ensure the youth-inclusiveness of project management:

- Development of a project youth strategy and action plan
- Setting of targets for youth as a percentage of beneficiaries
- Sensitisation on the prevention of child labour and inclusion of specific clauses in contracts with service providers
- Allocation of budget for specific youth-related activities
- One person in the project management team will be responsible for youth and social inclusion issues (overseeing the implementation of the youth strategy, providing staff capacity building, and supporting colleagues in addressing youth inclusion considerations into their operations, including knowledge management, M&E indicators and results measurement)
- Age-disaggregated data will be collected and analysed
- Studies undertaken by the project will include an age perspective
- Strong partnership with the Youth Unions (but also with the Women's Union and the Committee for Ethnic Minorities)

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Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Project Design Report

Annex 9: Integrated Project Risk Matrix (IPRM)

Document Date:	26/07/2021
Project No.	2000002335
Report No.	5735-VN

Asia and the Pacific Division
Programme Management Department

Overall Summary

Risk Category / Subcategory	Inherent risk	Residual risk
Country Context	**Moderate**	**Moderate**
Political Commitment	*Moderate*	*Moderate*
Governance	*Moderate*	*Moderate*
Macroeconomic	*Moderate*	*Moderate*
Fragility and Security	*Moderate*	*Moderate*
Sector Strategies and Policies	**Substantial**	**Moderate**
Policy alignment	*Moderate*	*Moderate*
Policy Development and Implementation	*Substantial*	*Moderate*
Environment and Climate Context	**Substantial**	**Moderate**
Project vulnerability to environmental conditions	*Substantial*	*Moderate*
Project vulnerability to climate change impacts	*Substantial*	*Moderate*
Project Scope	**Moderate**	**Moderate**
Project Relevance	*Moderate*	*Moderate*
Technical Soundness	*Moderate*	*Moderate*
Institutional Capacity for Implementation and Sustainability	**Moderate**	**Moderate**
Implementation Arrangements	*Moderate*	*Moderate*
Monitoring and Evaluation Arrangements	*Moderate*	*Moderate*
Project Financial Management	**Moderate**	**Low**
Project Organization and Staffing	*Moderate*	*Low*
Project Budgeting	*Moderate*	*Low*
Project Funds Flow/Disbursement Arrangements	*Moderate*	*Low*
Project Internal Controls	*Moderate*	*Low*
Project Accounting and Financial Reporting	*Moderate*	*Low*
Project External Audit	*Moderate*	*Low*
Project Procurement	**Moderate**	**Moderate**
Legal and Regulatory Framework	*Moderate*	*Moderate*
Accountability and Transparency	*Moderate*	*Moderate*
Capability in Public Procurement	*Moderate*	*Moderate*
Public Procurement Processes	*Moderate*	*Moderate*
Environment, Social and Climate Impact	**Low**	**Low**
Biodiversity Conservation	*Low*	*Low*
Resource Efficiency and Pollution Prevention	*Substantial*	*Moderate*
Cultural Heritage	*Low*	*Low*
Indigenous People	*Low*	*Low*
Labour and Working Conditions	*Low*	*Low*
Community Health and Safety	*Low*	*Low*
Physical and Economic Resettlement	*Low*	*Low*
Greenhouse Gas Emissions	*Low*	*Low*
Vulnerability of target populations and ecosystems to climate variability and hazards	*Moderate*	*Moderate*

Risk Category / Subcategory	Inherent risk	Residual risk
Stakeholders	**Moderate**	**Moderate**
Stakeholder Engagement/Coordination	*Moderate*	*Moderate*
Stakeholder Grievances	*Moderate*	*Moderate*
Overall	**Moderate**	**Moderate**

Country Context	**Moderate**	**Moderate**
Political Commitment	***Moderate***	***Moderate***
Risk: Government is unable to provide the resources from implementation of the NTPs, the Resolution 120, Decision 324, and Decision 825 in MKD.	Moderate	Moderate
Mitigations: Agreements on funding targets and modality are included in the design report and financing agreement. Include explicit text in the Financing Agreement on counterpart funding – including district levels – and loan recovery.		
Governance	***Moderate***	***Moderate***
Risk: Governance systems are in place and functioning well. Corruption is a concern, albeit recent policies brought improvements.	Moderate	Moderate
Mitigations: IFAD exercises close supervision and audit of project expenditures and processes.		
Macroeconomic	***Moderate***	***Moderate***
Risk: External shocks risk macro-economic stability such as USA-China trade war and COVID19 induced restrictions on global and national markets.	Moderate	Moderate
Mitigations: CSAT invests in value chain that target national market demand. They will be less affected from external shocks. Market information system are building up in Viet Nam , including those supported under CSAT, and they provide better information to producers and traders to respond to oncoming market fluctuations. In addition, a covid-19 grant has been obtained with UNIDO to facilitate adoption of digital innovations which have proved crucial to mitigate some of covid impacts on value chain and extension services.		
Risk: The COVID-19 pandemic impacts stronger than anticipated on the economy; public revenues are reduced and Government may not be able to provide sufficient funds to the provinces for development programmes like CSAT	Moderate	Moderate
Mitigations: The Government of Viet Nam has managed well the COVID pandemic, as reflected by just 5119 total COVID cases (May 23 2021), and sustained economic growth. There is high commitment from GoV and two provinces. Loan agreement signed and enforced by GoV and IFAD to ensure sufficiently provided fund for project.		
Fragility and Security	***Moderate***	***Moderate***

Risk: Viet Nam is highly exposed to climate change induced shocks. Government has managed COVID19 extremely well thus far. The political system is robust.	Moderate	Moderate
Mitigations: Government institutions are well organized and experienced in mitigating disasters. CSAT integrated resilience approach shall also help address various economic and environmental shocks.		
Sector Strategies and Policies	**Substantial**	**Moderate**
Policy alignment	***Moderate***	***Moderate***
Risk: Viet Nam has become a lower middle-income country, graduated to from IDA to less concessional IBRD terms in 2017. GoV has put in place new policies on ODA financing (Decree 56/2020) that reflect the new situation. New ODA type investments such as IFAD funded projects need to focus on infrastructure only. This policy prevents to apply common IFAD investments in capacities building of poor people. In turn, it makes it difficult to reach IFAD 's target groups effectively unless non-lending resources can be mobilized.	Moderate	Moderate
Mitigations: The project design is fully aligned with Viet Nam's Agricultural Restructuring Plan, the New Rural Development Programme, the Resolution 120 and its decisions (324, 825). This enables CSAT to mobilise large domestic funds to co-finance capacity building and other 'soft' investments.		
Policy Development and Implementation	***Substantial***	***Moderate***
Risk: Key risk for the Mekong Delta and the IFASD target groups is a lack of coordination for implementing key policies such as resolution 120.	Substantial	Moderate
Mitigations: CSAT promotes strong institutional linkages through coordinated inter-provincial planning to the Agricultural Transformation Programme and the Mekong Delta Plan.		
Environment and Climate Context	**Substantial**	**Moderate**
Project vulnerability to environmental conditions	***Substantial***	***Moderate***
Risk: CSAT's investment in infrastructure may cause negative environmental impacts including forest clearance, air pollution, over-use of water. CSAT's supports to agricultural value chain development may coincide with a greater use of pesticides, herbicides, chemical fertiliser and plastics.	Substantial	Moderate
Mitigations: CSAT develops Environment and Social Management Framework (ESMF) which guides the preparation of site-specific Environmental and Social Management Plan (ESMP) and Free Prior and Informed Consent (FPIC) procedures to ensure environmental and social assessment and consultation are done for the sub-project implementation. This aims to mitigate the potential adverse impacts from project interventions, or reduce them to an acceptable level. CSAT promotes CSA practices, including the use of organic fertilisers, pest and weed control, among others. Market opportunities exist for expanding organic production of high value crops. Extension efforts focus on minimizing potential negative impacts arising from agricultural value chain development.		
Project vulnerability to climate change impacts	***Substantial***	***Moderate***

Risk: The SECAP review note classifies the Project as High under the climate risk category. In-depth climate risks analysis foresee increasing temperature, change in rainfall patterns, and increasing risks of sea level rise. Risks for investments in infrastructure and crops would be substantial if adaptation measures such as CSA were not adopted.	Substantial	Moderate
Mitigations: CSAT promotes a number of risk mitigation measures: (i) Climate and environmental risks are addressed in SEDP and VCAP; (ii) Provincial and sectoral climate change action plans are updated; (iii) CSA is widely promoted and supported through capacity building, learning and dissemination; and (vi) Requirement for preparation of site-specific ESMPs for sub-projects which will incorporate specific mitigation measures to address climate risks from proposed interventions.		
Project Scope	**Moderate**	**Moderate**
Project Relevance	***Moderate***	***Moderate***
Risk: CSAT is not responding adequately to key challenges and related, recent policies on the Mekong Delta.	Moderate	Moderate
Mitigations: CSAT is fully aligned with key policies: Resolution 120 and MDP. Domestic funding amounts to about 30 per cent. Intensive consultation process took place. Strong financial contribution as national co-finance is about 39 per cent of which GoV provides about 10 per cent.		
Technical Soundness	***Moderate***	***Moderate***
Risk: The project activities require coordination and planning, and institutions may not have capacities.	Moderate	Moderate
Mitigations: (i) Establishment of effective management and coordination structures in two provinces is well established; (ii) Ownership and lead by provincial governments (PPC); (iv) improvement of existing planning and technical instruments rather than new one.		
Institutional Capacity for Implementation and Sustainability	**Moderate**	**Moderate**
Implementation Arrangements	***Moderate***	***Moderate***
Risk: Lack of adequate human and financial resources. Challenges in terms of coordination capacities and costs considering the size of PMU (22 in each province), the number of partners including several financing partners with potential different reporting and planning requirements.	Moderate	Moderate

Mitigations: Provincial governments and line agencies have committed sufficient funds for capacity building. CSAT will seek for additional funds such from the NTP-NRD. CSAT's PIM outlines implementation requirements in a step by step approach. Component 1.2 provides the capacity building for planning and investments under CSAT. In addition, IFAD office provides overall backstopping in transversal functions such as financial management and M&E and along missions. The proposed institutional arrangements are based on the foundation provided under the previous projects in the two provinces (i.e. DBRP,IMPP, AMD). These projects have demonstrated a solid track record of delivery of even complex tasks across province, district and commune structures. AMD, for instance, delivered very successfully on the combined IFAD loan and ASAP financing as well as other funding leveraged from other government programs. The actual size of the PMU is smaller than of AMD and builds on its exit strategy, with 22 people in each province without any additional district and commune personnel. This will ensure that project activities will be properly mainstreamed in the provincial government programmes of work.		
Monitoring and Evaluation Arrangements	***Moderate***	***Moderate***
Risk: Inadequate M&E system for planning and monitoring.	Moderate	Moderate
Mitigations: CSAT's M&E system is embedded in the project management information system (MIS). It integrates information on project management, financial management, procurement and physical progress. It allows reporting in real time and serves as a platform for the large number of co-implementing agencies.		
Project Financial Management	**Moderate**	**Low**
Project Organization and Staffing	***Moderate***	***Low***
Risk: The organizational structure of the implementing agencies for AMD project, closing in Dec. 2020, are proposed to be used for the new project CSAT. (Ben Tre) There are five accounting staff working at the PMU namely: one Chief Accountant, three Accountants (two at district level and one at provincial level) and one Asset management and taxation officer cum Cashier, with required qualification and experience in managing foreign funded project since previous IFAD project. The Project deploys one full time accountant in each DPMU and part-time accountants with limited qualification and capacity have been recruited at commune level (CDB). Project FM staff have long-term contracts and are subject to annual performance reviews. The proposed organizational structures of the implementing agencies are found appropriate to the new Project. (Tra Vinh) There are five accounting staff working at the PCU namely: one Chief Accountant, three Accountants and one Cashier, with required qualification and experience in managing foreign funded project since previous IFAD project. For previous projects, project accountants (part-time) have been staff have not been retained long-term (transferred to other departments).	Moderate	Low
Mitigations: - Further FM trainings are required to efficiently manage IFAD resources at all levels, for effective and efficient project operation support. - Functional review with clear division of responsibilities should be carried out to ensure allocating appropriate workload for FM staff at all levels - (Tra Vinh) Ensuring only full-time staff in Accounting positions (no regular transfers to other departments)		
Project Budgeting	***Moderate***	***Low***

Risk: The new GOV policy on ODA has curtailed the access to IFAD finance and consequently led to slow implementation of planned project activities. Due to previous GOV policy regarding foreign investment tightening and the COVID-19 situation, the AMD project implemented in the same province further experienced difficulties in fund allocation for 2019 and 2020 AWPB. However, with the new GoV Decree No. 56/2020/ND-CP on management and use of of ODA and preferential loans issued on May 25, 2020, GoV now aims at broader priorities for ODA projects of which could bring positive impacts on existing projects as well as possibility of new projects in Vietnam. District/Commune level provides work/budget estimates (in Commune/District Socioeconomic Development Plans) to provincial level for the preparation of the AWPB by PMU accounting department staff, with input from relevant stakeholders and the provincial Department of Planning and Investment. The PD provides clearance and shares AWPB with PPC which subsequently shares with MoF and with IFAD for issuance of NOL. AWPB's have been timely provided by previous projects with same Borrower/LPA.	Moderate	Low
Mitigations: The PCU, after consultations with project stakeholders, shall prepare its annual budget, linking all the planned activities to the cost categories outlined in Schedule II of the Financing Agreement; this exercise will take place in advance of the preparation of the national budget, to ensure that the required Government funds will be allocated and available on time. All financing contributions should be clearly stated in the budget to be submitted to internal for approval and to IFAD for non – objection. The LPA should make reasonable annual budgetary provisions for IFAD funds and Counterpart funds in the National Budget, based on the AWPB of the Project.		
Project Funds Flow/Disbursement Arrangements	***Moderate***	***Low***
Risk: Immediately after entry into force of the two Financing Agreements, the GoV is required to open and maintain two Designated Accounts (one for for the Loan -BT and another one for Loan -TV in a commercial bank(s) denominated in loan denominating currency for financing the Project. The Designated Accounts will be operated by the Ministry of Finance (MoF) and administered following Imprest Account arrangements. Advances from this Financing must be segregated from other funds for the Project. The PMU in BT and TV shall open and maintain in their provincial treasuries the Project Accounts denominated in VND for Project operations. The Project Accounts shall be funded and replenished as necessary from the resources held in the Designated Account respectively, upon request of the PMU and in accordance with expenditures incurred under approved AWPBs. Vietnam is already live on ICP and the platform will be used for submission of withdrawal applications. A new Management Information System (MIS) will be procured and implemented, in order to facilitate information flows, ensure appropriate approval structures and to improve efficiency for data retrieval and dissemination.	Moderate	Low
Mitigations: The project should start working with the software company to initiate the process for implementing a new Management Information System (MIS), enabling the customization of an automatic review and approval process for the new project design.		
Project Internal Controls	***Moderate***	***Low***

Risk: Contract register is in place. Supporting documents and related vouchers are traceable to most of the districts. Project FM operations at the PMU and district level undergo an annual internal audit (in the form of annual activities control/settlement) by officers of the provincial Department of Finance. As part of internal control procedures, the PMU need to provide a formal delegation of authority and clear segregation of duties among the project staff. In addition, the project's financial performance will be periodically reviewed. There are regular reconciliations of cash conducted, which is performed by someone other than the cashier. Annual physical verification of project assets will be performed by the Administrative Department and a logbook of leased vehicles will be kept (current practice for existing project).	Moderate	Low
Mitigations: The Provincial PCU shall make sure proper internal controls are defined and described in the project FM manual, as part of the PIM. Detailed control activities include a good transaction trail, personnel policies and competent project staff, segregation of duties, physical protection of assets, and timely progress and performance reporting. Supervision and monitoring during project implementation need to be exercised to ensure that the prescribed guidelines and requirements are being followed and complied with. fiduciary accountability and implementation efficiency		
Project Accounting and Financial Reporting	***Moderate***	***Low***
Risk: The ANNA accounting software has been adapted. However, there is a lack of integration and automation from commune level to the provincial level. Thus, all detailed transactions have been re-keyed in one by one by the financial team at PMU. In addition, there were delays in entering accounting transactions into the accounting software as the transactions are only input into the systems upon completion once all supporting documentations have been collected. Forms and reports required by the GoV and IFAD were still manually prepared outside the system. Furthermore, there is no segregation of duties built into the accounting system.	Moderate	Low
Mitigations: - Customize accounting software, as part of the implementation of a new MIS to enable an integrated environment, and to permit computerized consolidation; - Set up an automation of system reports and forms as required by GoV and IFAD i.e. financial statements and withdrawal applications submitted to IFAD		
Project External Audit	***Moderate***	***Low***
Risk: Current project has been audited by private Auditing Firm which was procured through competitive bidding process (AASC Auditing Firm Co. Ltd- same auditor for past 5 years). The audit is carried out on the basis of International Standards on Auditing. Annual audit reports have been submitted on time. The auditors have expressed Unqualified Opinion on annual Financial Statements over the project implementation of 5 years.	Moderate	Low
Mitigations: The auditor should be appointed before the start of the financial year to be audited. This is to allow the auditor sufficient time to plan and carry out a comprehensive examination of the recipient's financial records and accounts.		
Project Procurement	**Moderate**	**Moderate**
Legal and Regulatory Framework	***Moderate***	***Moderate***

Risk: The Borrower's regulatory and institutional capacity and practices (including compliance with the laws) are inadequate to conduct the procurement in a manner that optimizes value for money with integrity and prevents corruption.	Moderate	Moderate
Mitigations: IFAD implements a zero tolerance to corruption policy. IFAD provides no-objection to the annual project procurement plans, prior review of large procurement proposals, and ex-post procurement checks . IFAD policies demand the use of competitive procurement methods for projects. Projects should provide consolidated procurement information on the provincial procurement website and project website (opportunities and awards). Project conducts prior and ex-post reviews, annual audits to strengthen enforcement of the debarment system.		
Accountability and Transparency	***Moderate***	***Moderate***
Risk: Accountability, transparency and oversight arrangements (including the handling of complaints regarding, for example, SH/SEA and fraud and corruption) are inadequate to safeguard the integrity of project procurement and contract execution, leading to the unintended use of funds, misprocurement, SH/SEA, and/or execution of project procurements outside of the required time, cost and quality requirements.	Moderate	Moderate
Mitigations: Project requests bidders, contractors/ service providers/ suppliers to sign Self Certification Form on anticorruption, sexual harassment, sexual exploitation and abuse as a part of bids/ proposals and contract documents. Government policies promotes e-procurement as a main procurement modality. Conduct prior and ex-post reviews to strengthen enforcement of the debarment system. Provide consolidated procurement information on the procurement website and project website (opportunities and awards).		
Capability in Public Procurement	***Moderate***	***Moderate***
Risk: The implementing agency does not have sound processes, procedures, systems and personnel in place for the administration, supervision and management of contracts resulting in adverse impacts to the development outcomes of the project.	Moderate	Moderate
Mitigations: Provincial government should retain high performing AMD procurement professionals to support full time and intermittently. Project should provide training and periodic coaching to project and sub-national project staff. A project procurement manual has been prepared in draft and be finalized before start-up. It details guidance for different procurement methods in compliance with IFAD project procurement guidelines.		
Public Procurement Processes	***Moderate***	***Moderate***
Risk: Procurement processes and market structures (methods, planning, bidding, contract award and contract management) are inefficient and/or anti-competitive, resulting in the misuse of project funds or sub-optimal implementation of the project and achievement of its objectives.	Moderate	Moderate

Mitigations: Carry out coaching, on-the-job trainings and refresher trainings on procurement (IFAD project procurement guidelines and manual, ICP, NOTUS, e-procurement). PMUs monitor and update regularly implementation progress of the procurement plan with both planned and actual data. IFAS provides close supervision.		
Environment, Social and Climate Impact	**Low**	**Low**
Biodiversity Conservation	***Low***	***Low***
Risk: VCAP promotes land use change/transformation that would result in further loss/degradation of habitat, forest cover or, soils; environmentally sensitive and/or vulnerable to natural disaster.	Low	Low
Mitigations: CSAT promotes eco-friendly production/certification (e.g. eco-shrimp, mangrove clam) that increases the biodiversity of the region. Sub-projects, notably public infrastructure investments, will avoid environmentally sensitive areas and special areas for biodiversity conservation. Appendix 1 of the ESMF to ensure that all interventions in sensitive areas (including infrastructure and other activities) will entail an upgrade to Category A, providing these are not coordinated with DONRE.		
Resource Efficiency and Pollution Prevention	***Substantial***	***Moderate***
Risk: Hi-tech aquaculture production results in water pollution.	Substantial	Moderate
Mitigations: Value chain planning for each value chain will address directly the risks of pollutions and propose immediate solutions, otherwise proposed investments with high risk of pollution will be discard. CSAT also promotes water treatment solutions to make use of waste water and promotes water use efficiency.		
Cultural Heritage	***Low***	***Low***
Risk: Infrastructure causes destruction / pollution to the cultural heritage (e.g. Khmer pagoda).	Low	Low
Mitigations: CSAT invests in small scale infrastructure and will avoid sub-projects that have potential adverse impacts on cultural heritage. The project Grievance Redress mechanism ensure that complaints are addressed to rectify decisions and malpractice. SEDP and VCAP ensure full participation of stakeholders to prevent inappropriate investments.		
Indigenous People	***Low***	***Low***
Risk: (for Tra Vinh only) Risk of social, or economic impacts on the non Kinh ethnic group, including threats to or the loss of resources of historical or cultural significance.	Low	Low

Mitigations: The approach to the non-Kinh ethnic groups is consistent with IFAD's policy on ethnic minorities. Cultural differences will dictate the approach adopted. Local languages will be used in all village meeting, planning and extension sessions. District teams responsible for implementation will reflect gender balance, and their members will have command of ethnic languages. Capacity building tools will be developed in the languages of the main ethnic groups and take into consideration cultural differences. Special efforts will be made to recruit project extension agents speaking ethnic groups languages and in mobilizing and mentoring students from the ethnic schools.		
Labour and Working Conditions	***Low***	***Low***
Risk: Child labour, forced labour, ethnicity based discrimination, overtime working, poor working conditions.	Low	Low
Mitigations: CSAT documents and communicates to all employers and workers within the value chain regarding their working conditions and terms of employment. CSAT promotes transparent contract arrangement including wages and benefits, hours of work, overtime arrangements and overtime compensation, and leave for illness, maternity, vacation or holiday, that at a minimum comply with national law. This includes respecting a collective bargaining agreement with a workers' organization if there is such an agreement. On the risk of child labor, CSAT will prevent the use of child labor and ensure compliance with the government's labor laws and related international treaty obligations. This has been included as one of the mitigation measures under the ESMF (see Appendix 3 – ESMP for climate resilient infrastructures under the issue on worker and public safety). Relatedly, compliance with national laws and ILO standards on child labor and labor rights will be closely monitored by the PMU. Awareness will be raised on the issue and relevant clauses will be included in all contracts with service providers. Additionally, we will also include the similar mitigation measure in the General ESMP as recommended.		
Community Health and Safety	***Low***	***Low***
Risk: Overuse of chemicals and pesticides for production which affects community health and food safety.	Low	Low
Mitigations: Food safety and international standards/certification are included from value chain planning with strict monitoring and evaluation.		
Physical and Economic Resettlement	***Low***	***Low***
Risk: Forcibly/voluntarily displaced households due to infrastructure constructions.	Low	Low
Mitigations: CSAT invests in small and climate resilient infrastructure and will avoid sub-projects that may cause physical resettlement. ESMF is in place to ensure the conformation of infrastructure investment to SECAP/Gov policies. FPIC and Grievance redress are included in ESMP and ESMF and ensure the voice of communities are raised and complaints addressed in due fashion. Additionally, FPIC, Implementation Plan and EM plan have been included in the design (i.e. Appendices 4 and 5 of the SECAP, respectively).		
Greenhouse Gas Emissions	***Low***	***Low***

Risk: Methane (CH4) and Nitrous oxide (N20) emitted during waste decomposition in landfills, land-use change, digestive processes in livestock, and agriculture.	Low	Low
Mitigations: CSAT promotes climate smart agriculture technology to reduce GHG emissions. Climate informed SEDP builds capacity of stakeholders on climate change mitigation and adaptation.		
Vulnerability of target populations and ecosystems to climate variability and hazards	***Moderate***	***Moderate***
Risk: The project's groups such as the poor and climate change vulnerability people, and ecosystem in some project areas, especially those in coastal districts, may face problems resulted from increasing climate variability and hazards (i.e., sea level rise, SWI, storms, long-lasting/heavy rain, and landslide, etc.).	Moderate	Moderate
Mitigations: Regional integrated planning and Convergent Value chain Planning take into account of agricultural transformation, climate change resilient. Subsequently, value chain investments will be risk mitigation and/or avoidance.		
Stakeholders	**Moderate**	**Moderate**
Stakeholder Engagement/Coordination	***Moderate***	***Moderate***
Risk: Selected VC commodities exclude poor households; lack of consultation/ inclusion of perspectives of rural households, esp., vulnerable households (EM, women, youth, elderly).	Moderate	Moderate
Mitigations: As a proven practice form the AMD project, CSAT engages in an participatory investment planning process, from "bottom-up" commune, district and provincial levels. It captures local knowledge and improved understanding of priorities, vulnerabilities, risks and potential impacts. The planning and targeting practice identifies targeted rural households and analyses requirements to optimize participation of disadvantaged rural households.		
Stakeholder Grievances	***Moderate***	***Moderate***
Risk: Stakeholders are unhappy about project investments, especially public infrastructure (e.g. elite capture).	Moderate	Moderate
Mitigations: Government has a grievance policy and mechanism in place. CSAT is building on it to capture and address target groups complaints on (i) being left out of consultation process. Non compliance to agreed development plans ; (ii) misuse/ misappropriation of assets (land, water); (iii) misuse of projects funds e.g. corruptive practice. Ensure full participation of stakeholders in all project consultation and planning processes. Such systems are included in ESMF as well.		

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Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Project Design Report

Annex 10: Exit Strategy

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Asia and the Pacific Division
Programme Management Department

CSAT Exit Strategy

1. Besides institutions, continued funding remains key for the sustainability of results generated under CSAT. This starts with mobilising and streamlining funding resources from other public sources such as NTP-NRD&EMD, the various start-up funds such as from provincial DOIT. It is key for sustainability that provincial PPCs in the Mekong Delta rigorously coordinate these funding streams as part of the regional planning and monitoring. This is expected to be part of the regional programmes such as the ATP, co-sponsored by The Netherlands. Private and public banks are likely to invest in the agricultural transformation process, given the products are in high in demand at national markets such as HCMC and global export. Viet Nam is already a global leader in a number of agricultural and aquaculture products. CSAT investments in a mangrove clam/shrimp system or other similar productions prepares the future for ecological and climate change sensitive, sustainable agricultural value chains.

2. CSAT 's exit strategy is built into the project implementation approach and is based on the experiences from the previous AMD and lessons learnt of the IFAD country programme and other ODA funded projects. The exit strategy outlines the transfer of responsibilities from the CASP PMU to Ministry institutions before the project end, ensuring that finance is secured and the scaling out of CSAT results promoted. The exit strategy assigns institutions to lead a specific activity, identifies the process and funding source.

3. CSAT is fully embedded in the present policy context for the Mekong Delta region. The key policies are the Agricultural Restructuring Plan 2017–2020, the Socio Economic Development Plans 2021-2025, the Resolution 120 and Mekong Delta Plan within the Agricultural Transformation Programme. The national and provincial Governments have expressed their demand for support to implement these policies. From the outset, there has been a strong partnership and consultation process with the national and provincial governments for the design of CSAT. The provincial governments are the owners of the project and they take on the responsibility for the project implementation and exit strategies. The PPC appoints the relevant department with the implementation of the project component and activities during and beyond CSAT. The PPC is also the decision body for the allocation of funds for public institutions implementing CSAT.

4. For Component 1 (effective provincial and regional coordination), the Department of Planning and Investment (DPI) of each province coordinates with the support of the PMU the implementation of outputs related to the SEDP review and VCAP development. DPI will engage with the required line agencies, FU, WU and district and commune agencies. The funding for these two outputs comes from existing provincial sources and is part of the provincial development plan, ensuring ownership and continuance of these activities in future years. The PPC with DPI and DOF will ensure that sufficient funding is available for consultation processes and for intra-provincial and inter- provincial coordination and planning. The implementation arrangements are fully aligned with current Provincial procedures, processes and their accountability framework.

5. The Provincial Entrepreneur Association (PEA)[1] in each province will lead the establishment and implementation of the 4P platform. It will be owned by a mix of private enterprises and their institutions (e.g. PEA) and public institutions (e.g. WU, FU, YU, CEMA, DARD and DOIT). Most funding to maintain the 4P platform will come from the private sector.

6. The capacity building comprises planning, infrastructure development, climate smart agriculture and access to finance. A key output will be the Business Development Services (BDS), led by the 4P platform. The continuation of the BDS beyond the project is pivotal for the value chains sustainability and thus, the 4P platform will continue to take the lead to manage, shape and fund it.

[1] The Provincial Entrepreneur Association (PEA) in Ben Tre is currently led by a big enterprise (BeinCO) with participation of around 100 enterprises and SMEs. PEA actively supports the enterprises and farmers accessing to market and financial resources, defending their rights, contributing to assurance of the quality and standard of products. This good example will be further strengthened and replicated to Tra Vinh province.

7. CG and SCGs require continuous institutional support through mentoring and coaching, besides technical, business and financial aspects. DARD with FU, YU , WU and CEM have the capacities and funding to carry on the support to CG and SGCs once CSAT ends. The PPC through the PMU will engage with each agency through institutional agreements and plans to strengthen these smallholder organisations and ensure their continuity.

8. Both IFAD and the provincial governments have long experience in management of infrastructure investments through many projects and programmes. PMU will ensure that every single invested infrastructure scheme will have regulations and unit that sustainably operates and maintains the scheme. The PPC takes on the responsibility to monitor the appropriate use, the O&M arrangements to ensure longevity of the infrastructures. The infrastructure investments, funded by IFAD and Government, will be completed by the end of the implementation period. The ownership and responsibilities for operation and maintenance (O&M) will depend on the type of infrastructure. Infrastructure that requires intensive O&M in view of cost and capacity (e.g. salinity intrusion system, water pump station, water reservoir, processing unit, logistic unit) might be leased out to a private sector or to a specialized government agency. The small in-field irrigation canals and embankments will require establishment of local Water User Groups (WUGs) for O&M. Similarly, an O&M group will also be established for rural roads.

9. Access to finance for smallholders and SMEs will increase through the CSAT value chain development activities. It is expected that by the WDF will have completed the registration to become a formal microfinance institution. Thus, the WDF will be able to source increased funding from the State Bank of Viet Nam and commercial banks, for expanding its scale and products in order to serve better and more clients. It is also likely that other formal banks will be interested in the funding of the value chains once there are showing convincing business results. The other start-up funds provided by DOIT, FU and others will continue to serve start-up businesses. The finance facilitator function of the PMU will be pivotal during implementation. The exit strategy includes that a similar function should be set up in the 4P platform before the end of CSAT, in order to continue bridging the contact between producers, processors and traders with financial institutions.

10. The DFCD's forthcoming enterprise investments for climate change adapted value chains will likely run beyond the CSAT implementation period. DFCD is financing only commercially viable and bankable investment and hence, the value chains support have a high possibility to sustain and moreover, be scaled out to other geographical areas and value chains.

11. Climate Smart Agriculture will remain an important tool to continue the adaptation of farming systems to the evolving climate and other threats in the Mekong Delta. DARD, 4P platform, Youth and Women Union will be supporting adaptation frameworks and technical extension support. Future funding will continue to be mobilised from their own resources and from the private sector as is the case for CSAT implementation.

12. The sustainability of CSAT investments is based on the strong relevance of its goal, development objective and outcomes aligned to, and underpinning government efforts to transform agriculture in a modern, profitable and environmental and climate sensitive sector. Government has already adopted and scaled out the IFAD country programme approach across the country, in terms of a bottom up planning process to address environmental and climate, gender and ethnic minority aspects and to render smallholder agriculture a business.

13. A key condition for sustainability will be how producers can cope with climate change effects. CSAT builds the required institutional back up and links it with the funding resources required. Based on AMD experiences, CSAT promotes innovations, learning and implementation as a continued mechanism to be led by PPC, Can Tho university and the 4P platform. Technology (including digital) and knowledge transfers are sponsored mainly by private sector to ensure a steady flow of high quality products according to market standards. Digital technology promotes the application, tracing and monitoring of quality

standards including certification. CSAT with private sector will mainstream quality standards promoting trust of markets and end consumers. It is expected that trustful partnerships of public and private sectors will grow sustainably over time.

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Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Project Design Report

Annex 11: Mainstreaming themes – Eligibility criteria checklist

Document Date:	26/07/2021
Project No.	2000002335
Report No.	5735-VN

Asia and the Pacific Division
Programme Management Department

Mainstreaming themes – Eligibility criteria checklist				
	☐ **Gender transformational**	☑ **Youth sensitive**	☐ **Nutrition sensitive**	☑ **Climate finance**
Situation analysis	☐ National gender policies, strategies and actors ☐ Gender roles and exclusion/discrimination ☐ Key livelihood problems and opportunities, by gender	☑ National youth policies, strategies and actors ☑ Main youth groups ☑ Challenges and opportunities by youth group	☐ National nutrition policies, strategies and actors ☐ Key nutrition problems and underlying causes, by group ☐ Nutritionally vulnerable beneficiaries, by group	
Theory of change	☐ Gender policy objectives (empowerment, voice, workload) ☐ Gender transformative pathways ☐ Policy engagement on GEWE	☑ Pathways to youth socioeconomic empowerment ☑ Youth employment included in project objectives/activities	☐ Nutrition pathways ☐ Causal linkage between problems, outcomes and impacts	

Logframe indicators	☐ Outreach disaggregated by sex
	☐ Women are > 40% of outreach beneficiaries
	• IFAD empowerment index (IE.2.1)
		☑ Outreach disaggregated by sex and youth	☐ Outreach disaggregated by sex and youth, and IPs (if appropriate)
			• Output level CIs
			  ◦ CI 1.1.8 Mandatory
			Outcome level CIs (at least one of below)
			  ◦ CI 1.2.8
			  ◦ CI 1.2.9	

Human and financial resources	☐ Staff with gender TORs ☐ Funds for gender activities ☐ Funds for IFAD empowerment index in M&E budget	☑ Staff with youth TORs ☑ Funds for youth activities	☐ Staff or partner with nutrition TORs ☐ Funds for nutrition activities	IFAD Adaptation Finance $18,529,000 IFAD Mitigation Finance $0 Total IFAD Climate-focused Finance $18,529,000
ECG Remarks	**Gender** **Nutrition** **Youth** CSAT will take a youth inclusive approach that focuses on the economic, political, economic and cultural causes of vulnerability of different groups. Value chains in which youth were already engaged will be selected. The project will support their profitable engagement in on-and off-farm activities, make sure their voices are heard and empower them as agents of change. A youth inclusion strategy is included in the PIM. ☐ No social inclusion themes			

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Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Project Design Report

Annex: DRM SECAP Compliance Note

Document Date:	26/07/2021
Project No.	2000002335
Report No.	5735-VN

Asia and the Pacific Division
Programme Management Department

Project Design Report – SECAP Compliance Review at the DRM Stage

Project title:	Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)		
Country:	**Viet Nam**	**Date of Review:**	**25/05/2021**

Justification of the final project category and classification

Final environmental and social category proposed by PDT: A ☐ B ☒ C☐

Category validated by OPR: Yes ☒ No ☐

The CSAT project aims generate sustainable income opportunities and improved rural livelihoods for poor households, and achieve sustainable and climate resilient rural transformation in Tra Vinh and Ben Tre provinces (PDR #40). The activities include (i) support to provincial and regional coordination, (ii) value chain action planning, (iii) support to public-private-producer-partnerships platforms, (iv) investing in climate resilient infrastructure and inclusive value chain development, and (v) rural finance services to support value chain development (PDR #52-84). The SECAP review note is comprehensive and the PDT has addressed most of the SECAP recommendations during OSC. However few issues remain for further attention:

1. **Protected Area:** The response to screening question 3 on sensitive area is negative; nonetheless, the project may invest in developments in-and-around protected areas and would need to be coordinated with DONRE to ensure compatibility with the protected/conservation areas' management objectives (SECAP review note, #127).
2. **Child labour:** OSC discussed the need to pay attention to the risk of child labour (Decision Memo, 4 August 2020). Although the ESMP mentions including prevention of child labour in construction contracts as a mitigation measure, there is no analysis of the risk of child labour, nor procedures on how to prevent, mitigate or remedy child labour risks.
3. **Social inclusion:** Seventy-five percent of the disabled population lives in rural areas and face un- or underemployment, lower living standards and lower social participation (SECAP Review Note, #51). During concept stage, it was recommended to assess the specific needs of persons with disabilities, ensure their representation and consultation and include measures to promote their access to project benefits (SECAP Compliance Review).
4. **Land acquisition and economic displacement:** the SECAP Review Note highlights the risk of small-scale land acquisition resulting in economic displacement (#163). Although FPIC is foreseen in the SECAP Review Note, it is not included in the in ESMP.
5. **Procurement Integration:** Civil works worth USD 128 million will be financed by IFAD, IFIs and the borrower (Table 1 Programme/project costs by component, Page 6). Nonetheless, procurement arrangements and the related integration of safeguards are not specified in the PIM.

Recommendations:

1. *Protected Area: Modify the screening question in the ESMF (Appendix 1) to ensure all intervention in sensitive area (not only infrastructure as currently mentioned) will entail an upgrade to Cat. A, providing these are not coordinated with DONRE.*
2. *Child labour: analyse the risk of child labour and include procedures to prevent, mitigate or remedy child labour risks in the ESMP.*
3. *Social inclusion: assess the specific needs of persons with disabilities, ensure their representation and consultation and include measures in the ESMP to promote their access to project benefits.*
4. *Land acquisition and economic displacement: ensure the need for FPIC is included in the ESMP*
5. *Procurement Integration: Clarify if IFAD's Standard Procurement Documents will be used for all procurement activities including those of cofinancing partners, and ensure that:*
   - *ES specialists to support the SPOs in adequately incorporating E&S safeguards into the procurement plans; and*
   - *Procurement officers in the PMUs are adequately trained on the ESMF requirements.*

SECAP studies Revised:
- Revised ESMP, ESMF
- Revised PIM

Final Climate Risk Classification proposed by PDT: High ☒ Moderate ☐ Low ☐

Classification validated by OPR: Yes ☒ No ☐

Assessment of compliance with SECAP requirements (includes reason(s) for classification revision, if applicable):

The Climate risk classification is considered adequate, a in depth climate risk assessment has been submitted for review.

Climate risk analysis submitted In-depth ☒ Basic ☐

Cleared by OPR Director: Yes ☒ No ☐

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Climate Smart Agriculture Transformation Project in the Mekong Delta (CSAT)

Project Design Report

Annex: Fiduciary Summary Note

Document Date:	26/07/2021
Project No.	2000002335
Report No.	5735-VN

Asia and the Pacific Division
Programme Management Department

FINANCIAL MANAGEMENT ISSUES SUMMARY

COUNTRY	Viet Nam	CONCEPT NOTE	Programme: CSAT

A. COUNTRY PORTFOLIO PERFORMANCE

Country – FM KPIs:

FM Inherent Risk:	***Substantial***	Transparency International TI The Corruption Perception Index (CPI) of 37 for 2019 by Transparency International ranked Viet Nam 96th out of 180 countries, dropping by 21 places and four points compared to 2018. Despite the significant efforts conducted in its fight against corruption since 2016, corruption is still one of the three major concerns after pollution and employment.[1] Public Financial Management (PFM) There is no PEFA for Vietnam carried out recently, except one conducted in 2013. A major finding of a recent evaluation of the World Bank (2016) is that there was an acceleration of policy actions and capacity improvements between 2012 and early 2016 largely attributed to or associated with budget support for the establishment of a modern treasury management system (TABMIS) and strengthening of external audit functions. However, achievements in internal auditing and reporting of expenditures were less noteworthy. PFM in Vietnam continues to suffer from long-standing problems such as nonconformity of financial reporting with international standards, lack of multi-year fiscal projections, carry-over of expenditures to following years, and lack of reporting at the commitment stage that limits the efficiency of TABMIS.[2] Debt Assessment Vietnam's sovereign risk rating remains at B, the public-debt-to-GDP ratio remained high, falling slightly to 56.1% in 2019 from 62.4% in 2018[3] while its external debt-to-GDP ratio also declined sharply to 45.6 percent in 2018 in line with the authorities' switch to domestic financing sources and limiting of guarantees. Under the approach of IMF/WB to Debt Sustainability Analysis (DSA), Vietnam's overall debt sustainability has been rated as Sustainable with significant access to international capital market (Market-Access Countries – MACs)[4]. The IMF's July 2019 country report[5] shows a low risk of debt distress, and the gross-financing-needs-to-GDP ratio remains below the 15 percent threshold under all shocks. The assessment highlights possible risks in the Vietnam debt profile, notably in terms of external financing requirements and foreign currency debt. In the past years, the volume of foreign funds was falling due to the government policy on ODA tightening and the government's ambitious infrastructure development plans, as well as growing welfare costs. However, with the new GoV's Decree No. 56/2020/ND-CP on management and use of foreign funds by foreign sponsors issued in May 2020, GoV aims at broader scale and priorities for development projects bringing positive impacts on existing projects as well as possibility of new projects in Vietnam.
Country Disbursement Ratio (rolling-year)	*27.90%*	
Outstanding Ineligible Expenditure	*None*	
Outstanding Advances (Projects in Expired Status)	*None*	
Applicable PBAS cycle:	*IFAD11*	
PBAS Available allocation:	*USD 43 million for CSAT*	

CURRENT LENDING TERMS	Ordinary (Exemption)

B. PORTFOLIO, FM RISK & PERFORMANCE

[1] https://www.transparency.org/en/countries/vietnam#
[2] WB Evaluation of Public Financial Management Reform ((http://documents.worldbank.org/curated/en/678051469685075659/Vietnam-Public-Financial-Management-Reform-Project)
[3] The Economist Intelligence Unit
[4] https://www.imf.org/external/pubs/ft/dsa/mac.htm
[5] https://www.imf.org/en/Publications/CR/Issues/2019/07/16/Vietnam-2019-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-47124
http://hanoitimes.vn/vietnams-public-debt-continues-declining-trend-to-561-of-gdp-in-2019-300660.html

Existing Portfolio:

Project	Financing instrument	FLX Status (2)	Lending Terms	Currency	Amount (million)	%Disbursed	Completion date
CSSP	200000175200	DSBL	LOAN COMPONENT GRANTS	USD	0.5	70.53	29/09/2023
CSSP	200000175300	DSBL	BLENDED TERMS	USD	42.5	31.18	29/09/2023
ICT - VIETNAM	200000246700	DSBL	SUPPLEMENTARY FUNDS GRANTS	USD	0.5	98.24	30/03/2022

Project	Project FM risk rating	Performance Score: Quality of Financial Management	Performance Score: Quality & Timeliness of Audit	Performance Score: Disbursement Rate	Performance Score: Counterpart funds
CSSP	Substantial	Moderately Satisfactory	Mod. satisfactory	Unsatisfactory	Moderately Satisfactory
ICT - VIETNAM	Substantial	Not Specified	Not Specified	Not Specified	Not Specified

- AMD: The project is implemented in two provinces: Tra Vinh and Ben Tre. Overall, the risk of the project in both provinces are low. The project implementation is affected by government policy regarding foreign investment tightening and COVID-19.

- CSSP: The project entered into force in 2017. It is now the 3rd year of project implementation. From the last Supervision mission, project disbursement rate (7.81% for IFAD Loan and 33.65% for IFAD Grant) and counterpart funding were rated as highly and moderately unsatisfactory respectively mainly due to the previous GoV's tightening policy relating to foreign aided funds. It was difficult for projects to be eligible to receive fund allocations when project activities were not able to be included in the GoV's Medium-term Investment Plan, causing delayed project implementation. The project financial management quality was also rated as moderately unsatisfactory because of its low capacity and insufficiency of FM staff at all levels, especially at district and commune levels. Furthermore, accounting software was either still pending at the time of Supervision Mission in Cao Bang or only purchased lately in 2019 in Bac Kan. Besides, the mission findings on Staffing and Accounting and Financial Reporting identified weaknesses in project's internal control system and the needs of some updates for several sections of PIMs.
  Currently, the new government policy on management and use of foreign funds allows the project to include their activities into GoV's master plan, helping project having enough resources to finance their activities, hire additional qualified FM staff and do further FM training and capacity building. The Mid-term Review will be taken place in July 2020 to support the project.

C. PROJECT CONCEPT NOTE

Project Concept Note – FM KPIs:

Project FM risk	To be established during project design	
Duration:	6 years	
Financing Sources:	*US$ Millions*	*%*
IFAD	43.0	31.6
Counterpart	11.2	8.3
Counterpart In kind	6.6	4.8
Beneficiaries	4.6	3.4
Financing Institutions	70.4	51.6
Private sector	0.5	0.4
Proposed size:	US$ 136.4 million	

Lending Terms:	Ordinary (Exemption)	- The CSAT project investments will be implemented primarily in Tra Vinh and Ben Tre provinces of Mekong Delta with two outcomes: (i) Effective policies and regional coordination are operational for rural transformation in Mekong Delta, and (ii) Innovative, Inclusive and Climate smart value chain platform implemented. - The Financial Management (FM) performance of IFAD-funded projects in Viet Nam is generally satisfactory, except for CSSP because of the objective causes and FM risk is low after mitigation measures are in place. - a thorough assessment of FM capabilities/system and full fiduciary assessment of the proposed implementing agencies were carried out and the risk and necessary mitigating measures were identified. - Due to the jurisdiction of the government administration at the provincial level, Project Management Units (PMUs) are required to be set up in every province of intervention. The project should ensure the adequate and qualified FM staff will be recruited at each level. - Project costs should be detailed during design state. - The GoV has not indicated whether it wishes to receive the financing in USD or EURO rather than SDR. The selection of options on the new lending terms needs be discussed further during loan negotiations.
The total project cost is estimated at USD 136.4 million for two provinces. The overall contribution of international financing for the project is estimated at US$ 113.4 million (83.1%) which includes USD 43.0 million of IFAD loan and USD 70.4 million from external sources (to be specified). The Government is expected to co-finance the Project in the amount of USD 17.9 million in cash and in kind (13.1%) and beneficiary contribution of USD 4.6 million (3.4%). However, ongoing projects is Viet Nam are experiencing difficulties with counterpart contributions, mostly due to the new ODA policy which recently has been further clarified by local government and liquidity is getting back on track. An expected amount of USD 0.5 million (0.4%) will be mobilized from enterprises as private sector contribution (to be confirmed).		

FM Observations:

- Due to previous GoV policy regarding foreign investment tightening and COVID-19 situation, the existing projects of Vietnam experienced difficulties in including project activities in the GoV Medium-term Investment Plan to be eligible to receive fund allocations. It caused issues in disbursing project finances leading to delays of project activities implementation.
  Mitigations With the new GoV's Decree No. 56/2020/ND-CP on management and use of official development assistance (ODA) and preferential loans, GoV aims at broader scale and priorities for ODA projects. CSAT needs to prepare in advance its AWPB to be included in the GoV Medium-term Investment Plan to ensure the funding source is available for the project implementation.
- Lack of FM qualified staff under the GoV Structure at the low district level of the Project
  Mitigations: CSAT will reinforce its FM capacity through the hiring of qualified FM staff. The periodic trainings will be conducted to build FM capacity at all levels and strengthen the performance of the implementing agency.
- Financial reporting is generally automated at PMU at provincial level; however, Excel is still used for report at district-level, where automation is not a common practice.
  Mitigations: Web-based accounting software should be identified and procured in the design stage. Strong management and effective coordination systems will be essential to ensure efficient financial reporting and fund-flows, which will be key to improve slow disbursement and successful project implementation. The project management information system should be adopted more widely with the development of key areas of the system including Financial management to be linked with procurement management, etc.
- PIMs should be prepared at design stage.

Prepared by: Irene Li
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