



Investing in rural people

## **Republic of the Union of Myanmar**

---

### **Eastern States Agribusiness Project**

#### **Final project design report**

#### **Main report and appendices**



## Contents

Currency equivalents	iv
Weights and measures	iv
Abbreviations and acronyms	v
Map of the project area	vii
Executive Summary	viii
Logical Framework	xi
I. Strategic context and rationale	1
A. Country and rural development context	1
B. Rationale	11
II. Project description	12
A. Project area and target group	12
B. Development objective and impact indicators	15
C. Outcomes/Components	15
D. Lessons learned and adherence to IFAD policies	20
III. Project implementation	21
A. Approach	21
B. Organizational framework	22
C. Planning, M&E, learning and knowledge management	22
D. Financial management, procurement and governance	26
E. Supervision	26
F. Risk identification and mitigation	28
IV. Project costs, financing, benefits and sustainability	29
A. Project costs	29
B. Project financing	29
C. Summary benefits and economic analysis	31
D. Sustainability	32

## **List of Figures**

Figure 1: Rural Poverty in Myanmar – Characteristics

## **List of Tables**

Table 1: Poverty Profile

Table 2: Food Poverty Profile

Table 3: Growth in Food Crop Area and Production

Table 4: Landholding Size in Kayin and Shan (South) States

Table 5: Land and Population Estimates of Project Sites

Table 6: Socio-economic Stratification of Project Area Households

Table 7: Poverty Stratification of Households in Project Areas

Table 8: Indicative Characteristics of Project Area Households

Table 9: Phasing Plan of Main Activities

Table 10: Risk Mitigation Matrix

Table 11: Project Cost Summary

Table 12: Project Financing Plan

Table 13: Programme costs by expenditure category and financier

Table 14: Project Impact per Agro-Ecological Zone

## Appendices

Appendix 1:	Country and rural context background	34
Appendix 2:	Poverty, targeting and gender	48
Appendix 3:	Country performance and lessons learned	76
Appendix 4:	Detailed project description	78
Appendix 5:	Institutional aspects and implementation arrangements	98
Appendix 6:	Planning, M&E and learning and knowledge management	112
Appendix 7:	Financial management and disbursement arrangements	114
Appendix 8:	Procurement	120
Appendix 9:	Project cost and financing	140
Appendix 10:	Financial and Economic Analysis	154
Appendix 11:	Draft project implementation manual	168
Appendix 12:	Compliance with IFAD policies	170
Appendix 13:	Contents of the project life file	172

### Key Files:

Key Files 1: SWOT Analysis MOALI

Key Files 2: Capacity building plan for MOALI

## Currency equivalents

Currency Unit	=	Myanmar Kyat (MMK)
USD 1.0	=	MMK 1,000

## Weights and measures

1 kilogram	=	1000 g
1 000 kg	=	2.204 lb.
1 kilometer (km)	=	0.62 mile
1 meter	=	1.09 yards
1 square meter	=	10.76 square feet
1 acre	=	0.405 hectare
1 hectare	=	2.47 acres

## Abbreviations and acronyms

ABF	Agri-Business Fund ( <i>ESAP</i> )
AED	Agriculture Extension Department ( <i>MoALI</i> )
AI	Agriculture Institute
AMD	Agriculture Mechanization Department ( <i>MoALI</i> )
ASEAN	Association of South East Asian Nations
AWP&B	Annual Work Plan and Budget
CB	Cooperative Bank
CBM	Central Bank of Myanmar
CBs	Commercial Banks
CIG	Common Interest Group ( <i>ESAP</i> )
COSOP	Country Strategic Opportunities Programme ( <i>IFAD</i> )
CPPP	Constant Purchasing Power Parity
DA	Designated Account
DAR	Department of Agriculture Research ( <i>MoALI</i> )
DoA	Department of Agriculture ( <i>MoALI</i> )
EB	Executive Board
ESAP	Eastern States Agribusiness Project
FARM	Fostering Agricultural Revitalization in Myanmar
FESR	Framework for Economic and Social Reform
FIND	Financial Inclusion for National Development
FM	Financial Management
FPIC	Free, Prior, Informed Consent
FPL	Food Poverty Line
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GIZ	Gesellschaft für Internationale Zusammenarbeit
GoM	Government of Myanmar
GRET	Groupe de Recherche et d'Echange Technique
HACCP	Hazard Analysis Critical Control Point
HDI	Human Development Index
HH	Household
HPI	Human Poverty Index
ID	Irrigation Department ( <i>MoALI</i> )
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IHLCA	Integrated Household Living Conditions Assessment
IPSAS	International Public Sector Accounting Standards
ISO	International Standardization Organization
JICA	Japanese International Cooperation Agency
KC	Knowledge Center ( <i>ESAP</i> )
KM	Knowledge Management
LIFT	Livelihoods and Food Security Trust Fund
MADB	Myanmar Agriculture Development Bank
MAP	Making Access Possible
M&E	Monitoring and Evaluation
MEB	Myanmar Economic Bank
MDG	Millennium Development Goal

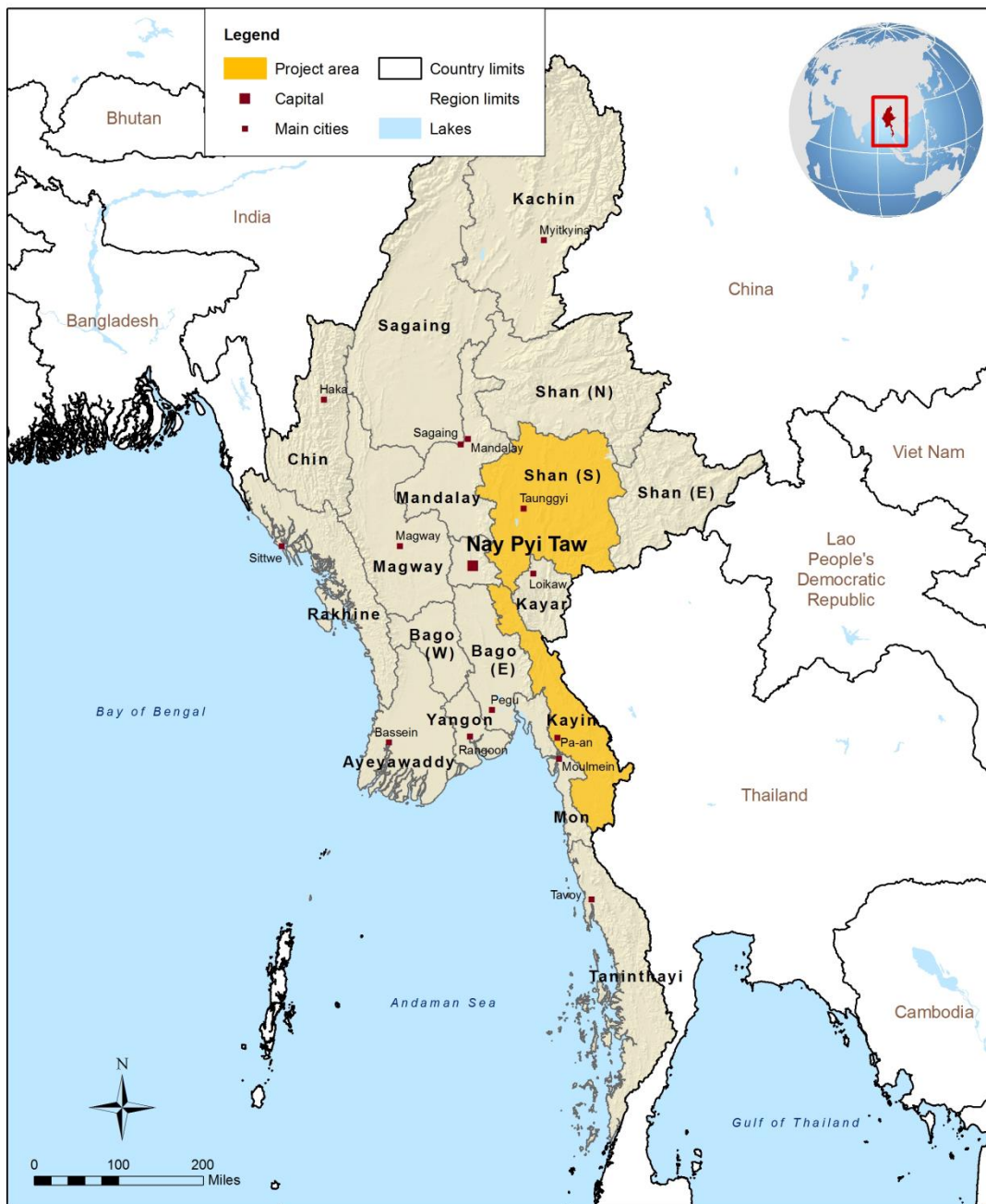
MFI	Microfinance Institution
MMA	Myanmar Microfinance Association
MMK	Myanmar Kyat
MoALI	Ministry of Agriculture and Irrigation
MoBA	Ministry of Border Affairs
MoECF	Ministry of Environmental Conservation and Forestry
MoF	Ministry of Finance
MoLFRD	Ministry of Livestock, Fisheries and Rural Development
MoNPED	Ministry of Planning and Economic Development
MPA	Multidimensional Poverty Assessment
NCDP	National Comprehensive Development Plan
NGO	Non-Governmental Organization
NMTPF	National Medium Term Priority Framework
NPSC	National Project Steering Committee ( <i>ESAP</i> )
OAG	Office of Auditor General
O&M	Operation and Maintenance
PACT	Partner Agencies Collaborating Together
PARDAP	Poverty Alleviation and Rural Development Action Plan
PMU	Project Coordination Unit ( <i>ESAP</i> )
PIO	Project Implementation Office ( <i>ESAP</i> )
PLUP	Participatory Land Use Planning
PPP	Public Private Partnership
SADC	Specialized Agriculture Development Company
SALT	Sloping Agricultural Land Technology
SCG	Savings and Credit Groups
SDR	Special Drawing Right
SoE	Statement of Expenditures
SLRD	Settlements and Land Records Department ( <i>MoALI</i> )
SME	Small and Medium Enterprises
RIMS	Results and Impact Management System ( <i>IFAD</i> )
RSC	Rice Specialized Company
TA	Technical Assistance
UMFCCI	Union of Myanmar Federation of Chambers of Commerce and Industry
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNOPS	United Nations Office for Project Services
USD	United States Dollar
VG	Village Group
WA	Withdrawal Application
WRUD	Water Resources Utilization Department ( <i>MoALI</i> )
WUG	Water Users' Group



## Map of the project area

### Republic of the Union of Myanmar Eastern States Agribusiness Project

*Design report*



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.  
 IFAD Map compiled by IFAD | 30-10-2014

## Executive Summary<sup>1</sup>

### Summary and Objectives

The project will develop an inclusive, sustainable and scalable model for smallholder agriculture and agroforestry in Myanmar's eastern states of Kayin and Shan (south). It will promote commercial smallholder agriculture linked to agribusiness, improve living standards in forest communities, and reverse the environmental degradation in sloping areas. Economic benefits will be generated for some 62,400 households consisting of 315,000 people of Karen, Shan, Paoh, Inn and Mon ethnic groups.

The project's goal is to improve the economic status of poor rural women and men in selected areas of Kayin and Shan states. Its objective is to increase the incomes of smallholder and agroforestry households in these areas in an environmentally sustainable manner.

### Components

**Component 1: Strategic Investments.** This component will finance strategic investments in land development and community agroforestry.

**Sub-component 1.1: Land Development,** The project will contribute to the expansion of irrigated areas served by primary and secondary canals, with complementary investments in land development identified through a participatory approach. The objectives are to improve the drainage networks, irrigation water delivery and field access, and to create opportunities for crop diversification in response to market signals.

**Sub-component 1.2: Community Agroforestry.** Project investment in agroforestry aims to improve living conditions and generate economic benefits in forest and upland villages. At the same time, agroforestry activities will protect ecosystems, reduce encroachment on primary forest, increase soil water infiltration and reduce soil erosion. Sloping upland and agroforestry activities will be defined and implemented on the basis of a participatory and culturally sensitive approach.

**Component 2: Enabling Investments.** This component will improve target group access to services and markets, and will maximise the benefits generated from the strategic investments.

**Sub-component 2.1: Knowledge and Technology.** The project will improve farmer access to the technologies, inputs and services necessary for improving productivity of staple crops, fodder crops and high value crops. A network of Knowledge Centres will be established to broker service delivery to farming and forest households through linkages with public institutions and the private sector.

**Sub-component 2.2: Services.** Smallholders and entrepreneurs will be provided with access to markets and to adapted and affordable financial products. Contractual arrangements between farmers and agribusinesses, such as contract farming or outgrower schemes, will be promoted for profitable commodities. A competitive grant scheme will attract processors to the project area, and a credit guarantee mechanism will improve smallholder access to bank financing. Financial inclusion will be promoted by fostering savings and credit groups and by providing financial literacy training to rural households.

---

<sup>1</sup> *The project design process was led by Mr Omer Zafar, country programme manager, Ms Enika Basu, programme analyst, and Ms Audrey Nepveu, lead technical advisor (water & rural infrastructure).*

*The final design mission consisted of the three design process leaders as well as Mr Thierry Mahieux (mission leader & financial services specialist), Mr Jens Kristensen (agribusiness specialist), Mr Zahid Shakeel Ahmed (infrastructure specialist), Mr Gianluca Capaldo (economist), Mr Tin Htut Oo (advisor), Mr Shankar Kutty (procurement specialist, IFAD), Ms Irene Li (finance officer, IFAD), and Ms Thiri Wai (country programme facilitator). Mr Soe Htun Aung from Irrigation Department, MOALI participated in all field visits.*

## **Background and Rationale**

As requested by the Government and reflected in the RB-COSOP, the two loan-financed projects of the 2013-15 cycle aim to develop scalable models in different agro-ecological zones. The FARM project focuses on creating a sustainable agricultural development model for the central dry zone. The ESAP focuses on creating a smallholder agriculture and community agroforestry model for the uplands/highlands zone, and has the potential for being scaled up across the Eastern states.

The project's rationale has four dimensions: (i) to create a model at state level for post-conflict economic reintegration which lays the foundation for sustained peace; (ii) to create a model for environmentally sustainable modernisation of agriculture in degraded areas; (iii) to forge pathways for supporting poor communities to transition from subsistence to commercial agriculture; and, (iv) to better link Myanmar's eastern states with regional markets and technology flows.

The project will exploit key agricultural and economic opportunities available in the two states; there is potential to generate rapid agricultural and agroforestry development, high financial returns for smallholders, agribusiness linkage opportunities, incremental jobs, and environmental benefits.

## **Rural Context, Geographic Area of Intervention and Target Groups**

Emerging from 50 years of isolation, Myanmar has embarked on a comprehensive path of political and economic reforms that aims to introduce elements of popular representation in the political sphere, foster economic growth and inclusive social development, improve the business environment, attract foreign investment and reduce poverty.

The project area consists of selected areas of Kayin and Shan (South) states in the eastern part of Myanmar. In Kayin state, project sites encompass twelve irrigation schemes covering three townships (Hpa-an, Hlain Bwe, Kaukarate) and the forest communities of Thandaunggyi township in the northern mountains. In Shan state, project sites cover the Ho-Pong irrigation scheme (Hopong, Taunggyi, Siseine townships) and the Hekke irrigation scheme (Taunggyi, Kyauk Talon Gyi townships).

The project's target group consists of poor rural women and men in the project areas. Specifically, it covers: (i) farmers in irrigated lowlands with medium, small and marginal landholdings ranging from less than an acre to up to 10 acres each; (ii) farmers in the rainfed uplands with medium, small and marginal landholdings ranging from less than an acre to up to 10 acres each; (iii) agro-forestry households in mountainous areas of northern Kayin; (iv) landless households that have access to job opportunities as agricultural labourers or as workers in agribusinesses.

## **Benefits**

The project will directly impact on a farmed area of about 186,791 acres of which 58,125 acres are irrigated, 103,530 acres are upland rainfed, and 25,135 acres are forest. It is expected to provide a range of economic and social benefits to 62,400 households consisting of 315,000 people. Projections indicate that incremental agricultural production in the project area between 2015 and 2021 will be worth about USD 38.2 million at farm gate prices. Acreage cultivated is expected to increase by 21%, and cropping intensity by 22%. Net income per acre will increase by 64%, while net income per household will increase by 100%.

The project's financial internal rate of return (FIRR) is estimated at 15.1%. Its economic internal rate of return (EIRR) is estimated at 13.4%.

## **Implementation Arrangements**

The MoALI, in its capacity as the Lead Project Agency, shall have the overall responsibility for the Project's implementation. The Irrigation Department (ID) will be the focal department of the project.

The Project's management structure shall consist of (i) a central level Project Management Unit (PMU), located in Naypyidaw; and (ii) a Project Implementation Office (PIO) in each Project state.

Project activities will be implemented through contracts with service providers from the public and private sectors, such as ministries/departments, NGOs and private companies.

### **Costs and Financing**

The total project cost, including duties, taxes and contingencies, is estimated at USD 65.2 million over a six-year implementation period. The project will be financed by an IFAD loan of USD 56.73 million, and IFAD grant of USD 1.5 million, a Government contribution of USD 4.9 million, and beneficiaries' contribution of USD 2.0 million.

### **Risks**

The main risks are political risk, land tenure risk, and poor governance risk. These are mitigated by a robust project governance framework, a set of legal assurances to be negotiated with Government, decentralised management and capacity building of state-level MoALI.

### **Knowledge Management, Innovation and Scaling-Up**

Project operations are expected to create valuable knowledge on key development themes of relevance for Myanmar's upland areas and border states, in particular on commercialised smallholder agriculture, culturally sensitive approaches to ethnic groups and forest communities, and state level rural economic growth as a pillar for sustained peace. The PIOs and PMU will document the emerging experiences, lessons and best practices and share them widely with public entities and partners. The availability of verified quantitative and qualitative information on the project's results will be essential for scaling up the model to other upland/highland areas of Myanmar.

## Logical Framework

Narrative Summary	Key Performance Indicators	Means of Verification	Assumptions (A) / Risks (R)
<b>Goal</b>			
Economic status of poor woman and men in the project area improved	<ul style="list-style-type: none"> <li>▪ Severe and moderate child nutrition standards improved                          [baseline 2010: 5.9% and 29.7% severe and moderate - Kayin State - UNDP/IHLCS. Target MTR: 4% and 25% ]                          [baseline 2010: 17.3% and 45.8% severe and moderate - South Shan State - d° MTR Target: 15% and 40%]</li> <li>▪ HHs expenditures increased above the poverty line                          [baseline 2010: 31.2% - South Shan State and 17.5% - Kayin State - d° MTR Target: South Shan - 75% and Kayin- 75%]</li> <li>▪ Farmers' indebtedness reduced                          [baseline 2009: 33% of poor HHs across Myanmar as a proxy- UNDP/IHLCS MTR Target: 25%]</li> </ul>	<ul style="list-style-type: none"> <li>▪ UNDP &amp; UNICEF</li> <li>▪ National Statistics</li> </ul>	(R) Ethnic conflicts resume
<b>Project Development Objective</b>			
Agriculture production and agri-businesses provide increased sustainable sources of income to 45,000 smallholders households and 17,000 landless households in an environmental sustainable manner	<ul style="list-style-type: none"> <li>▪ Net annual income of farmers increased in real terms after 3 yrs by:                             <ul style="list-style-type: none"> <li>- at least USD 500 in the irrigated lowland and by USD 500 in the uplands of Kayin State (Baseline: avg. annual income USD 280 and 240 respectively)</li> <li>- at least USD 700 in the irrigated lowland and USD 1,300 in uplands of Shan State (Baseline: avg. annual income USD 290 and 230 respectively)</li> <li>- at least USD 1000 in agro-forestry areas of Kayin (Baseline: USD 335)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ RIMS impact survey</li> <li>▪ Focus groups discussions</li> <li>▪ Specific socio-economic studies</li> <li>▪ HHs surveys</li> <li>▪ Project MIS</li> </ul>	(A) Economic environment remains stable (A) Programme successes are replicated and scaled-up (A) Public sector governance is improved (A) Decentralization process is further implemented
<b>Component 1 - Strategic Investments</b>			
<b>Outcome 1:</b> Natural resources are more productively managed in an eco-friendly way and agro-forestry villages are less isolated	<ul style="list-style-type: none"> <li>▪ At least 45,000 farmers in low land, uplands and agro-forestry sites have continuous access to sufficient water all year round                          (Baseline: 15,000 farmers)</li> <li>▪ Land use intensity increased after 3 years                          (Baseline: 96% Target: 126% at MTR)</li> </ul>	<ul style="list-style-type: none"> <li>▪ GPS and satellite pictures</li> <li>▪ HHs surveys</li> <li>▪ Project MIS</li> <li>▪ Focus groups discussions</li> </ul>	

Narrative Summary	Key Performance Indicators	Means of Verification	Assumptions (A) / Risks (R)
<b>Output 1.1:</b> Irrigated areas are expanded and served in a more efficient manner	<ul style="list-style-type: none"> <li>▪ 11,200 acres in Kayin State have benefited from land development including construction of distributaries, watercourses, access roads, drainage canals, culverts and head regulators</li> <li>▪ 24,000 acres in Shan State have benefited from rehabilitation works on primary canals and distributaries, access road, land consolidation and hydraulic structures</li> <li>▪ 100% of farmers have land users' rights across the total 187,000 acres</li> <li>▪ 5,000 acres in irrigated through piped-conveyance network installed</li> <li>▪ 1 irrigation pumping station in Kayin State equipped with solar panels</li> <li>▪ 350 Water Users' Groups registered</li> </ul>	<ul style="list-style-type: none"> <li>▪ ID/MD/MoALI records</li> <li>▪ PIC completion certificate</li> <li>▪ SLRD records</li> <li>▪ Service providers records</li> <li>▪ WUGs administrative and financial records</li> <li>▪ Focus groups discussions</li> <li>▪ Project MIS</li> <li>▪ NGO records</li> </ul>	(A) Availability of necessary equipment for land development
<b>Output 1.2:</b> Fertility of degraded mountain slopes is restored	<ul style="list-style-type: none"> <li>▪ 20,000 acres in Shan State are rehabilitated as terraces through the SALT methodology</li> <li>▪ 5,400 km of contours are planted</li> </ul>	<ul style="list-style-type: none"> <li>▪ MD/MoALI records</li> <li>▪ SLRD records</li> <li>▪ Focus groups discussions</li> <li>▪ Project MIS</li> </ul>	(A) Availability of necessary equipment for land development
<b>Output 1.3:</b> Water availability for domestic and productive use is improved	<ul style="list-style-type: none"> <li>▪ 50 villages in northern Kayin State have benefited from improved water infrastructure</li> <li>▪ 20,000 incremental acres of uplands are under irrigation</li> <li>▪ Access to drinking water has been improved for 3,000 households</li> </ul>	<ul style="list-style-type: none"> <li>▪ Service providers records</li> <li>▪ ID/MoALI records</li> <li>▪ HHs surveys</li> <li>▪ Focus groups discussions</li> <li>▪ Project MIS</li> </ul>	
<b>Component 2 - Enabling Investments</b>			
<b>Outcome 2:</b> Technological and financial environment for households, farmers and investors in post-harvest activities is more conducive	<ul style="list-style-type: none"> <li>▪ Average yield increase/ha (per crop per site) (Baseline: Rice: 1ton/ac; vegetables: 3ton/ac; garlic: 2ton/ac )</li> <li>▪ At least 12,000 households benefit from incremental job opportunities created through VC development at completion</li> </ul>	<ul style="list-style-type: none"> <li>▪ KCs administrative records</li> <li>▪ MoALI records</li> <li>▪ HHs surveys</li> <li>▪ Baseline and impact surveys</li> <li>▪ SMEs records</li> </ul>	(A) Crop diversification is approved by GoM
<b>Output 2.1:</b> Farmers' knowledge and access to new technologies are enhanced	<ul style="list-style-type: none"> <li>▪ 43 Knowledge Centres are functional and managed by MoALI seconded extension officers</li> <li>▪ At least one monthly meeting organized per KC with commodity chains stakeholders</li> <li>▪ At least 22,000 farmers have adopted more efficient agricultural practices (lower costs and higher productivity)</li> <li>▪ At least 1/3<sup>rd</sup> of farmers have adopted high value crops in irrigated land and uplands</li> </ul>	<ul style="list-style-type: none"> <li>▪ Contractors records</li> <li>▪ KCs administrative records</li> <li>▪ MoALI expenditure records</li> <li>▪ NGO records</li> <li>▪ Input suppliers records</li> <li>▪ Focus groups discussions</li> </ul>	(A) KCs to become multi-purpose platforms used by all commodity chains stakeholders

Narrative Summary	Key Performance Indicators	Means of Verification	Assumptions (A) / Risks (R)
		<ul style="list-style-type: none"> <li>▪ Project MIS</li> <li>▪ HHs surveys</li> </ul>	
<p><b>Output 2.2:</b> Farmers access lucrative direct or processing markets for their certified agricultural production</p>	<ul style="list-style-type: none"> <li>▪ At least 1/3<sup>rd</sup> of ESAP-supported farmers regularly forward contracted by post-harvest companies (by crop/specie)</li> <li>▪ USD 15 million extended by commercial banks to contracted farmers per season</li> <li>▪ USD 3 million committed as guarantee by the project to cover risk on loans extended by commercial banks for non-contracted farmers</li> <li>▪ PAR with ESAP-supported farmers at 5% maximum</li> <li>▪ At least 30 expansion and 70 creation of agri-businesses financed through the Agri-Business Fund</li> <li>▪ 80% of agri-businesses financed still operational and profitable after 3 years</li> <li>▪ At least 50 post-harvest units are created by farmers' groups and still operational after 3 years</li> <li>▪ At least 5 commodity chains certified benefitting 15,000 ESAP-supported farmers</li> </ul>	<ul style="list-style-type: none"> <li>▪ SMEs records</li> <li>▪ HHs surveys</li> <li>▪ FIs records</li> <li>▪ Audit firm management and financial reports</li> <li>▪ PMU records</li> <li>▪ Focus groups discussions</li> <li>▪ Project MIS</li> <li>▪ Certification company records</li> <li>▪ DARs and AIs records</li> </ul>	<p>(A) Farmers and agri-businesses agree to enter in contractual arrangements (contract farming – outgrower scheme)</p> <p>(R) Commercial banks pulling out from agriculture financing because of unfair competition from MADB</p> <p>(A) Investors and existing companies willing to operate from project area or its neighbourhood</p>
<p><b>Output 2.3:</b> Financial inclusion is promoted in project-area villages</p>	<ul style="list-style-type: none"> <li>▪ 43 Savings and Credit Groups are implemented and functional and 70% are linked to MFIs</li> <li>▪ Women membership in SCGs is above 75% and more than 50% of SCGs have a woman as their bureau's president</li> <li>▪ Amount of savings mobilized USD 100,000</li> <li>▪ Financial literacy training has been provided to 4,300 women and youth</li> </ul>	<ul style="list-style-type: none"> <li>▪ MMA records</li> <li>▪ International MFI records</li> <li>▪ MoC registers</li> <li>▪ SCGs books</li> <li>▪ MFIs records</li> <li>▪ Service providers records</li> </ul>	<p>(A) Effective presence of MFIs in selected States</p>

## I. Strategic context and rationale

### A. Country and rural development context

1. **Country Economic Background.** Myanmar is the largest country in Southeast Asia covering 676 578 sq. km, bordering China to the north and east, Lao PDR and Thailand to the east and India and Bangladesh to the west. The Bay of Bengal lies to the west and the Andaman Sea to the south. There are three distinct three topographical areas – the western ranges, the central plains and the eastern hills. The Ayeyarwady delta region and the Sittaung and Thanlwin basins make up the central plains with extensive alluvial lowlands and a lengthy dry season.

2. Myanmar's population in 2014 is estimated at 51.5 million, with a density of 76 per sq. km and an annual growth rate of 1%. About 67% of the population is rural compared with 73% in 1995, indicating slow urbanization. It is ethnically diverse, with 8 major ethnic groups, 135 sub-groups and 108 ethno-linguistic groups. The population is estimated to be 68% Burmese, 9% Shan, 7% Karen, 4% Rakhine, 3% Chinese, 2% Indian, 2% Mon, and 5% Kachin and Kayah. Myanmar is one of the poorest nations in South-East Asia, and the 2014 Human Development Report ranks the country 150th among 186 nations rated, with an HDI of 0.524.

3. Myanmar's GDP in 2013 amounted to over USD 53.1 billion. Its GDP per capita was estimated at USD 1,126 in 2012. The GDP growth rate was 6.8% in 2013 while the inflation rate was reportedly 5.9%. In 2013, the agriculture sector accounted for 38% of GDP (60% in 1995), the service sector 42% (30% in 1995), and the industry and manufacturing sector 20% (10% in 1995).

4. **Rural Poverty.** Rural poverty in Myanmar is largely a function of lack of resource endowments. Although there is no official poverty line, poverty and social deprivation are known to be widespread. The Ministry of National Planning and Economic Development (MoNPED), in collaboration with UNDP, other agencies and NGOs, has carried out two Integrated Household Living Conditions Assessments (IHLCA) in 2004-5 and in 2009-10. They provide a number of measures of poverty: (a) the food poverty line or the amount of money necessary to pay for a consumption basket to meet the caloric requirements of household members; (b) the poverty line or the amount of money necessary to cover consumption expenditure to meet basic food and non-food needs; (c) the poverty gap index that measures the intensity of poverty; and (d) the share of poorest 20% in consumption. In 2005, an estimated 32% of the population lived below the poverty line, falling to 26% five years later. Between 2005 and 2010, those living below the food poverty line decreased from 10% to 5%. Other measures of poverty also showed improved results over these five years; the poverty gap ratio declined by 35% whilst the consumption share of the poorest quintile increased from 11% to 12%. These national statistics mask significant regional and rural/urban differences. The poorest states, such as Chin (73% living below the poverty line), Shan East (51%) and North (52%), have far higher levels of poverty and social deprivation than areas such as Yangon, Kayin and Mon.

Table 1: Poverty Profile

State, Region and Union	Urban	Rural	Total
Kachin	23.4	30.6	28.6
Kaya	2.3	16.3	11.4
<b>Kayin</b>	<b>16.8</b>	<b>17.5</b>	<b>17.4</b>
Chin	52.1	80	73.3
Sagaing	16	14.9	15.1
Tanintharyi	16.7	37.5	32.6
Bago	19	18.2	18.3
- Bago (E)	20.9	20.1	20.2
- Bago (W)	15.6	15.9	15.9
Magwe	15.8	28.2	27



Mandalay	14.1	31.6	26.6
Mon	17.8	16	16.3
Rakhine	22.1	49.1	43.5
Yangon	11.9	28.7	16.1
<b>Shan</b>	<b>14.1</b>	<b>39.2</b>	<b>33.1</b>
- Shan (S)	<b>8.3</b>	<b>31.2</b>	<b>25.2</b>
- Shan (N)	<b>16.3</b>	<b>43.1</b>	<b>37.4</b>
- Shan (E)	<b>28.6</b>	<b>52.3</b>	<b>46.4</b>
Ayeyarwady	23.1	33.9	32.2
<b>Union</b>	<b>15.7</b>	<b>29.2</b>	<b>25.6</b>

(IHLCA, 2010)

5. The rural poor typically consist of those with access to small and marginal landholdings, usually below 2 ha (almost 5 acres) and the landless (between 5% and 53% of the rural population in different parts of the country). The rural poor suffer from inadequate food, nutrition and essential non-food items. Rural poverty is linked to resource endowments; poor agricultural households farm on average less than 2 ha of land, while non-poor households farm an average of 3 ha. Fewer poor agricultural households (9%) own farm equipment than non-poor ones (19%). Households of ex-combatants and internally displaced persons also make up a significant portion of the poor in rural areas across Myanmar. They generally do not have access to land and have limited capacity and skills to either enter into agriculture or start an income generating activity.

6. Due to conflicting results and serious data inconsistencies, the IHLCA report cautions on the interpretation of data on poverty levels and trends, in particular on the magnitude of the decline of poverty. Based on the 2010 IHLCA survey, the rural poverty incidence is measured at 18% for Kayin State and at 31% for Shan (South) State in comparison to a nationwide rural average of 29%. The Government of Myanmar is committed to reducing rural poverty to 16% by 2015.

7. The main characteristics of rural poverty in Myanmar are presented in Figure 1.

**Figure 2: Rural Poverty in Myanmar - Characteristics**

<p><b>Who are the rural poor?</b></p> <ul style="list-style-type: none"> <li>➤ smallholders owning &lt; 2 acres of irrigated cultivable land and &lt; 5 acres of rainfed cultivable land;</li> <li>➤ sharecroppers or tenants;</li> <li>➤ landless households dependent on casual labour;</li> <li>➤ forest and mountainous households;</li> <li>➤ households with high dependency ratios (e.g. adult unable to work or disabled);</li> <li>➤ women-headed households;</li> <li>➤ young women and men living in extended households;</li> <li>➤ ex-combatants and internally displaced persons;</li> <li>➤ ethnic minorities;</li> <li>➤ households in conflict areas.</li> </ul>
<p><b>Where are the rural poor?</b></p> <ul style="list-style-type: none"> <li>➤ in rural areas with a greater ethnic group population, and in border states;</li> <li>➤ in rural areas of high population density and very small holdings;</li> <li>➤ concentrated in dispersed settlements with inadequate access to services;</li> <li>➤ in remote mountainous, hilly or forest areas;</li> <li>➤ often dependent on seasonal or long-term migration to urban areas or abroad.</li> </ul>
<p><b>Why are they poor?</b></p> <ul style="list-style-type: none"> <li>➤ high vulnerability to shocks: price volatility, climate change, sudden loss of land, disasters, conflicts;</li> <li>➤ inadequate access to knowledge and technology;</li> <li>➤ poor quality and limited/improper application of inputs;</li> <li>➤ very limited access to financial services;</li> <li>➤ lack of access to land, markets or employment opportunities;</li> <li>➤ limited access to local organizations;</li> <li>➤ social and ethnicity considerations;</li> <li>➤ absence of remitting family members.</li> </ul>

**What are their coping strategies?**

- out-migration (overseas; in-country);
- high dependence on casual wage labour;
- borrowing from relatives, local traders, pawnshops;
- decapitalization.

8. **Food Insecurity.** Food insecurity is closely correlated with poverty, and is categorized in four dimensions: food availability, food access, food utilization, and stability of access. While Myanmar produces enough rice to meet its consumption needs, there are major problems with access to food for vulnerable groups across the country. There are also discrepancies across and within states and regions with respect to food deficits, as illustrated in the table below.

**Table 2: Food Poverty Profile**

State, Region and Union	Urban	Rural	Total
Kachin	2.5	5	4.3
Kaya	0	1.9	1.2
<b>Kayin</b>	<b>0</b>	<b>2.1</b>	<b>1.7</b>
Chin	6.4	30.8	25
Sagaing	2.5	1.1	1.3
Tanintharyi	4.5	11.1	9.6
Bago	3.4	1.4	1.7
- Bago (E)	4.9	2.4	2.8
- Bago (W)	0.7	0.3	0.3
Magwe	2.1	3.8	3.6
Mandalay	2.3	6.5	5.3
Mon	2.4	3.8	3.6
Rakhine	4.4	11.5	10
Yangon	1.6	4.8	2.4
<b>Shan</b>	<b>3.5</b>	<b>10.8</b>	<b>9</b>
- Shan (S)	<b>3.6</b>	<b>9.8</b>	<b>8.2</b>
- Shan (N)	<b>3.4</b>	<b>11.6</b>	<b>9.9</b>
- Shan (E)	<b>3.5</b>	<b>10.9</b>	<b>9.1</b>
<b>Ayeyarwady</b>	<b>3.8</b>	<b>6.5</b>	<b>6.7</b>
<b>Union</b>	<b>2.5</b>	<b>5.6</b>	<b>4.8</b>

(IHLCA, 2010)

9. The headcount index of food poverty is generally higher in rural than urban areas. Poor infrastructure, restrictions on movement of food commodities and restrictive market policies prevent the transport of food commodities from surplus to deficit areas. Constraints affecting the ability of farming households to feed themselves include inadequate access to land and services. Households relying on market purchase to obtain food depend on having sufficient income, the existence of markets and the efficiency of markets to deliver food at affordable prices. In summary, there is still widespread chronic and acute food insecurity resulting from poorly functioning markets, poor transportation infrastructure and lack of non-farm employment opportunities. Joint efforts from the GoM and the international community have led to a gradual limitation of hindering factors and reduction of food insecurity, although unequally across the country.

10. **Nutrition insecurity.** According to the Ministry of Health's report on National Plan for Action on Food and Nutrition (2011-2015), there has been a clear downward trend in child malnutrition in Myanmar (by over 25%) since 1991. However, according to most estimates the prevalence of underweight is 22.6 per cent, prevalence of stunting in 35.1 per cent, indicating that one in three children in Myanmar still suffer from nutrition insecurity. There are important regional differences.

Undernourishment in children is more common in Rakhine and Chin states as compared to other states. It is most common among children of the poorest households. Moreover, most children in rural areas are underweight and stunted compared to children in urban areas.

11. **Agriculture.** Myanmar is an agricultural country richly endowed with land and water resources and favourable climates for agricultural production. The agriculture sector constitutes the core of the economy, represents 38% of GDP, employs around 70% of the working population, and contributes over 16% of export earnings. In a normal year, the country produces enough food to supply its people and exports the surplus. Of the 67.7 million ha in Myanmar, the cultivable land represents 26%, of which only about 70% are actually farmed<sup>2</sup>. The remaining land area is accounted for by reserved forests (18%), other woodland (25%) and others (31%).

12. The country has a range of agro-climatic environments. Elevations range from sea level to 1800m and rainfall from 600mm to 5000mm. The coastal and delta regions, including much of Kayin State, benefit from monsoons and concentrate on rice, particularly during the monsoon. The central dry zone does not benefit from the monsoon and concentrates on rainfed crops such as pulses, oilseeds, and cereals other than rice. The hilly areas, dominated by Shan State, produce rainfed tree crops and horticultural products. There is a wide variety of agricultural products that can be and are produced in the country. These include legumes, oilseeds, cereals, and fruits and vegetables, as well as commodities such as oil palm, rubber and coffee.

13. Over the past two decades, the Government has focused on achieving rice self-sufficiency through improved extension services, introduction of improved high yielding varieties of rice, and delivery of improved seeds and fertilizers. There remains a heavy emphasis on rice production, including priority placed on MADB loans for paddy production and priority given to paddy for extension work. Paddy production accounts for about half of the planted area; this figure is higher during the monsoon season. This has led to the country once again becoming a significant exporter. Substantial improvements have also been recorded for other crops and pulses as illustrated in the table 3 below.

**Table 3: Growth in Food Crop Area and Production**

Food crops	Units	1990	2000	2010
Rice				
- Area under production	'000 ha	4 760	6 302	8 051
- Production	'000 metric tons	13 971	21 323	33 204
- Yield	mt/ha	2 935	3 384	4 124
Beans				
- Area under production	'000 ha	433	1 762	2 745
- Production	'000 metric tons	263	1 285	3 029
- Yield	mt/ha	607	729	1 103
Sesame seeds				
- Area under production	'000 ha	924	964	1 570
- Production	'000 metric tons	206	295	722
- Yield	mt/ha	223	306	460
Vegetables				
- Area under production	'000 ha	136	207	277
- Production	'000 metric tons	163	280	371
- Yield	mt/ha	1 199	1 353	1 339

14. Producers and other commodity chain stakeholders are organized in thirteen private agricultural associations by the Union of Myanmar Federation for Chambers of Commerce and Industry (UMFCCI), including paddy producers; rice and paddy traders; rice millers; pulses, beans and sesame seeds merchants; and onion, garlic and culinary crops producers and exporters. The strongest associations are linked with Rice Specialized Companies (RSCs).

15. Investment in agriculture is constrained by limited access to inputs, particularly quality seeds and fertilizers. Domestic supply remains below demand, and imported fertilizers are often adulterated.

<sup>2</sup> Based on the 2010 Myanmar Census of Agriculture (MCA) carried out by MoALI.

Most paddy farmers use low-quality seeds of mixed varieties producing a high proportion of low-value broken rice. While the production of seeds and planting materials is almost the exclusive responsibility of the DoA, some RSCs are now initiating certified paddy seed production and distribution through contract farming arrangements in designated areas. RSCs provide seasonal loans and inputs that farmers pay back in-kind after harvest at prevailing market prices. Farmers benefit from a guaranteed market and access to credit, resulting in improved crop productivity and quality.

16. Agriculture is also constrained by weak extension services. Agricultural extension is provided by the Agriculture Extension Department (AED). Extension staff is inadequate in number and quality. In 2011-12 AED included 428 field extension officers and 3,085 village managers. Field extensionists rotate quickly and do not stay more than 3-4 years in one location. There is little orientation towards farmers' problems, and insufficient budgetary resources prevent field visits and sharing of knowledge. Of particular concern is the absence of operational interaction between the Department of Agriculture Research (DAR) and extension. Most extension messages are centrally designed and mechanically implemented by field staff over a diverse range of agro-ecological and socio-economic conditions, without proper consideration of farmers' needs and limitations, or market requirements.

17. Agricultural production is further hampered by unsustainable levels of post-harvest losses resulting from absence of farm roads, limited awareness of systematic post-harvest handling practices, and lack of cold/dry storage facilities. Processing facilities that help reduce waste and add value locally are still lacking for most crops, and/or are located very far from production centers.

18. Despite these constraints, Myanmar is one of the largest countries in Southeast Asia in terms of land area. It has at present 30 million acres of cultivated land, 14 million acres of unused cultivable land, 83 million acres of forest and other lands (including freshwater resources) that account for 41 million acres. The cropping intensity of the cultivated land is presently around 183%. Considering the water resources presently available, an increase of the cropping intensity to at least 230% (i.e. 47% increase) is possible with appropriate investments. Furthermore, productivity increases of more than 50% for various crops cultivated is an attainable objective in the medium term. Combined with the 14 million acres of unused cultivable land, this reflects enormous potential for agricultural development.

19. **Irrigation.** Irrigation infrastructure has been significantly expanded since 1989, targeting paddy-producing areas in the delta and central dry zone. A summer paddy programme, which is at the core of MoALI's activities, was introduced in 1992. The availability of irrigation water during the dry season has been instrumental for the extension of summer paddy areas and increased cropping intensities. The typical highly fragmented pattern of small bunded basins (0.25-0.30 acre) with irregular shape and at slightly different levels characterizing rice production under rainfed conditions is widespread in irrigated rice growing areas. Irrigation water is discharged from the plots nearest to the canal outlets to lower plots in a plot-to plot water distribution and drainage system. The flow is controlled by upstream users by temporarily lowering and raising the earth bunds. Rice is virtually the only crop that can be cultivated under these flow and drainage conditions. In a recent effort to capitalize on gravity irrigation schemes financed over the past decade, with a vision of modernizing paddy rice cultivation, MoALI has developed model farms with improved field roads, tertiary irrigation and drainage networks, where a comprehensive approach to land development is tested, including land levelling, realignment of plot boundaries and reissuance of land titles, in line with the new Land Law.

20. The Irrigation Department (ID) and the Water Resources Utilization Department (WRUD) are responsible for irrigation, including collecting water taxes. The ID is responsible for constructing and maintaining irrigation facilities down to tertiary level, while Water Users' Groups (WUGs) are responsible for building field ditches and for operation and maintenance of ditches and tertiary canals. The ID is also responsible for carrying out hydrological, geological and topographical surveys. The WRUD is responsible for supplying irrigation by pumping water from rivers, streams and groundwater sources. A number of WUGs have been established, and are governed by the township agriculture supervision committees. Weak management and poor operating methods hamper WUGs' efficiency and effective water management.

21. **Land Tenure.** In March 2012, the legislature enacted a new Farmland Law<sup>3</sup> that repealed the previous acts governing land, and set out amended rules for “the right to work on farmland” whilst retaining Government ownership of all land as per the 2008 Constitution. The new law reintroduces the concept of private ownership through land use certificates, i.e. land tenure rights, which can now be sold, traded, or mortgaged. The law provides for farmland management bodies to be formed at various administrative levels; lower level bodies (from state/region downwards) shall be “constituted by the Central Farmland Management Body” thus allowing the Government to retain overall control of land tenure rights as well as their transfer, mortgage or inheritance.

22. Land tenure security provided under this law is weak as Government retains ultimate ownership of all land and can rescind land use if the conditions of use are not met; for example, land may be repossessed if farmers fall into debt. As stated in the law, Government also retains the right to determine which types of crops are to be cultivated on agricultural land and to repossess the land if farmers do not comply. Moreover, anyone without an official land use title no longer possesses legal right to use land and the mechanisms to avail of such title are highly centralized as mentioned above.

23. The Vacant, Fallow and Virgin Land Law, also passed in 2012, allows Government to classify land as 'vacant, fallow or wasteland' (especially fallows and lowlands without official land titles) and lease it to domestic and international entities and individuals for up to 30 years. This could potentially place smallholders at risk of losing their land, as many do not yet possess land use certificates, or in the case they have land titles, have not been able to "permanently cultivate" their entire landholding due to high input costs. Moreover community-managed resources such as community forests, waterways, fishponds are equally susceptible to confiscation despite being crucial to local livelihoods.

24. Further complicating land rights issues is the risk of land grabbing and confiscation. The Karen Human Rights Group (KHRG) and others have documented increased land grabbing and confiscation in the context of ceasefire agreements and peace negotiations, including to a degree in Kayin and Shan States as well<sup>4</sup>. In Kayin State, land issues are at the centre of peace negotiations. However, in the selected project sites within the two states, most farmers have received land titles, although more titles have been issued in the lowlands (nearly 100%) than in uplands (between 75% and 100%).

25. **Land Holding.** Despite the large size of arable land per capita compared to neighbouring countries, most land is cultivated by small-scale farmers; with an average landholding size of 2.4 ha (almost 6 acres). According to data provided by the Agricultural Census of 1992-93 and 2003, and the 2009-10 IHLCS, the number of agricultural landholdings has steadily increased over the last two decades, from 2.7 million in 1992-93 to 4.4 million in 2009-10. Consequently, the size of landholdings has declined over this period. In 1992-93, 54% of landholdings were below 2 ha and 82% below 4 ha. In 2003, 77% of households had farms below 2 ha, 15% had farms of 2-4 ha, and only 8% of them operated farms above 4 ha. Landholding size varies considerably across regions; the 2009-10 IHLCS found the largest average farm sizes in Ayeyarwady (11.2 acres) and the smallest in Chin (1.7 acres). In Kayin and Shan (South) states, landholding size varies as illustrated in table 3 below (the weighted average landholding size of Kayin is around 5.2 acres while for Shan South it is around 3.5 acres).

Table 4: Landholding size in Kayin and Shan (South) States

State	Better off (>10 acres)	Moderate (5-10 acres)	Poor (1-5 acres)	Very Poor (0-1 acres)	Landless	Weighted avg. land holding
KAYIN	6%	12%	29%	29%	24%	5.2 acres
SHAN	12%	28%	33%	19%	8%	3.5 acres

Source: Mission findings

26. **Agriculture labour.** The proximity and attractiveness of Thailand as well as the constraints to agricultural development have triggered substantial out-migration, especially of the youth. In almost all

<sup>3</sup> Source: Farmland Law enacted by the Pyidaungsu Hluttaw under Order n° 11/2012 dated March 30<sup>th</sup>, 2012.

<sup>4</sup> Karen Human Rights Group (KHRG) (2013) *Losing Ground: Land conflicts and collective action in Eastern Myanmar*, available at: <http://www.khrg.org/khrg2013/khrg1301.html>

households in Kayin and Shan States, at least one member is either a seasonal or permanent migrant. There are important repercussions affecting rural areas: (i) casual agricultural labour has become scarce and expensive (USD 4-5/day); (ii) considering the increasing cost of production and lack of access to markets, many farmers are not cultivating on their entire holdings, but producing only for self-consumption; (iii) lack of access to technology, inputs, and equipment is further encouraging subsistence farming; (iv) the high level of remittances compared to casual labor wages or current crop profitability also encourages subsistence farming. Investments which aim to develop agriculture need to generate sufficient returns that are comparable to the returns to out-migration.

27. **Landlessness.** A critical rural issue is landlessness which includes the landless poor as well as marginal farmers. The Agriculture Census (2003)<sup>5</sup> gave the proportion of rural households 'not having access to land' as 5%-53% of all rural households in different parts of the country. The 2003 census figures are supported by a recent survey by LIFT (2012) of 4,000 households in 3 agro-ecological zones<sup>6</sup>, which found that 50% of households nationally are landless. The 2010 agriculture census found that nearly 50% of agricultural households, i.e. over 2.4 million households, had marginal landholdings of less than 2 ha. High landlessness and, at the same time, availability of some 6.7 million ha of unused land seems paradoxical. Recent Government initiatives such as the new "Vacant, Fallow and Virgin Lands Management Law" combined with economic, social and political reforms attempt to address the inability of the landless to resettle in such areas. The landless make up 25.7% of those working in agriculture as wage labourers on land farmed by larger-scale farmers, or work as casual labourers in non-agricultural activities. The landless have little access to knowledge, information and finance. As a result, very few landless people are able to start income generating activities.

28. **Ethnic groups.** Myanmar is an ethnically diverse country. The largest and the most well off ethnic group, Bamar, constitutes about 70% of the population. The remaining 30% is composed of over 65 different ethnic groups, officially recognized and clustered into seven "national races", with Kayin, Shan and Rakhine among the largest. The Bamar typically dominate the central lowlands and the delta, while other ethnic groups are clustered in the eastern and western border states.

29. Myanmar has been heavily dependent on exploitation of natural resources, and for decades this dependence had negative socio-economic impact on local populations. The resource rich ethnic states have been the primary sites of resource extraction, and this has led to years of conflict between the Government and ethnic groups. While the data from 2010 estimates the national poverty headcount at 26%, rates are far higher among many ethnic groups. It is noteworthy that three out of the four poorest areas are ethnic states. The incidence of poverty in Chin State alone is almost three times the national average. This suggests a vicious cycle whereby years of conflict has held back development and under-development in itself has fed into a sense of relative deprivation.

30. The startling contrast between relatively benign conditions in the few urbanized areas, which are mostly occupied by ethnic Bamar communities, and in the outlying regions, which tend to be inhabited mainly by other ethnic groups, is evident. Yangon has an electrification rate of 67% while in rural areas the average is only 16%. Poverty is twice as high in rural areas, which account for nearly 85% of total poverty. In the countryside 75% of children end their education during primary school whereas in urban areas 63% of primary school children progress to secondary school. These kinds of inequalities have resulted in destabilizing tensions in many states.

31. Armed conflict over the past six decades between Government and ethnic groups has stunted development in ethnic group areas. These conflicts inflicted a heavy toll in terms of socio-economic deprivation and large refugee populations. Refugees International (Jan. 2012) estimated that some 500,000 people are still displaced by conflict in eastern Myanmar. Approximately three million people have been forced to flee to neighbouring countries, and 150,000 refugees live in camps on the Thailand-Myanmar border. Ceasefire deals signed in late 2011 and early 2012 with rebels of the

---

<sup>5</sup> Quoted in WFP/FAO/EC (2007) *Identification and assessment of the poor, food insecure and vulnerable in Myanmar*.

<sup>6</sup> LIFT Baseline Survey Results, July 2012.

Kayin and Shan ethnic groups suggested a new determination to end the conflicts and presents opportunity to attract development investment. However, some parts of Kayin States are again inaccessible due to a resurgence of armed conflict.

32. **Gender.** Buddhist customary law and the 2008 Constitution provide equal rights to women and men. However, women are not well represented in the political and higher level administrative sphere outside the traditional areas of social services, health and education. At the local levels (districts, townships, villages) there are few women representatives, particularly in key decision-making bodies. The prevailing cultural disposition is towards a stereotypical gender division of roles, with women closely associated with domestic activities, although they are quite dominant in decision-making and often own assets. Systems for collecting gender-disaggregated data and monitoring women's welfare and gender are poorly developed and narrowly focused on reproductive functions.

33. However, there has been considerable progress in recent years to mainstream gender. The Department of Social Welfare is the focal point for gender and in 2011 prepared a "National Plan of Action for the Advancement of Women 2011- 2015". A key objective is to see women contribute increasingly to current decentralization reforms in order to play a greater role in decision-making at the local level as well as in productive sectors. The Myanmar National Committee for Women's Affairs is a national mechanism for the promotion of women's rights, a UN-led Gender Theme Group was formed in 2009 to mainstream gender in humanitarian and development operations, and a Gender Equality Network is a leading network of civil society, national and international NGOs, UN agencies and technical resource persons on gender issues. The Women's Organizations Network of Myanmar was formed in 2008 to coordinate local and national women groups and organizations, and now has a network of over 29 local women groups and organizations.

34. The experience of gender integration in rural and livelihood projects in Myanmar has been generally positive. In particular, women are the main recipients in many micro-finance schemes which support income generation, such as those managed by PACT. The design mission found women's groups to be highly effective, and established gender roles can be challenged to enable women to have greater access to and control over resources. Women's equal role and participation in all project activities will be ensured in the design and implementation of ESAP.

35. **Financial institutions.** The financial sector is small and underdeveloped, and access to financial services is very limited. Only 2.5% of outstanding loans are extended to primary agriculture. Four state-owned banks and 19 private banks dominate the sector, which is supervised by the Central Bank of Myanmar. There are 1,625 credit cooperative societies established under the Ministry of Cooperatives, 318 licensed MFIs established by international partners and local associations, 31 specialized agriculture companies, and informal lenders, including traders and input suppliers. There is only one small state-owned insurance company, which doesn't operate in agriculture. There is no credit bureau, microfinance APEX body, or microfinance training institute. Payment systems are undeveloped; ATMs were introduced in 2013 while credit cards were introduced in late 2012.

36. Expanding financial inclusion and microfinance especially in rural areas is closely related to the development of the formal financial sector. Currently several factors inhibit financial sector growth and outreach to the unbanked population: (i) interest rate caps set by the Central Bank: 8% on deposits and 13% maximum lending rate; this curtails their ability to lend profitably to low-income segments; (ii) deposits limited to 25 times paid-up capital limiting the ability of banks to mobilize more savings; (iii) liquidity ratio of 20% resulting in a shift to more profitable segments, such as to larger traders and construction companies, and further limits credit access to smaller enterprises and micro-clients; (iv) collateral requirements preventing much of the population to access loans (although land user rights can be mortgaged against a loan); (v) limited insurance services; (vi) absence of diversified banking products, which are largely confined to fixed deposits and one-year fixed-rate loans; (vii) limited prospects to use innovative technology to increase access. Branchless banking is seen as the main opportunity to expand financial services in rural areas. A few commercial banks operate mobile phone banking services in urban areas.

37. The Myanmar Agricultural Development Bank (MADB) is owned and supervised by MoALI. It is the major source of institutional credit for small farmers. However, it caters to only one-third of the farming population. It claims to have 1.4 million active borrowers, an outstanding loan portfolio of USD 84 million, and 1.7 million savers with deposits of USD 87 million (and subsidized resources extended by the Myanmar Economic Bank). Its NPL is reportedly on the high side (above 30%), and it incurs annual financial losses resulting from its subsidized interest rate. Although the law gives MADB a mandate to provide diversified financial services to a broad spectrum of borrowers, in practice, it provides loans only to farmers for agricultural production. As rice farmers are given top priority, they received 75% of total loans in 2011-12 implying a high covariant risk. Seasonal loans (monsoon, pre-monsoon and winter loans) make up the bulk of its lending and are uncollateralized, with joint-liability from 5-10 group members. In practice, because of MADB's limited funds, loan sizes can be as low as USD 25-50 per ha, compared with an estimated production cost of USD 250-475 per ha, forcing farmers to fill the gap by borrowing from moneylenders at 10%-20% interest per month. MADB loan durations cover only the production cycle, and not the post-harvest period when commodity market prices can increase rapidly and substantially. Limited loan duration and lack of storage facilities force smallholders to sell output at harvest when prices are at their lowest. The Government, supported by partners, is now analysing MADB's future (privatization, semi-privatization, central bank supervision).

38. Before ratification of the Microfinance Law in November 2011, only PACT UNDP was allowed to operate in Myanmar legally; all others operated without legal status, which prevented them from scaling up operations. Since then, many NGOs have received or will soon receive MFI licenses. The leading institutions (PACT, GRET, Save the Children, World Vision) have reached 500,000 active borrowers with an aggregate loan portfolio of USD 63 million; PACT accounts for 80% of the portfolio. New entrants include IFC supporting ACLEDA of Cambodia to open a microfinance bank, and several green-field MFIs supported by LIFT. Geographical distribution of MFI/NGO operations is concentrated in the south and south-east. MFIs/NGOs are supervised by the Microfinance Supervisory Committee.

39. Farmers indebtedness is a serious problem, and the number of landless farm households is increasing. Working capital for farmers is expensive considering the small loans extended by MADB and recourse to moneylenders. Poor harvests or low market prices can result in farmers selling their land to satisfy loan repayment, hence becoming casual labourers. Commercial banks together with processors are now promoting contract farming which ensures a secured market for farmers' output. They are now increasingly providing loans against land titles; as agricultural land is undervalued as collateral, it needs to be combined with contract farming or outgrowers schemes. Lower interest rates applied by commercial banks compared to MFIs will improve the profitability of crop production.

40. **Policy, strategy and institutional context.** Emerging from 50 years of isolation, Myanmar has embarked on a comprehensive programme of political and economic reforms that aims to introduce elements of popular representation in the political sphere, foster economic growth and inclusive social development, improve the business environment, attract foreign investment and reduce poverty. The EU lifted its economic sanctions in April 2013 and the USA has suspended its bilateral sanctions. ASEAN is now fully re-engaged, and Myanmar took the rotating chair of ASEAN for the first time in 2014. South-east Asian investment in the country is also increasing rapidly. The major multilateral and bilateral institutions have started to establish operations in the country.

41. Government's reform agenda is articulated around the adoption of an open market economy; improvement of socio-economic conditions and reduction of rural-urban gaps; protection of social and economic rights; development of infrastructure and delivery of basic services, including for ethnic groups; improvement of health and education standards; protection of human rights and freedoms; respect for the rule of law and an independent and transparent judiciary; respect for the role of media; good governance and public scrutiny of executive and legislative bodies; institutional capacity-building and human resource development; government's accountability, responsiveness and inclusiveness; and decentralization. Many of these policy priorities are likely to impact on the rural sector, particularly in terms of safeguarding fundamental rights, including those of farmers.

42. The lack of capacity in the public sector to implement policy decisions is a major constraint to



these social, economic and political reforms. There is an urgent need to build capacity at all levels of governance, ranging from central government agencies to institutions at state, regional and township levels. There is also a need to translate policy decisions into sectoral plans and strategies to be implemented by public institutions. Development partners have helped Government to set up various Working Groups to assist with drafting and implementing these policies, strategies, and development plans (IFAD is a core member of the Agriculture and Rural Development Sectoral Working Group). Other constraints faced by the public sector include the lack of modern operating procedures, and excessively centralized decision making processes.

43. There are seven agencies responsible for agriculture and rural development, of which three have a direct bearing on the sector: (i) Ministry of Agriculture and Irrigation (MoALI) responsible for crops, irrigation, credit and mechanization; (ii) Ministry of Livestock, Fisheries and Rural Development (MoLFRD); (iii) Ministry of Environmental Conservation and Forestry (MoECAAF). Following Myanmar's decades of isolation, MoALI (like other Ministries) is widely assessed as being weak in terms of human capabilities, technical capacities, fiduciary processes, farmer outreach and budgetary allocations. Its experiences with participatory approaches involving poor communities, small farmers and landless tenants are limited. It has little exposure to effective project management and execution in compliance with international standards; and its administrative processes are outdated. Its coordination capacities are limited, and its departments work in silos. Decision making lacks transparency and internal procedures are unclear. Monitoring is poor and data reporting is unreliable.

44. The Nay Pyi Taw Accord for Effective Development Cooperation agreed between Government and Development Partners (in early 2013), promotes transparency, collaboration and local ownership and management of development efforts. The Accord establishes a coordination structure between Government and partners to ensure that development assistance supports the implementation of strategies defined nationally. Rural development and poverty reduction are priorities in Government's agenda. The Poverty Alleviation and Rural Development Action Plan (PARDAP) provides a coherent approach to rural development in coordinating Government efforts and those of partners, civil society and the private sector. It focuses on eight priority tasks: (i) agricultural production; (ii) livestock and fisheries; (iii) rural productivity and cottage industries; (iv) micro saving and credit enterprises; (v) rural cooperatives; (vi) rural socio-economy; (vii) rural energy; and (viii) environmental conservation. The PARDAP targets investments in rural poverty reduction to meet the needs of the rural poor and landless, and aims to strengthen services, such as extension and research.

45. **Decentralization.** The Government's decentralization policy is guided by the President's Office, in consultation with state and regional governments, to implement the Framework for Economic and Social Reform at sub-national level. While new elected and representative sub-national governments have started to open up political space and illustrate commitment to people-centred development, they face a set of limitations. The Chief Executive and Ministers at state and regional levels are still centrally appointed (by the President), and ministers do not have authority over the administrative apparatus. The regional parliaments face capacity constraints, and appear to be administrative units of the central Government. State and regional budgets are small and prepared in a way that preserves central influence. Overall, the actual reach of administrative responsibilities, confusion over executive structures, the small size and central oversight of the budget, and the lack of capacity and human resources, all mean that Myanmar is far from achieving its goals of decentralization.

46. There are many areas of promise and potential in the sub-national reforms. It is still early in the decentralization process, and the emergence of new local political and institutional space is already increasing the awareness and interest of diverse groups in further decentralization. Increasingly, civil society organizations already openly discuss sub-national governance issues. There is increasing consensus among central government and parliament, state/region governments, political parties, and civil society that further decentralization reforms to states and regions are needed.

47. New political structures need to be aligned with administrative and fiscal arrangements; the scope of decentralization should be broadened and linked with wider democratization, peace building and public administration reform processes. More specifically, the following reform priorities need to

be considered: (i) rationalize state and regional government administration and human resources; (ii) deepen the decentralization process within union ministries; (iii) broaden the scope of state and regional government responsibilities; (iv) strengthen public expenditure management, budgeting and resource allocation; (v) develop a transparent and rules-based intergovernmental fiscal system and resource sharing mechanisms, and (vi) strengthen the capacity of state and regional government.

48. National Rural Poverty Reduction Strategy. Although Myanmar does not have a poverty reduction strategy per se, a set of national development plans have served that purpose in support of MDG Goal 1 (poverty reduction). In addition to the PARDAP, Government is implementing the long-term National Comprehensive Development Plan (NCDP) and Framework for Economic and Social Reform (FESR). The NCDP, FESR and PARDAP provide the umbrella for the agricultural sector; however, they do not detail actions tackling poverty reduction and targeting ethnic groups, women and the landless, and their implementation is constrained by insufficient financial and human resources. The PARDAP, NCDP and FESR underpin the 5th National Economic and Social Development Plan 2011/12-2015/16 which covers infrastructure development, rural development, border areas, poverty reduction and good economic foundations. This Plan, coordinated by MoNPED, will guide the formulation of the rural development strategy and action plan by MoLFRD.

## **B. Rationale**

49. As agreed by the Government and IFAD and reflected in the RB-COSOP, under the 2013-15 resource allocation cycle the country programme will consist of two loan-financed projects and several small grants. IFAD provided its first loan in April 2014 to finance FARM, and will provide its second loan April 2015 to finance ESAP, subject to IFAD Executive Board approval. Several small grants have also been approved: (i) institutional strengthening of the Dept. of Rural Development of MoLFRD (in 2012); (ii) strengthening the project management capacity of MoALI, executed by UNOPS (in 2013); and (iii) piloting improved livestock production and services in support of MoLFRD (in 2014).

50. As requested by the Government, the two loan-financed projects of the 2013-15 cycle aim to create scaleable development models in different agro-ecological zones. The FARM project focuses on a sustainable agriculture development model for the central dry zone, while ESAP proposes a smallholder agriculture and community agroforestry model for the uplands/highlands zone which can be scaled up across Myanmar's eastern states.

51. The project rationale is anchored in IFAD's mandate of poverty reduction and the Government's policy to reduce economic and social disparities in rural areas. It has four dimensions: (i) to create a model at state level for post-conflict economic reintegration which lays the foundation for sustained peace; (ii) to create a model for environmentally sustainable modernization of agriculture in degraded areas; (iii) to forge pathways for supporting poor communities to transition from subsistence to commercial agriculture; and, (iv) to better link Myanmar's eastern states with regional markets and technology flows. In terms of governance, the project will support the Government's decentralization policy by strengthening state capacities for agriculture and rural development.

52. Kayin and Shan (South) States both have good agro-ecological and climatic conditions, and offer untapped opportunities for rapid smallholder agricultural and agroforestry growth which can generate high financial returns for smallholders, environmental benefits, and incremental jobs.

53. The project has significant poverty reduction and economic growth potential as it offers opportunities for improved quality agriculture production, market linkages in structured value chains, job creation and ultimately community empowerment. It will directly benefit important ethnic groups by fostering equal access to investments and services. It will also increase climate change resilience through improved water management and flood control in irrigated areas, improved land fertility, reduced erosion on degraded mountain slopes, and decreased siltation.

## II. Project description

### A. Project area and target group

54. **Project Area.** Based on Government-IFAD dialogue at central and state levels, the project area consists of selected areas of Kayin and Shan States in the Eastern part of Myanmar. Kayin State is bordered by Thailand to the east and has been affected by substantial labour out-migration, with adverse effects on the rural economy. Shan State is the largest state in the country, occupying about a quarter of total land area. It is endowed with vast reserves of timber, coal, metals and precious stones. It is known for its horticulture produce as the temperate climate is suitable for a variety of fruits and vegetables. These two states have been affected by sixty years of civil conflict and insecurity, which has adversely affected their socio-economic development despite their economic potential. With recent peace building efforts, the two states have been selected for agribusiness development due to their good security and relatively stable political context.

55. The site selection criteria is based on the potential for rapid agricultural and agro-forestry development, high financial returns for smallholders, environmental benefits, irrigation and drainage potential, agribusiness linkage opportunities particularly with diversification of crops and agro-forestry species, rural employment prospects, and prevailing peace and security conditions. Although Kayin has a poverty rate lower than the national average, there is a high concentration of poor households in the selected sites. On the other hand, Shan State is one of the poorer states in Myanmar.

56. In consultation with the Kayin State Government, 12 irrigation sites have been initially selected covering three townships (Hpa-an, Hlain Bwe and Kaukarate). They have an aggregated command area of 19,200 acres, of which the project will support irrigation development on 11,200 acres while promoting agriculture modernisation on the entire area. These sites encompass 317,640 acres of upland areas, of which 63,520 acres will receive project support. In addition, fifty villages in Laketho sub-township (Thandaunggyi township) in the mountains of northern Kayin have been identified for community agro-forestry development covering 25,135 acres.

57. In Shan State (South), the project will focus on 2 irrigation sites and the upland areas of their respective watersheds: Ho-Pong valley (Hopong, Taunggyi and Siseine townships), and the Hekke irrigation scheme (Taunggyi and Kyauk Talon Gyi townships). The project will support irrigation improvement on about 24,000 acres out of the total command area of 39,000 acres, while promoting agricultural modernisation on the entire area. These townships encompass 164,360 acres of upland agro-forestry areas, of which 40,000 acres will be supported by the project.

**Table 5: Land and Population Estimates of Project Sites in Kayin and Shan States**

Sites	States	Command area (acres)	Project area (acres)	Tot active pop (command area)	Tot HH (command area)	No. HH (direct beneficiaries)
Irrigated lowland	Kayin	19.385	19.200	71.930	13.684	7.134
	Shan	38.926	38.926	71.443	13.251	13.250
<i>Total</i>		<i>58.311</i>	<i>58.126</i>	<i>143.373</i>	<i>26.935</i>	<i>20.384</i>
Upland	Kayin	317.640	63.530	539.940	117.380	13.810
	Shan	164.360	40.000	157.630	31.526	7.680
<i>Total</i>		<i>482.000</i>	<i>103.530</i>	<i>697.570</i>	<i>148.906</i>	<i>21.490</i>
Forest areas	Kayin	25.135	25.135	15.178	3.296	3.296
<b>Grand total</b>		<b>565.446</b>	<b>186.781</b>	<b>856.121</b>	<b>179.137</b>	<b>45.170</b>

Source: MoALI

58. The ethnic communities of Shan and Karen (Kayin) people constitute the majority of the population in the project areas. Other minority communities, namely Paoh Mon and Inn make up some 15% of the inhabitants. There appears to be cultural cohesion among the various ethnic groups

at village level, and there is no indication of marginalization of minority groups by the majority ethnic groups in the project areas.

59. With respect to the socio-economic status of landholding and landless households, the official data<sup>7</sup> from the two states indicates that 7.7% of households in the project area are better off, 16.6% are moderately poor, 30.2% are poor and 45.5% are very poor (ref. table 8). The target group will consist of the 30.2% of households below the poverty line, 16.6% who are at risk of slipping back into poverty and the 7.7% who are better off (under the inclusive targeting policy). The extreme poor, most of whom are landless, will have access to the job opportunities generated by the project.

**Table 6: Socio-economic Stratification of Households in Project Area**

State	Better off (>10 acres)	Moderate (5-10 acres)	Poor (1-5 acres)	Very Poor (0-1 acres/landless)	Total
KAYIN	6%	12%	29%	53%	100%
Avg. landholding (acres)	15	7	2.45	<1 acre or landless	
SHAN	12%	28%	33%	27%	100%
Avg. landholding size (acres)	13	6	2.5	<1 acre or landless	

**Table 7: Poverty Stratification of Households in Project Area**

	Kayin		Shan		Total	
Total population	1.044.300		600.214			
% of population in rural areas	85%		60%			
Rural population	887.655		360.128		1.247.783	
Better off	6%	53.259	12%	43.215	96.475	<b>7,7%</b>
Moderate	12%	106.519	28%	100.836	207.355	<b>16,6%</b>
Poor	29%	257.420	33%	118.842	376.262	<b>30,2%</b>
Very poor	53%	470.457	27%	97.235	567.692	<b>45,5%</b>

60. The socio-economic stratification of project area households is based on a set of characteristics as outline in the table below.

**Table 8: Indicative Characteristics of Project Area Households**

Main features	Better off (>10 acres)	Moderate (5-10 acres)	Poor (< 5 acres)	Very Poor (landless)
Housing, water and sanitation.	All HHs are with corrugated iron sheets roofing and all the household access to sanitary toilet (fly proof latrine).	Most HHs are with corrugated iron sheets roofing and almost all HH have access to sanitary toilet (fly proof latrine).	Over half of the HHs are with corrugated iron sheets roofing and most of the HH have access to / share a basic sanitary toilet (latrine).	Few HHs (one third) are with corrugated iron sheets roofing and most HH (75%) have access to / share a very basic sanitary toilet (pit latrines) (outside).
Cropping pattern	Shan: 2 crops Kayin: 2 crops	Shan: 2 crops Kayin: 1 crops	Shan 2 crops Kayin: 1 crop	Unskilled, casual farm/off farm labour
Average livestock holding	Typically own 1-3 draught cattle, one pig and three chickens	Typically own 1 draught cattle, half of the HHs own one pig and most households own three chickens	Typically own 1 draught cattle, half of the HHs own one pig and most households own three chickens	Typically do not own cattle, one third of the HHs own one pig and most households has one chicken
Household assets	Mostly own motor cycle, hand tractor, water pump, thresher/crusher and cart	Some farmers own motor cycle, hand tractor, water pump, and cart	Some farmers own cycle and cart	Few households own bicycle
Education	Most HH heads completed primary	Half of HH heads completed primary	Less than half of HH heads completed primary and	Few HH head completed primary

<sup>7</sup> It should be noted that official data in Myanmar may be inaccurate. The data presented here has been drawn from the relevant township offices in Kayin and Shan States, triangulated with field data and other sources where available.

	(75%) and secondary school (25%) respectively	and secondary school (25%) respectively	very few completed secondary school (10%) respectively	(25%) and very few completed secondary school (<10%) respectively
--	---	---	--	---

61. **Target Group.** The project's target group consists of poor rural women and men in selected areas of Kayin and Shan (South) states. Specifically, the target group consists of: (i) farmers in irrigated lowlands with medium, small and marginal landholdings ranging from less than an acre to up to 10 acres each; (ii) farmers in the rainfed uplands with medium, small and marginal landholdings ranging from less than an acre to up to 10 acres each; (iii) agro-forestry households in mountainous areas of northern Kayin; (iv) landless households that have access to job opportunities as agricultural labourers or as workers in agribusinesses. The project will ensure that employment opportunities facilitate the economic reintegration of returning migrants, ex-combatants and displaced people.

62. The selection of the two States ensures the direct targeting of women and men belonging to the Karen, Shan, Paoh, Inn and Mon groups. While the Kayin and Shan ethnic groups make up the majority of the population in the project areas, other ethnic groups such as Paoh, Inn and Mon make up approximately 15% of the population.

63. Rural women are equal participants in household economic activities, and special attention will be given to the role of women in all activities. The project will seek to promote women in decision-making positions (project management, knowledge centres, infrastructure-users' groups, savings and credit groups) and ensure women's participation in all capacity building activities.

64. **Targeting.** The project's targeting strategy is based on several elements as outlined below:

- *Geographical targeting:* The poverty analysis concludes that there is a high concentration of poverty in Kayin and Shan states. Although Kayin may be slightly below the national poverty line, this may be attributed to the high volume of remittances from migrant family members. The lack of job opportunities, coupled with proximity to Thailand, results in the continued trend of youth out-migration, leaving behind an ageing farming population. Shan, on the other hand, is one of the poorest states of Myanmar, with high poverty concentration. At the same time, both states present substantial opportunities for economic growth and poverty reduction.
- *Enabling policy and institutional environment:* The peace process between the Government and ethnic rebel groups in Kayin and Shan states provides an ideal opportunity to invest in regional development. Government has initiated programmes for socio-economic development of rural areas and resettlement of ex-combatants and returning displaced people in border areas.
- *Self-targeting:* The facilities and services to be financed respond to the priorities, financial and labour capacities and livelihood strategies of the various segments of the target group as identified through primary and secondary data, community meetings with a broad range of stakeholders, and discussions with township officers and other local groups.
- *Direct targeting.* Targeted support will be provided to: (i) irrigated smallholders through land development investments and access to services; (ii) rainfed farmers through access to irrigation systems and services, and improved fertility of degraded mountain slopes in Shan; (iii) agro-forestry households through productive and social investments in northern Kayin.
- *Social and gender inclusion.* Self-targeting will be supplemented by measures to ensure that project services respond to priorities and capacities of poorer groups, women and youth. These will include: (i) an inclusion and gender study to be carried out at project start up to detail needs, priorities, opportunities and governance representation systems; and, (ii) an inclusion and gender mainstreaming strategy and action plan based on stakeholders' workshops.

## **B. Development objective and impact indicators**

65. The project's goal is to improve the economic status of poor rural women and men in selected areas of Kayin and Shan States. Its objective is to increase the incomes of smallholder and agroforestry households in these areas in an environmentally sustainable manner.

66. The impact indicators to assess project performance relative to the goal and objectives will measure income, reduction of indebtedness, nutrition and food security of participating households. At outcome level, indicators will measure access to water resources, agricultural productivity, sale of agricultural output, access to services, levels of skill and knowledge, links between farmers and processors, employment opportunities created, and financial inclusion. They are outlined in the logical framework. The detailed indicators will be prepared by project management in consultation with key stakeholders.

## **C. Outcomes/Components**

### **Outcomes and outputs**

67. The project's outcomes and outputs include:

- Component 1: Strategic Investments: Natural resources are more productively managed in an eco-friendly way and agro-forestry villages are less isolated.
  - Output 1: Irrigated areas are expanded and served in a more efficient manner;
  - Output 2: Fertility of degraded mountain slopes is restored;
  - Output 3: Water availability for domestic and productive use is improved.
- Component 2: Enabling Investments: Technological and financial environment for farmers and investors in farming and post-harvest activities is more conducive.
  - Output 1: Farmers' knowledge and access to new technologies are enhanced;
  - Output 2: Farmers' access to markets and processors for certified output is improved;
  - Output 3: Household access to financial services is increased.

### **Components**

68. The design of the project adopts a modular approach to the extent feasible. A standard package of investment options will be promoted in each state, suitably adapted as required. This will facilitate eventual scaling up of successful activities to other states in the hilly/uplands agro-ecological zone.

69. **Component 1: Strategic Investments.** This component will finance strategic investments in paddy land development and community agro-forestry.

70. **Sub-component 1.1: Paddy Land Development.** The project will contribute to the expansion of irrigated areas served by primary and secondary canals, with complementary investments in land development identified through a participatory approach. The objectives are to improve the drainage networks, irrigation water delivery and field access, and to create opportunities for crop diversification in response to market signals.

71. The project will improve/rehabilitate some 35,125 acres of flood and pump-irrigated land in the two states. In Kayin State, land development work will be carried out on 12 irrigation schemes in Hpa-An, Hlain Bwe and Kaukarate townships, covering about 11,200 acres within a total command area of 19,200 acres. In Shan State, land development work will be executed on two irrigation schemes (Ho Pong Valley and Hekke), located in Ho Pong, Taunggyi, Siseine and Kyauk Gyi townships, covering about 23,925 acres within a larger command area of 39,000 acres. Land development plans will be prepared for contiguous areas (blocks of about 500 acres each). A participatory land use planning (PLUP) approach will be applied, and an appropriate service provider (local NGO) with experience in

community mobilization and free, prior, informed consent (FPIC) methods will be selected to manage these activities.

72. For each block, the PLUP approach will engage with farmers to make informed decisions and will set up mechanisms for the sharing of any loss of cultivable land arising from construction of roads, drains and tertiary canals. In addition to consultation on the routes for roads and canals, farmers will be assisted to prepare maps indicating the boundaries and ownership of any reconfigured plots, for the issuance of land titles after completion of civil works. Farmer concurrence with any proposed reconfiguration of plots will constitute a pre-requisite for construction. The selected service provider will operate in coordination with the Irrigation Department (ID) and Settlements and Land Records Department (SLRD) of MoALI as well as the Project Implementation Committee.

73. After discussions with farmers and local authorities, land development activities will include land levelling (on 11,200 acres in Kayin State and 300 acres in Shan State), rehabilitation/lining of main canals and distributaries/minors (respectively 115 and 3 miles), construction of watercourses (306 and 8 miles), secondary drainage canals (115 and 3 miles), de-silting of main drainage canals (212 and 6 miles), small culverts (around 5,750 units), farm to market roads (268 and 7 miles), small bridges (around 719 units), head regulators (about 1,260 and 34 units), and inlet/outlet structures (17 and 0.5 miles). The hydraulic structures at Segyi weir will be rehabilitated to mitigate excessive silt load (in Shan), and the irrigation pumping station of Hpa-An will be improved (in Kayin). In Kayin State, piped-conveyance networks associated with solar powered pumps will be piloted on about 400 acres.

74. The average direct investment cost of land development works is estimated at USD 1,375/acre, while the indirect investment cost will be in the range of 10% of direct costs. The official unit rates issued at district level and adopted norms on machinery output will be reviewed on an annual basis. IFAD will cover 100% of direct costs (net of taxes) of land development executed by the ID (fuel, lubricants, materials, labour), while the Government will cover indirect costs (machinery work) in kind. For works financed by IFAD, the ID will be contracted by the project for design and construction.

75. To develop MoALI technical capacities, the project will provide international technical assistance to central and state-level IDs for: (i) survey and design activities such as land development planning, detailed topographic surveys, engineering designs, working plans, drawings and cost estimates. TA will also review construction norms and machinery pricing, and will provide training to ID staff; (ii) supervision of land development activities such as supervision of construction and quality assurance; and, (iii) hydro-meteorological study for remodelling the Naunmon drainage creek in Shan State. The study will review precipitation and flow conditions combining historical records and trends in the catchment areas of the main drain/creek, assess capacity, identify flood prone sections, define re-alignment, propose flood mitigation measures and prepare cost estimates. TA will be gradually phased out over four years of implementation.

76. The project will strengthen participatory water management in the improved irrigation schemes. Knowledge centres (see below), supported by experienced service providers, will support farmers to: (i) formalize existing informal groups into Water Users' Groups (WUGs) of 20-30 members each, along tertiary canals, and register them in compliance with the legal framework, where feasible; (ii) strengthen WUGs through capacity building in management and technical skills; and, (iii) support WUGs to establish cost recovery mechanisms for O&M and emergency repairs. This work will be undertaken in coordination with other water management activities (e.g. activities financed by JICA) to ensure best practice and methodological consistency. When the WUG model is operating successfully in the targeted 35,125 acres, its expansion across the entire command areas (58,200 acres) may be considered. In the medium-term, the country programme (FARM and ESAP) will work with partners to assess the scope and methods for federating WUGs into secondary-level Water Users' Associations or integrating them into a broader cooperative structure.

77. **Sub-component 1.2: Community Agroforestry.** Project investment in agro-forestry will aim to improve living conditions and generate economic benefits in forest and upland villages. At the same time, agroforestry activities will protect ecosystems, reduce encroachment on primary forest, increase

soil water infiltration and reduce soil erosion. Sloping upland and agro-forestry activities will be defined on the basis of a participatory and culturally sensitive approach.

78. *Sloping Agriculture Land Technologies (SALT)*. On areas which are degraded and prone to soil erosion in upland Shan State (20,000 acres out of 40,000 acres of Inle Lake watershed), the project will introduce SALT to reduce erosion, increase soil fertility, and create opportunities for high value crop farming. Based on the steepness of slopes, permanent natural terraces will be formed over time resulting from contour lines planted with hedgerow of moringa. These will increase water infiltration, reduce flooding and erosion, retain plant nutrition and improve soil fertility. Terraces will be cultivated with high value vegetables, fruit and nut trees, while the steepest areas will be used for fuelwood and timber production. Moringa hedgerows will used or sold as animal feed. The introduction of SALT will lead to a positive environmental impact by reducing sedimentation of the drainage system in Hopong valley, which will significantly reduce the frequency and cost of desilting dams, silt-traps, and drainage canals. The sedimentation and eutrophication of Inle Lake will also be reduced. The project will benefit from experiences across the region (China, Philippines, Vietnam and Thailand) and across Myanmar (Mon, Chin and Kayin States). An NGO will be contracted to assist MoALI introduce SALT techniques.

79. The project will finance construction of 50 tubewells and harnessing of 50 springs/streams for drip irrigation, and installation of solar pumping stations for drip irrigation in lower sloping areas.

80. *Community Facilities*. In Kayin State, living conditions in mountainous villages are harsh and constitute a primary reason for out-migration. The project will improve living conditions in 20 villages located in the mountains of Thandaunggyi township in northern Kayin through installation of drinking water networks and a micro-hydro power station. This activity will be implemented by a contracted NGO with relevant experience. Target villages will be selected by project management, the NGO and state-level MoALI based on poverty, outreach, technical feasibility and cost. For agro-forestry sites in northern Kayin and terraces in Shan, the project will support the eco-friendly construction of critical sections of roads totalling some 30 km in each State, to improve market access.

81. **Component 2: Enabling Investments**. This component will improve target group access to services and markets, and will maximise the benefits generated from the strategic investments.

82. **Sub-component 2.1: Knowledge and Technology**. The project will improve farmer access to the technologies, inputs and services necessary for improving productivity of staple crops, fodder crops and high value crops.

83. *Demand for services*. Smallholder demand for pluralistic advisory services covering production, post-harvest handling, marketing, financing, and farm business management is currently unmet as MoALI's extension service has little rural outreach due to budgetary constraints. Knowledge transfer and the adoption of new technologies are limited. Extension and research services focus on crop productivity, with little attention to commodity development, value chain upgrading, market access and financing. However, in both states, MoALI is piloting Knowledge Centres at a few irrigated schemes where land has been consolidated. These Centres have been effective in promoting new varieties, husbandry and irrigation practises for rice, vegetables (potato, garlic, onions, carrots), oilseed (radish, mustard seed, gram, soya, groundnut), maize for animal feed and sweet corn for fresh consumption.

84. *Knowledge Centres (KCs)*. Services for smallholders will be delivered through a network of Knowledge Centres (KCs) which will build on MoALI extension services. Up to 43 KCs will gradually be set up across the project area to serve as focal points for the provision of services, supply of inputs, aggregation of outputs, and linkages among value chain stakeholders. The operation of KCs will learn from MoALI's pilot experience as well as on regional and global best practices. KCs will operate on the basis of several principles: a decentralized and bottom-up approach; pluralism of actors in service delivery; promotion of partnerships, particularly public-private partnerships (PPPs); a clear market orientation, and vision for cost recovery.

85. KCs will be low-cost facilities established on PPP basis. They will be owned by MoALI, governed by an elected, gender-balanced Board representing the ethnic groups and socio-economic



categories of the rural population (as well as MoALI), and managed by a MoALI-seconded extension officer trained for this purpose. While a multi-disciplinary team may be preferable, the cost implications would be high and prospects for sustainability low. The selected extensionist would manage the KC and broker the services demanded by members, utilizing existing capacities in the public and private sectors. A service provider (NGO) will be contracted in each state to support KC management and operations.

86. Each KC in irrigated areas will serve 3,000 acres cultivated by about 1,000 farming households, each KC in upland areas will serve 5,000 acres cultivated by about 1,000 farming households, and each KC in agro-forestry sites will serve 5,000 acres cultivated by around 700 farming households. To facilitate the delivery of services and maximize their impact, farming households will be organized into gender-balanced common interest groups (CIGs) of about 50 members each, revolving around WUGs for irrigated farms and geographically for agro-forestry households.

87. *Supply of services.* KCs will broker service delivery to farming households. This may include: (i) technology, skills and knowledge transfer for productivity improvement; (ii) access to improved inputs; (iii) access to markets, market information and linkages with other value chain actors (contract farming, outgrower schemes); (iv) access to storage and primary processing options; (v) access to mechanization (in areas of insufficient labour supply); and, (vi) access to financial services through partnership with financial institutions. In the medium-term, producers may be supported to associate into registered organizations and enter into commercial agreements with private investors.

88. Based on market demand and potential for post-harvest activities, KCs will promote new varieties of existing crops as well as high value crops as suitable for the areas outlined below:

- *Irrigated land.* Land development, proper water management, and technical services will enable farmers to plant monsoon rice at the onset of the season rather than when the flood water recedes. This will allow the introduction of new high yielding rice varieties and mechanized harvesting practices; a significant improvement particularly for the Hopong valley where paddy is currently harvested in 1-1.5 meter standing water. Proper water management will also allow cultivation of a second crop such as sesame, groundnut, soya, maize, gram, vegetables in both states, as well as potato and garlic in Shan State. With flood control and improved irrigation, the production of a short duration third crop such as gram or oilseeds will be facilitated. In some locations, summer rice may be cultivated where sufficient river water is available for pumping. Diversified cropping is expected to trigger the setup of post-harvest facilities close to production areas. Increased rice production may encourage investment in milling and storage capacity.
- *Mountain Agroforestry.* The crops currently grown include cardamom, coffee, fruit trees, and trees for fuel and timber. Signs of slow encroachment on the primary forest have recently emerged, primarily due to household income needs. To reduce encroachment, the project will introduce new varieties and improved husbandry for cardamom and coffee. The introduction of black pepper, passion fruit and shiitake mushroom, and promotion of small processing activities at community level (such as drying of coffee and cardamom), will generate economic benefits and allow a more environmental-friendly use of the natural resource base. Private companies have expressed interest to purchase and process cardamom, passion fruit, coffee and shiitake mushroom from these areas.
- *Agriculture on Gently Slopping Land.* Project support will cover 63,500 acres of upland in Kayin State of which some 10,000 acres are smallholder rubber plantation located on gently sloping hills at the foot of the mountains. Small-scale rubber farmers have been adversely affected by the recent drop in prices for natural rubber latex. The project will support the intercropping of oilseeds and black pepper with rubber trees, and increased use of fertilizer to improve latex production. Post-harvest activities, such as cleaning, coagulating and pressing latex into ripped sheet, and smoke-drying latex sheets into Ribbed Smoked Sheet ready for the market, will also be promoted.

89. Other services brokered by KCs will include development of CIGs; agricultural demonstrations and trials on progressive farmers' land in collaboration with the state-level research services and private sector companies; and capacity building of WUGs in water management, maintenance of the water delivery system and water pump stations, and cost recovery.

90. Extensionists selected as KC managers will be trained in participatory methods of service delivery, partnership building, value chain management, technologies, networking and marketing. They will receive annual performance-based contracts, renewable based on satisfactory assessment by KC members. KC managers will receive equipment (mobile phone, motorcycle) on hire-purchase basis, as well as field allowances at official MoALI rates.

91. *Sustainability.* KC managers' salaries will be borne by the MoALI. A cost-recovery mechanism for KC operational costs will be developed, to be covered by members and relevant private companies. TA will be provided to develop capacities for managing the knowledge platform as a business/PPP venture in the medium term. IFAD best practices in cost recovery for services will be applied, in consultation with the Global Forum for Rural Advisory Services of which IFAD is a governing member.

92. **Sub-component 2.2: Services.** This sub-component will provide smallholder farmers and entrepreneurs with access to markets and to adapted and affordable financial products.

93. *Value Chain Development.* Agribusiness support in agro-forestry areas will address capacity building, financing, and market linkages. In both states, there is scope to improve traditional crops and produce high-value horticultural crops for domestic and export markets. The project will commission a series of value chain analyses for commodities with comparative advantage, market demand and growth potential. These will include crops cultivated by smallholders, such as vegetables, fruits, nuts, coffee, cut flowers, grains and rubber. Based on this analytical work, the project will promote public-private partnerships with existing agribusinesses or new investors interested to establish post-harvest facilities close to areas of production. Eligible activities would include vegetable canning; maize drying and storage; paddy drying, milling and storage; mushroom preparation and bagging; individual quick frozen (IQF) units for fruits; tissue culture and seed production; tomato processing; mango drying, de-pulping, packaging and storage; garlic powder processing (Shan); and groundnut drying (Kayin).

94. The project will promote contractual arrangements between agribusinesses and farmers such as contract farming, outgrower schemes, or links with producers' associations. Tripartite arrangements which include financial institutions for loans to farmers guaranteed by the forward contracts will be facilitated. In line with practices in Myanmar, agribusinesses will provide technical advice to contracted farmers on production standards and quality control.

95. *Export Promotion.* Participating agribusinesses will be supported to obtain HACCP and ISO 22000 certification, and organic certification where applicable, in order to access export markets. TA will be provided to upgrade agribusiness capabilities to meet international standards. Processors and exporters will be supported to deliver trial shipments to new export markets. The costs related to these activities will be shared by the project and the relevant agribusiness. KC managers and smallholder representatives will participate in overseas trade fairs and study tours to understand market requirements in importing countries.

96. *Agribusiness Fund (ABF).* The ABF will provide competitive grants to encourage agribusinesses or new investors to set up facilities close to production areas and to enter into equitable contracts with smallholders. This is fundamental in order to enable smallholders to cultivate high value crops and to access relevant services. At a later stage when nascent producers' associations evolve into strong organisations effectively serving their members, the project will promote the Public Private Producers Partnerships (PPPP) model developed by IFAD as a mechanism to replace the Agribusiness Fund and create joint ventures; this transition is expected to be considered in the medium term (after PY3).

97. The ABF will support commodities and post-harvest facilities as recommended by the value chain analyses. Competitive grants will cover up to 40% of the total investment cost of establishing

the post-harvest facility, up to a maximum of USD 180,000 per investment. The ABF will operate based on periodic (semi-annual) calls for proposals issued by the project. Proposals will have to focus on commodities with demonstrated comparative advantage, market demand and growth potential in order to be eligible. Selection criteria will include outreach (number of farmers to be contracted), volume (quantity of output to be purchased), returns (unit prices to be paid to farmers), employment (number of jobs created), and commitment (to enter into contracts with producer; to provide technical support). Activities such as tissue culture, drying, processing, smoking, storage, canning, packaging, refrigerated transportation and marketing will be eligible for ABF funding. The ABF is expected to generate financial benefits for farmers, incremental jobs, economic multiplier effects and tax revenues.

98. Proposals will be assessed against defined criteria by project management and an auditor, reviewed by an independent ABF Committee, and cleared by IFAD. The ABF Committee will decide which proposals meet the criteria set out; this may include ranking proposals if necessary. Committee members will not be involved in any other aspect of the project, nor will have any conflict of interest, nor will stand to gain from their decisions. The Committee will have representation from civil society, the private sector and Government, and members will have the knowledge required to make informed decisions. Committee membership will be defined at project start up.

99. The ABF will be managed on the basis of standard operating procedures consistent with IFAD's Technical Note on Matching Grants and best practices. An adapted version of the Competitive Small Grants Manual developed and operationalised by the Viet Nam ICO will be utilised as a reference.

100. *Credit Guarantee.* The project will assist farmers to enter into contractual arrangements with processors, buyers, and traders under contract farming and outgrower schemes (both of which are practised in Myanmar). Typical tripartite arrangements which include financial institutions for loans to farmers will also be facilitated. Banks will utilise the forward contract to cover part of the collateral requirement, combined with land title and possibly an additional guarantee provided by the processor.

101. Farmers who produce for the market but are outside contract farming or outgrower schemes have difficulty in accessing loans as they cannot fully meet the collateral requirements. To address this constraint, the project will provide participating banks with a cash guarantee that covers 70% of the risk on the uncollateralized part of a loan. The cash guarantee is expected to be equal to about 25% of the loan portfolio of participating banks (financed by their own resources) to project-supported farmers. Deposits will be made in a specific account opened by the project in each participating bank. Training will be offered to interested banks on the guarantee mechanism. Comprehensive guidelines and procedures for the guarantee mechanism are detailed in WP4.

102. *Financial Inclusion.* Financial inclusion will be promoted by fostering savings and credit groups (SCGs) and by providing financial literacy training to rural households. Communities will be assisted to establish their own SCGs around Knowledge Centres. The Myanmar Microfinance Association (MMA) will be contracted to manage the process, prepare operating procedures, and provide training and TA. Links will be forged with an international MFI to support MMA, and with UNCDF which has relevant experience. SCG activities will focus primarily on savings mobilization and provision of micro-credits for household consumption.

## **D. Lessons learned and adherence to IFAD policies**

103. While Myanmar has been a member of IFAD since 1990, the first loan to the country (FARM project) was approved in 2014. The design process of ESAP has been informed by the lessons learned by partner institutions in the country, such as UNDP, UNOPS (LIFT), JICA, and NGOs working with ethnic groups. Key lessons of relevance to ESAP that emerge from these operations are:

- *Cultural sensitivity.* Design of development activities in a multi-ethnic country such as Myanmar requires a culturally sensitive approach, as evidenced by the earliest UNDP township community development projects to the latest work of UNOPS/LIFT and several NGOs.
- *Services.* In Myanmar, investment in productive infrastructure needs to be complemented with

provision of services in order to sustain economic benefits and returns to the rural poor. In the irrigation sector, JICA-financed operations have demonstrated that a package of infrastructure, participatory management, and services is required to create a sustained flow of benefits.

- *Financial inclusion.* Farmers and micro-entrepreneurs in rural areas require access to financing to invest in the growth of their activities. There are positive experiences in Myanmar with credit and savings groups and with microfinance (particularly under the MMA umbrella such as PACT) which need to be scaled up in rural areas and the agriculture sector.
- *Human capital.* Kayin and Shan states have experienced substantial out-migration of the labour force (particularly the youth) over the past decades, and face seasonal shortages of labour. Experiences with the return of migrants, ex-combatants and displaced people confirm that access to economic and job opportunities is vital for successful reintegration.
- *Social capital.* Water users' groups, producers' associations, savings and credit groups, and other self-help groups gradually improve the access of poor rural women and men to resources, services and opportunities. Development activities in Myanmar, particularly those of JICA, UNOPS/LIFT and NGOs, demonstrate the importance of community organizations.
- *Participation.* Linked to social capital, a participatory approach is fundamental for communities to articulate needs and priorities, to effectively manage their natural resources, to take active roles in design and implementation of development activities, and eventually to influence policy.
- *Decentralization.* A range of NGO operations in Myanmar indicate that decentralized project management generally produces better results than centralized management. Decentralization to state level of development planning is also a priority of Government.

104. **Compliance with IFAD policies.** ESAP is compliant with relevant IFAD policies, in particular: (i) its goal and objectives are aligned with the Strategic Framework 2011-2015 in terms of market-driven smallholder development and rural business growth; (ii) its targeting strategy is consistent with the Targeting Policy approach of supporting economically active poor women and men in farming, and forestry households; (iii) its investments in rural economic growth are compliant with the Rural Finance Policy promotion of inclusive financial systems to improve access of the rural poor to a range of financial services; (iv) its participatory approach to land issues is consistent with the Land Tenure Policy focus on free, prior and informed consent; (v) its support for ethnic groups is aligned with the Policy on Engagement with Indigenous Peoples in terms of cultural sensitivity, respect for values, and building upon strengths; (vi) its environmental assessment requirements for infrastructure comply with the Climate Change Policy on adaptation and mitigation; (vii) its attention to challenges and opportunities for rural women is based on the Gender Equality and Women's Empowerment Policy, and (viii) its fiduciary framework is compliant with the Policy on Preventing Fraud and Corruption.

105. The project is consistent with the Myanmar COSOP 2014-2018 which was reviewed by the Executive Board in April 2014. The country strategy's goal is to contribute to reducing rural poverty, specifically of smallholders, the landless, ethnic groups and other marginalized groups. The COSOP defines three Strategic Objectives (SOs) for engagement in the country. The SO1 aims *to empower rural women and men to access agricultural resources, technologies, services and markets*. The SO2 aims *to create business and employment opportunities for rural women and men*. The SO3 aims *to promote the social and economic empowerment of marginalized groups, particularly ethnic groups*. ESAP directly addresses SO3, and utilizes instruments contained SO1 and SO2 tailored to the needs and opportunities of ethnic groups.

### III. Project implementation

#### A. Approach

106. Myanmar is starting to accumulate experience in managing and implementing externally-funded investments in the agriculture sector. While public sector capacity in the sector has historically been

weak, it is gradually improving due to recent capacity building support extended by IFAD, JICA, WB and other partners. Development assistance in rural areas to date has largely been provided on grant-based activities by NGOs operating at limited scale. The private sector, particularly in rural areas, generally remains under-developed and concentrated; widespread compliance with the rule of law and adoption of ethical business practices is considered to be a medium term prospect.

107. The decentralization process is at a relatively early stage, and state-level institutions are weak. Based on the design team's institutional assessment, experiences in similar contexts, and the country strategy, the ESAP implementation approach is to: (i) strengthen state-level MoALI and other agencies involved in agriculture and rural development; (ii) increase the responsibility of state-level MoALI departments to implement activities, in a sequenced manner; (iii) establish a small state-level Project Implementation Office (PIO) to manage activities and organize implementation through contracts with public and private service providers; (iv) strengthen the central Project Coordination Unit created under FARM for consolidation and interface functions.

108. In the context of increasing the responsibility of state-level Ministry of Agriculture and Irrigation departments to implement activities, the project envisages an in-loan TA and capacity building grant of USD 1.5 million. The grant recipient would be the MOALI. The grant would support the Government's initiative to decentralize administrative and financial decision making to state level. Specifically, the grant will focus on building operational and fiduciary capacity of state-level MOALI departments in the two states (Kayin and Shan) for effective and decentralized, project implementation.

109. *Phasing plan.* Considering the limited capacity of state-level MOALI, project implementation will be carefully phased (ref. Table 9). The initial phase will focus on preparatory work such as capacity building, infrastructure design, establishment of KCs in rainfed areas, and community organization.

**Table 9: Phasing of main activities**

Main Activities	PY1	PY2	PY3	PY4	PY5	PY6
Community organization						
Capacity building of MoALI extensionists/KCs managers						
Land development						
Construction KC						
Forest community infrast.						
Terracing degraded mountain slopes						
Support to Farming Households through KCs						
Capacity building of farmer entrepreneurs						
Financial Inclusion						
Agri-Business Fund						
Value chain analysis						
Market linkages						

## B. Organizational framework

110. **Governance.** The project will be governed by a National Project Steering Committee (NPSC), State Project Coordination Committees (SPCCs), and village tract monitoring groups (VGs).

111. The NPSC will be chaired by the MoALI Deputy Minister. Its membership will include senior representatives of relevant MoALI departments (Office of the Minister and Departments of Planning, Irrigation, Rural Development, Agriculture, Agricultural Research, Livestock, Agricultural Land Management and Statistics) and representatives of MoPF and MoNREC. Representatives of the state-level MoALI will be represented in the NPSC to the extent feasible. The Committee will convene

in Nay Pyi Taw. Its responsibilities will be to provide strategic and policy guidance, endorse consultants' selection, approve annual work plans/budgets, and oversee the external audit process.

112. A SPCC will be constituted in each state. It will be chaired by the respective State Minister of MoALI. Members of the committee will include representative from the Office of the Chief Minister, Home Affairs, directors of relevant state-level Ministries and MoALI departments, and representatives of community organizations. Its responsibilities will be to meet to provide overall guidance, approve annual work plans and budgets, endorse consultants' selection, review progress reports, and ensure coordination. The SPCCs will convene in Hpa-An (Kayin) and Taunggyi (Shan) as required.

113. In participating villages tracts, VGs will be organized and chaired by the elected village group leader. They may include representatives of partner NGOs, KCs, farmers' groups, women's groups, and local representatives of MoALI. They will be responsible for ensuring a participatory approach, monitoring implementation, and ensuring poverty focus and gender equality. VGs are expected to meet on regular basis.

114. **Central level management.** The Irrigation Department (ID) will be the focal department of the project. It will be responsible and accountable for the performance and results of the project. A Project Management Unit (PMU) will be established within ID and will be integrated with ID structures. It will be responsible for project implementation, fiduciary management (including financial management, procurement and contracting, legal compliance), work planning and budgeting, and monitoring and evaluation, and progress reporting.

115. The PMU will be headed by a Project Director from the ID appointed by MoALI. Daily operation of the PMU will be the responsibility of a Project Manager recruited from the market through a competitive process. The PMU will be staffed by: (i) relevant assigned officers from ID, DRD, and other MoALI departments as required; and (ii) a set of competitively recruited consultants on annual contracts (agribusiness/value chains; rural finance; community development and gender; accounting; procurement, M&E). As per national guidelines, assigned MoALI staff will be remunerated on Government terms and conditions, while consultants will be remunerated at competitive market rates.

116. The PMU will be supported by a strong technical assistance team to be financed through the IFAD grant. The grant will be executed by UNOPS on the basis of an Agreement with MoALI. UNOPS will competitively recruit the technical assistance necessary to strengthen ID and MoALI in relevant areas. It will provide a medium-term Project Management Advisor (CTA) and specific short-term TA (for example in irrigation design and supervision, participatory irrigation management, agroforestry, enterprise development, rural finance, financial management, procurement, M&E).

117. **Central financial management.** Project financial management will be administered by the existing Finance Unit of ID. The ID will assign a Finance Officer and accounts staff from its existing staff specifically for the project, who will work under the supervision of the unit's Finance Director. This ID Finance Unit will be supported by two consultants within the PMU, namely a Finance Officer and an Accountant.

118. **State level management.** One Project Implementation Office (PIO) will be established in each State, mainstreamed within the state-level ID. In Kayin State the PIO will be located in Hpa-an while in Shan State it will be located in Taunggyi. The PIO will be responsible for coordinating implementation at state level and for monitoring and reporting on progress.

119. The PIO will be headed by a state Project Coordinator, to be assigned by ID from its state-level staff. Daily operation of the PIO will be the responsibility of a state Implementation Officer recruited from the market through a competitive process. The PIO will be staffed by: (i) assigned officers from relevant state MoALI departments (DRD, DoA) and relevant Ministries (such as MoNREC); (ii) a set of competitively recruited consultants on annual contracts (agriculture/agroforestry, rural finance, community development and gender, accounting, M&E). As per national guidelines, assigned MoALI staff will be remunerated on Government terms and conditions, while consultants will be remunerated at competitive market rates.

120. The PIOs will be supported by a strong technical assistance team to be financed through the IFAD grant. UNOPS will competitively recruit the technical assistance necessary to strengthen state level ID and MoALI in relevant areas. In each state, it will provide a Project Implementation Advisor for the durations required, and specific short-term TA (for example in participatory irrigation management, agriculture value chains, enterprise development, rural finance, financial management, M&E).

121. **State financial management.** State-level financial management will be administered by the existing Finance Unit of state-level ID. It will assign a Finance Officer and accounts staff from its existing staff specifically for the project, who will work under the supervision of the unit's Finance head. This ID Finance Unit will be supported by an Accountant within the PIO.

122. **Institutional strengthening.** An institutional capacity assessment of relevant departments of MOALI in Kayin and Shan States was undertaken as part of the design process. The assessment evaluated their institutional set-up and culture, and their capacity to carry out administrative, support and technical functions. A capacity building plan has been developed (WP 6) to address the institutional weaknesses identified, which will contribute to state-level MOALI's enhanced capability of implementing development investments.

123. **Implementation.** Project activities will be implemented through contracts with service providers such as ministries/departments, NGOs and the private sector. Service providers will be appointed on performance-based contracts, with their performance assessed by the PMU, PIOs and community representatives where applicable. The specific arrangements are out-lined below.

#### *Sub-component 1.1: Land Development*

- PLUP and FPIC will be implemented by local service providers selected by the PMU on a competitive basis, in consultation with the PIOs.
- Land development financed by IFAD will be implemented by state-level IDs. An engineering firm will be contracted to support design, assess construction norms, verify unit costs, supervise civil works, and provide TA. Supervision will be multi-level, involving ID, PIOs, village tract monitoring groups, and the service provider.

#### *Sub-component 1-2: Community Agroforestry*

- The design of contours and TA to farmers for SALT activities will be implemented by a contracted service provider, while land works will be undertaken by the state-level MoALI AMD.
- Investment in tubewells, solar powered pumps and drinking water networks will be designed and implemented by DRD or a private company on the basis of a contract with ID.

#### *Sub-Component 2.1: Knowledge and Technology*

- KCs will be constructed by local contractors selected on competitive basis by the PMU. Where feasible, community contracting using local labour will be considered. IFAD procurement rules will be followed for the selection of contractors.
- KCs will be supported by the PMU, TA and service providers (competitively-selected) for capacity building of managers, operational support, and brokering arrangements with public and private entities for services to farmers and agro-forestry households.
- Value chain analyses will be carried out by competitively-selected service providers such as consulting firms or NGOs.

#### *Sub-Component 2.2: Agribusiness Development and Financing*

- The ABF will be managed by the PMU with external support as required (e.g. by UNCDF), in collaboration with each PIO, with NPSC oversight. Funding decisions will be made by an independent ABF Committee.
- Guarantee deposits in financial institutions will be managed by an audit firm selected by the PMU, with IFAD concurrence, and subject to due diligence. A Guarantee Committee consisting

of a banker, agriculture specialist, auditor will review claims and approve pay-outs. Signatories on the guarantee accounts will be the audit firm's main partner and the Project Director.

- Participating financial institutions will be selected by the PMU. The process will include public announcement, expressions of interest, shortlisting, submission of proposals, evaluation, and clearance by NPSC and IFAD.
- Savings and credit groups will be developed by the Myanmar Microfinance Association, which will be supported by an international service provider contracted by the PMU.

124. **Partnerships.** Project level partnerships will apply the partnership strategy outlined in the COSOP. Four kinds of partnerships will be developed, as outlined below.

- i. Private sector partnerships: with agribusinesses for value chain integration; with commercial banks and microfinance institutions for financial services;
- ii. Technical partnerships: with technology providers (e.g. World Agroforestry Centre, IRRI); operational service providers (e.g. UNOPS), and microfinance advisors (e.g. UNCDF, GIZ);
- iii. Advocacy partnerships: with organizations that advocate for ethnic groups, in consultation with IFAD's indigenous peoples' specialists;
- iv. Policy partnerships: with Government agencies and development partners through sectoral working groups and similar platforms.

## **C. Planning, M&E, learning and knowledge management**

### **Planning**

125. Annual work plans and budgets (AWPBs) and activity calendars, based on the design report and informed by operational experiences and supervision missions, will constitute the project planning framework. State-level AWPBs will be prepared through a consultative approach involving community organizations, KCs and stakeholders. Following SPCC approval, state plans and budgets will be consolidated by the PMU into a project AWPB, and submitted to NPSC for endorsement and IFAD for concurrence. The consolidated project AWPB will contain a procurement plan in compliance with IFAD requirements. The planning process will be timed in line with national planning procedures, as the project budget is incorporated in the national budget.

### **Monitoring and evaluation**

126. The project's M&E system will be designed to offer comprehensive and reliable information to improve planning and decision-making for results-based management. It will also be compliant with the RIMS framework. The system will be participatory and decentralized, involving target groups at state level. The logical framework will constitute the basis for results-based M&E. The M&E system will have a three-tier structure: (i) output monitoring with focus on physical and financial inputs, activities and outputs; (ii) outcome monitoring for the use of outputs and measurement of benefits at household and community levels; (iii) impact assessment evaluating project impact in comparison with objectives. All M&E data, analysis, and reporting will be disaggregated by gender.

127. The state PIOs will establish data collection, analysis and reporting systems to track physical and financial progress, performance and emerging impact. The system will involve stakeholders (households, KCs, community organizations, service providers, relevant public and private entities). The PMU will consolidate state-level M&E information and prepare progress reports as required.

128. The logical framework will be reviewed and M&E indicators fine-tuned at the central and state level start-up workshops. At the beginning of implementation, a baseline survey will be commissioned to assess the socio-economic status of households and define the benchmark situation against which project performance will be compared.



129. The project will use locally adapted RIMS surveys at baseline, term and completion as the main quantitative survey tools. Ad hoc surveys, case studies and thematic reviews will be outsourced to independent institutions to verify results and impact, and to draw lessons for wider application. An independent third party, such as a university, may be engaged by the PMU for independent impact assessments, as part of the overall governance framework.

### **Learning and knowledge management**

130. Project operations are expected to create valuable knowledge on key development themes of relevance for Myanmar's upland areas and border states, in particular on commercialized smallholder agriculture, culturally sensitive approaches to ethnic groups and forest communities, and state level rural economic growth as a pillar for sustained peace. It will be important for the PIOs and PMU to document the emerging experiences, lessons and best practices and share them widely with public entities and development partners. The availability of verified quantitative and qualitative information on the project's results will be essential for scaling up the model to other border states of Myanmar.

131. The PIOs, and their relationships with service providers, are configured to capture information on the elements outlined above, and to share knowledge with the PMU. The PMU will be supported with TA in managing knowledge and producing knowledge products. It will partner with organizations advocating for ethnic groups, and will organize a series of workshops on relevant themes jointly with partners. The PMU will also knowledge and experiences with the wider community of development practitioners in Asia through the IFADAsia knowledge management portal.

## **D. Financial management, procurement and governance**

132. *Fiduciary risk.* Risk assessment is drawn from the WB review of Myanmar's PFM system, which rates inherent country fiduciary risk as "High". As such, ESAP will apply a ring-fenced approach to FM, including: (i) professional accounting software; (ii) competent and qualified FM staff; (iii) a FM manual integrating controls linked to operations; (iv) state level PIOs with delegated authority to manage and disburse project resources, and confirmation of PMU's delegated authority; (v) TA and external oversight; (vi) a control framework integrating periodic internal audits, independent external audits and social safeguards; (vii) a good governance framework to ensure accountability and transparency.

133. *Counterpart funds.* Government will ensure that counterpart funds are contained in the national allocations for MOALI at central and state levels, and that they are released for the project on time.

134. *Flow of Funds.* The decentralisation of fund flows to the two States is agreed in principle. This will strengthen governance structures while maintaining transparency of activities and central controls. The design team assessed the financial systems of the two States and undertook due diligence of the commercial bank (MEB) proposed for flow of funds. The bank account signatory powers for state level expenditures will be set at sufficiently senior level. Control of expenditures at state level will be maintained by retaining centralisation of WA preparation (by the PMU) and approval, access to state level accounting data, as well as consolidation of AWPB and reporting for the two states.

135. The project will use the Imprest Account method for operating the Designated Accounts (DA), to be detailed in the Letter to the Borrower. IFAD advances to the DA will be transferred to an account held in USD in the Myanmar Economic Bank (MEB) or another bank acceptable to IFAD.

136. The PMU and the two PIOs will be authorized to open separate operational accounts in USD and MMK for IFAD resources in MEB or another commercial bank acceptable to IFAD. On the basis of the approved AWPB, the PMU and each PIO will request quarterly advances for implementation from DAs to the respective operational accounts in USD. The PMU and PIOs will manage the exchange rate risk and convert the USD to the operational account in MMK as needed. On justification of 75% of the previous advance and 100% of any preceding advances, the next advance will be provided. SOE thresholds will be defined in the Letter to the Borrower. The PMU and PIOs will maintain separate Project Accounts in local currency for counterpart funds.

137. *Retroactive Financing.* As exception to Section 4.08 of the General Conditions, eligible project expenditures from the loan may be incurred after the date of project approval by the Executive Board, and before the entry into force of the legal agreement, up to a maximum amount of SDR 100,000, for expenditures for: (i) capacity building for PMU/PIO staff and target groups; (ii) consulting services for studies and field surveys; (iii) consultancy services. Retroactive expenditures are pre-financed by the Government, and reimbursed by IFAD subject to Board approval of the loan.

138. *Start-up costs.* If the Government is not able to pre-finance retroactive expenditures, it may request an advance withdrawal of up to USD 300,000 equivalent to incur start-up expenditures before withdrawal conditions are met. Eligible expenditures may will cover: (i) capacity building for PMU/PIO staff and target groups; (ii) consulting services for studies and field surveys; (iii) consultancy services; (iv) salaries of key PMU/PIO staff; (v) rental expenditures for the PMU and PIOs. Any unused balance of this advance will be considered as part of the initial advance under the authorized allocation.

139. *FM responsibilities.* The PMU will be responsible for overall project FM and accountable to the NPSC, and will maintain a full set of accounts in accordance with the international public sector accounting standards (IPSAS). Each state PIO will be responsible for state level FM and accountable to the respective SPCC, and will maintain a full set of state level accounts in accordance with IPSAS.

140. *Internal controls.* The project's internal controls will be set up to ensure operational efficiency, reliability of reporting and compliance with requirements. Responsibilities will be aligned to objectives. This will include the control environment, risk assessment and monitoring to ensure good governance. The implementation manual and financial manual will detail the control framework.

141. *Accounting system.* The FM capabilities of the state level MOALI will be strengthened through the provision of computers, accounting software and training. The accounting system being installed for MOALI by UNOPS (under an IFAD grant) will also be installed for the state level MOALIs. The PIOs and MOALI's accounting and finance staff will be trained in using the software.

142. *Financial accounting & reporting.* Financial statements will be prepared as per IPSAS for each fiscal year. Each PIO will submit quarterly financial reports to the PMU for consolidation into project financial reports, which will be shared with concerned national institutions and IFAD.

143. *Internal Audit.* In view of the inherent country risk, in addition to the annual external audit, the PMU's procedures will be assessed every six months through internal audit. The project will establish contracts with accredited local audit firms to assist in the review of operations, internal controls and compliance measures. Internal audit will be supported by the Office of the Auditor General.

144. *Procurement.* Procurement will be carried out in compliance with IFAD procurement guidelines and handbook (published on IFAD's website). The PIM will detail procurement requirements and procedures. The procurement methods, prior review arrangements, cost and time estimates, and risk mitigation measures will be defined in the Letter to the Borrower and reflected in the procurement plan. The procurement of goods, works and services will be handled by the state level PIOs; however, they may request PMU support for consolidated or international purchases. TA will be provided to develop state level and PIO procurement capacities.

145. Based on the procurement capacity assessment undertaken, and the inherent country fiduciary risk, the overall procurement risk is classified as "high" due to weaknesses in the legal framework for public procurement, the weak governance environment, the limited capacities at central and state levels, and the lack of a redress mechanism.

146. *Audit.* An external auditor will be selected by the PMU based on a prequalified list of local audit companies accredited and internationally affiliated. The OAG will participate in the annual audit exercise. As required by IFAD, the auditors will provide separate opinions on consolidated financial statements, DA operations, and SOE. They will submit audited financial statements along with the related opinions and management letter no later than six months after the end of each fiscal year. The management letter will include audit observations on internal control systems. IFAD will provide its feedback on the quality of the audit report and will monitor project compliance with audit observations.

147. *Governance and transparency framework.* IFAD's applies a zero-tolerance approach in cases where investigation determines that fraudulent, corrupt, collusive, or coercive actions have occurred in projects financed through its loans and grants; a range of sanctions in line with IFAD regulations will be enforced. Zero tolerance means that IFAD will pursue all allegations, and appropriate sanctions will be applied should they be substantiated.

148. While the documented methodological justification for considering Transparency International's *corruption perception index* is absent, this is a commonly use index. It is reported that Myanmar ranks 157th out of 177 countries rated in 2013 (down from 172th in 2012).

149. Project design includes several measures to promote transparency: (i) autonomous central PMU and state PIOs operating on the basis of good governance; (ii) mechanisms for regular internal audit at PMU and PIO levels; (iii) annual independent audit; (iv) verification of fiduciary compliance during supervision; (v) independent impact assessments; (vi) a grievance redress mechanism at state and central levels, consistent with the approach of FARM. Finally, communities will be involved in decision-making, planning, implementation and monitoring, as documented in this report.

## E. Supervision

150. The project will be supervised by IFAD. A supervision and implementation support mission will be undertaken on annual basis. MoALI at central and state levels will participate in these missions.

151. Supervision will be applied as a continuous process requiring on-going communication and engagement with central Government, state administrations, PMU and PIOs. It will encompass three functions: (i) fiduciary compliance covering legal conditions, financial management, procurement and contracting; (ii) supervision focusing on performance, progress towards objectives, activities and outputs, planning and budgeting, monitoring and reporting, governance and management, targeting and gender equality; and (iii) implementation support.

152. Implementation support will be applied at three levels: (i) project level: providing guidance for achievement of objectives, supporting flexibility in response to evolving conditions, creating systems for sustainable flow of benefits, resolving operational issues, generating lessons and best practices; (ii) country level: influencing policy based on operational experiences, documenting models for scaling up, and facilitating partnerships; (iii) IFAD level: generating knowledge and lessons, feeding lessons into new project design, and identifying innovative instruments.

153. Project design will invariably be superseded by reality over time due to changing conditions, evolving experiences, political and economic changes, exogenous developments and force majeure. Supervision and implementation support process will guide the project towards its strategic objectives and broader poverty reduction outcomes, while ensuring fiduciary compliance and transparency.

154. Two term reviews will be undertaken by Government and IFAD at the end of PY2 and PY4, and a project completion report will be prepared by Government, with IFAD support, at closure.

## F. Risk identification and mitigation

155. Key project risks have been assessed and mitigation measures incorporated, as outlined below. The residual risk is either moderate or exogenous.

Table 10: Risk Mitigation Matrix

Risks	Possible Consequences	Mitigation Measures
Political risk	Changing policies at central and state levels, changing priorities in MoALI and other institutions. Possible interference in project management.	NSPC and SPCCs accountability for mitigating this risk. Financing Agreement prevails over national laws. Fiduciary compliance procedures, prior review and supervision to mitigate against illicit interference.

Governance risk	Poor governance capability may prevent MoALI from fulfilling its role as Lead Project Agency. Decentralization may slow down.	Strong capacity building activities at central and state levels, substantial TA, support from service providers, supervision and oversight. Empowerment of state level administration and MoALI in Financing Agreement.
Expropriation risk	Possible expropriation of developed land from farmers, or of forest areas from forest dwellers.	Application of PLUP and FPIC approaches, focus on land titles, involvement of service providers, empowerment of communities, advocacy partnerships, and assurances in legal agreement.
Fiduciary risk	Possible financial mismanagement or mis-procurement.	Fiduciary risk mitigation detailed in the sections on financial management and procurement.
Financing risk	Possible pullout of financial institutions from agriculture financing.	Promotion of contract farming, issuance for all farmers of land users certificate (land titles) to be used as collateral against a loan and eventual additional guarantee from the project. Capacity building of all value chain stakeholders
Commercial risk	Possible inequitable distribution of value added or lack of market access for target groups	Brokerage role of KCs, presence of service providers, promotion of contracts, farmer skills development, investments in services, multiple levels of monitoring, supervision and oversight.
Capacity risk	Low capacities may adversely affect provision of services to target groups.	Substantial investments in institutional strengthening and staff capacity building at the various levels.

## IV. Project costs, financing, benefits and sustainability

### A. Project costs

156. Total project costs, including duties, taxes and contingencies, are estimated at USD 65.2 million over a six-year implementation period (Table 11). Costs are estimated on the basis of prices prevailing at the time of design. Average physical contingencies of 2% and price contingencies of 4% have been applied to base costs. Price contingencies are based on estimated inflation rates using projected Manufactures Unit Value Index (for USD), while local inflation rates are based on MoNPED forecasts. The exchange rate has been set at MMK 1,000 to the USD, the average rate prevailing during final design. A constant purchasing power parity (CPPP) exchange rate is assumed.

### B. Project financing

157. The project is expected to be financed by an IFAD loan of USD 56.73 million and IFAD grant of USD 1.5 million, a Government contribution of USD 4.9 million, and beneficiaries' contribution of USD 2.0 million (Table 12). The Government contribution consists of USD 3.7 million for land development and some staff salaries, and USD 1.2 million for duties and taxes. The estimated value of duties and taxes is low due to Government commitment to waive duties and taxes on civil works executed by MoALI; (ii) TA and services to be procured through a preferred service provider (such as UNOPS) which is likely to be exempt from taxes.

**Table 11: Project Cost Summary**

	(MMK Million)			(US \$ '000)			%	% Total
	Local	Foreign	Total	Local	Foreign	Total	Foreign Exchange	Base Costs
<b>A. Strategic Investment</b>								
1. Paddy Land Rehabilitation	30 861.6	3 429.1	34 290.7	30 861.6	3 429.1	34 290.7	10	56
2. Community Agro-Forestry	4 824.0	536.0	5 360.0	4 824.0	536.0	5 360.0	10	9
<b>Subtotal</b>	<b>35 685.6</b>	<b>3 965.1</b>	<b>39 650.7</b>	<b>35 685.6</b>	<b>3 965.1</b>	<b>39 650.7</b>	<b>10</b>	<b>65</b>
<b>B. Enabling investments</b>								
1. Knowledge and technology	3 842.1	501.0	4 343.1	3 842.1	501.0	4 343.1	12	7
2. Services	4 606.9	6 078.9	10 685.8	4 606.9	6 078.9	10 685.8	57	17
<b>Subtotal</b>	<b>8 449.0</b>	<b>6 579.9</b>	<b>15 028.9</b>	<b>8 449.0</b>	<b>6 579.9</b>	<b>15 028.9</b>	<b>44</b>	<b>25</b>
C. Project Management	5 782.5	748.2	6 530.8	5 782.5	748.2	6 530.8	11	11
<b>Total BASELINE COSTS</b>	<b>49 917.2</b>	<b>11 293.2</b>	<b>61 210.4</b>	<b>49 917.2</b>	<b>11 293.2</b>	<b>61 210.4</b>	<b>18</b>	<b>100</b>
Physical Contingencies	1 024.1	394.5	1 418.6	1 024.1	394.5	1 418.6	28	2
Price Contingencies	6 093.3	727.2	6 820.5	2 259.8	270.3	2 530.1	11	4
<b>Total PROJECT COSTS</b>	<b>57 034.6</b>	<b>12 414.9</b>	<b>69 449.5</b>	<b>53 201.1</b>	<b>11 958.0</b>	<b>65 159.1</b>	<b>18</b>	<b>106</b>

**Table 12: Project Financing Plan**

	(US \$ '000)										Local (Excl. Taxes)	Duties & Taxes	
	Government		IFAD Loan		IFAD Grant		Beneficiaries		Total				For. Exch.
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
<b>A. Strategic Investment</b>													
1. Paddy Land Rehabilitation	4 257.4	11.6	32 399.2	88.4	-	-	-	-	36 656.6	56.3	3 665.7	32 990.9	-
2. Community Agro-Forestry	65.4	1.1	4 525.7	77.6	-	-	1 243.2	21.3	5 834.3	9.0	583.4	5 116.8	134.2
<b>Subtotal</b>	<b>4 322.8</b>	<b>10.2</b>	<b>36 924.9</b>	<b>86.9</b>	<b>-</b>	<b>-</b>	<b>1 243.2</b>	<b>2.9</b>	<b>42 490.9</b>	<b>65.2</b>	<b>4 249.1</b>	<b>38 107.7</b>	<b>134.2</b>
<b>B. Enabling investments</b>													
1. Knowledge and technology	103.0	2.2	4 079.2	87.8	251.7	5.4	211.9	4.6	4 645.8	7.1	532.1	3 994.8	119.0
2. Services	53.7	0.5	10 352.2	93.5	95.0	0.9	566.4	5.1	11 067.3	17.0	6 372.4	4 581.5	113.4
<b>Subtotal</b>	<b>156.7</b>	<b>1.0</b>	<b>14 431.4</b>	<b>91.8</b>	<b>346.7</b>	<b>2.2</b>	<b>778.3</b>	<b>5.0</b>	<b>15 713.1</b>	<b>24.1</b>	<b>6 904.5</b>	<b>8 576.3</b>	<b>232.4</b>
C. Project Management	424.5	6.1	5 376.1	77.3	1 154.4	16.6	-	-	6 955.0	10.7	804.4	5 374.0	776.6
<b>Total PROJECT COSTS</b>	<b>4 904.0</b>	<b>7.5</b>	<b>56 732.4</b>	<b>87.1</b>	<b>1 501.2</b>	<b>2.3</b>	<b>2 021.5</b>	<b>3.1</b>	<b>65 159.1</b>	<b>100.0</b>	<b>11 958.0</b>	<b>52 057.9</b>	<b>1 143.1</b>

**Table 13: Programme costs by expenditure category and financier**

	(US \$ '000)										Local (Excl. Taxes)	Duties & Taxes	
	Government		IFAD Loan		IFAD Grant		Beneficiaries		Total				For. Exch.
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
1. Works	4 329.2	10.8	35 919.1	89.2	-	-	-	-	40 248.3	61.7	4 161.1	36 087.2	-
2. Vehicles	0.0	-	1 009.7	100.0	-	-	-	-	1 009.7	1.5	201.9	90.9	716.9
3. Equipment & Materials	-	-	93.7	100.0	-	-	-	-	93.7	0.1	17.0	69.5	7.1
4. Consultancies	28.9	0.8	2 679.0	75.1	847.1	23.8	11.0	0.3	3 566.1	5.5	871.0	2 666.2	28.9
5. Training	89.3	2.0	3 052.1	66.9	654.1	14.3	767.3	16.8	4 562.8	7.0	578.1	3 786.8	197.9
6. Goods Services & Inputs	132.9	3.9	2 047.9	59.8	-	-	1 243.2	36.3	3 424.0	5.2	380.0	2 872.8	171.2
7. Matching Grants and Associated Investments	-	-	5 155.5	100.0	-	-	-	-	5 155.5	7.9	5 155.5	-	-
8. Credit Guarantee Scheme	-	-	2 978.3	100.0	-	-	-	-	2 978.3	4.6	446.7	2 531.6	-
9. Staff Salaries & Allowances	258.6	6.8	3 562.0	93.2	-	-	-	-	3 820.6	5.9	6.3	3 814.4	-
10. Operating Costs	152.1	39.3	235.1	60.7	-	-	-	-	387.2	0.6	147.6	218.5	21.2
<b>Total PROJECT COSTS</b>	<b>4 991.0</b>	<b>7.6</b>	<b>56 732.4</b>	<b>87.0</b>	<b>1 501.2</b>	<b>2.3</b>	<b>2 021.5</b>	<b>3.1</b>	<b>65 246.1</b>	<b>100.0</b>	<b>11 965.2</b>	<b>52 137.8</b>	<b>1 143.1</b>

### C. Summary benefits and economic analysis

158. *Benefits and beneficiaries.* The project will directly impact on a farmed area of about 186,791 acres of which 58,125 are within irrigation command areas, 103,530 are upland rainfed areas, and 25,135 are forest areas. It will cover 282 village tracts within 8 townships populated by about 179,000 households (856,000 people).

159. The project is expected to benefit about 62,627 households (314,970 people). Of these, it will directly benefit about 45,175 households (228,422 people), and will generate full time jobs for another 17,390 households (86,548 people).

160. Of the 45,175 direct beneficiary households, 24,245 households (109,102 people) are in Kayin State and 20,930 households (119,320 people) are in Shan State. Of these, some 38,639 households (194,879 people) are expected to be within IFAD's primary target group of poor households, classified as 'moderately poor' or 'poor', with an average per capita income of USD 0.8 per day. They include:

- smallholders on 35,125 acres of irrigated land selected for development (20,384 households). They will benefit from the strategic and enabling investments. Their annual household incomes on upgraded irrigated land are expected to increase by about USD 500 (Kayin) and about USD 700 (Shan) at full development.
- smallholders on 103,530 acres of rainfed uplands (21,490 households). In Shan State (40,000 acres) they will benefit from SALT activities enabling high value cropping. On rainfed upland in both states, they will benefit from the enabling investments. Their annual household incomes on the rainfed uplands are expected to increase by about USD 500 (Kayin) and USD 1,300 (Shan) after three years due to high value cropping.
- smallholders on 25,135 acres of mountainous areas of Kayin State (3,300 households). They will benefit from the enabling investments. Their annual household incomes on mountainous areas are expected to increase by about USD 1,000 after 3 years due to high value cropping and improved traditional crops (such as coffee and rubber).
- smallholders on 23,000 acres in command areas of selected irrigated land (8,075 households) are expected to benefit from enabling investments but not land development. The average benefit per household is expected to be about USD 200 (Kayin) and USD 350 (Shan).

161. The project is expected to generate 5,245 jobs opportunities in agribusinesses and 12,207 full-time job equivalents as agricultural labour. It is likely that these jobs will be taken by the landless (particularly the youth), the unemployed, and returnees.

162. Overall, the project is expected to benefit the IFAD's primary target group of poor households, with an average increase in net income increase by 115%, from per HH income of USD 0.8 per day to an average USD 1.80 per day.

163. The projections of project impact indicate that the incremental agricultural production in the project area between 2015 and 2021 will be worth about USD 38.2 million at farm gate prices. It also indicates that the total acreage cultivated will increase from 193,818 acres to 235,782 acres, with a cropping intensity increasing from 104 to 126%. Net income per acre will increase from USD 197 to USD 324, while net income per household will increase from USD 844 to USD 1,688.

**Table 14: Project Impact per Agro-Ecological Zone**

Location	# of HH	# of HH Family Members	Physical Land Holding	Acreage Cultivated (acres)		Cropping Intensity %		Avg. Acres Cultivated/HH		Total Net Income (in USD)		Net Income USD/acre		Net Income USD/HH		Increase in net Income	
				Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	In USD	in %
Kayin Irrigated	7.135	32.107	19.400	28.346	39.710	146	205	4,0	5,6	3.692.320	8.430.480	130	212	517	1.182	664	128
Shan Irrigated	13.250	75.537	39.000	43.880	64.186	113	165	3,3	4,8	6.206.475	14.332.223	141	223	468	1.082	613	131
Kayin Upland	13.810	62.145	63.500	57.425	63.500	90	100	4,2	4,6	14.852.660	26.432.585	259	416	1.076	1.914	839	78
Shan Upland	7.680	43.783	40.000	39.031	40.000	98	100	5,1	5,2	9.518.008	21.072.254	244	527	1.239	2.744	1.504	121
Kayin Mountain	3.300	14.850	25.135	25.136	28.386	100	113	7,6	8,6	3.904.410	6.068.248	155	214	1.183	1.839	656	55
<b>Total</b>	<b>45.175</b>	<b>228.422</b>	<b>187.035</b>	<b>193.818</b>	<b>235.782</b>	<b>104</b>	<b>126</b>	<b>4,3</b>	<b>5,2</b>	<b>38.173.872</b>	<b>76.335.790</b>	<b>197</b>	<b>324</b>	<b>845</b>	<b>1.690</b>	<b>845</b>	<b>100</b>

164. Economic analysis. The project's financial and economic analysis is based on crop, farm, and enterprise models. The agricultural models use an estimate of without-project growth to offset the with-project figures. The enterprise models assume a degree of business failure (20%) which is included in the base case. The assumptions applied in the economic analysis are: (i) economic life of 20 years; (ii) standard conversion factor of 0.95; (iii) opportunity cost of unskilled labour of USD 3/day.

165. The project's financial internal rate of return (FIRR) is estimated at 15.1%. Its economic internal rate of return (EIRR) is estimated at 13.4%. Sensitivity analysis demonstrates that the project is robust in the event of delays in the flow of benefits or cost overruns.

## D. Sustainability

166. The sustainability of project investments is embedded in its design. It focuses on: (a) access to knowledge: KCs will be low cost facilities that will eventually operate on cost-recovery basis; they are expected to evolve into PPP ventures in the medium term; (b) access to markets: upgraded commodity chains, contract farming and outgrower schemes will ensure smallholder access to markets that can be sustained based on underlying business relationships; (c) access to water: irrigation and drainage improvement, combined with participatory water management, will improve water distribution and O&M; (d) access to finance: financial inclusion activities will eventually link smallholders and agro-forestry households with the formal financial sector; (e) extension services: use of MoALI extension officers trained by the project will ensure continuity in delivery of services.

167. Scaling-up. The project is considered by Government as a model which will eventually be scaled up in upland/highland areas of Myanmar. The project is designed to expand, replicate, adapt and sustain successful investments. Through its investment tools, funds and forward-looking policy support, the project will create the pathways, drivers and spaces for scaling up. Investments will be unbundled to facilitate operation at scale of core activities.

168. Exit strategy. The project's exit strategy is to strengthen public institutions at central and state levels, to rely on a range of institutional service providers for implementation of activities, to foster profitable business relationships between producers and markets, and to improve the capabilities of the poor rural women and men.

169. **Assurances.** Four legally-binding assurances will be negotiated with Government in order to mitigate key risks, as outlined below:

- investments in land development and agro-forestry are targeted to smallholders and poor forest households, who should not be expropriated from their land or forest areas thereafter;

- investments in agriculture and services will enable farmer self-determination in choice of cropping patterns; instructions on cropping and land classification should be eliminated;
- knowledge centres are managed by appointed extension staff, who should not be transferred to positions outside the project area during the implementation period;
- all target groups will be supported to obtain proper identification documents enabling them to meet the requirements of financial institutions.



## Appendix 1: Country and rural context background

1. **Country Economic Background.** Myanmar is the largest country in terms of land area in Southeast Asia with an area of 676 578 sq. km, bordering China to the north and east, Lao PDR and Thailand to the east and India and Bangladesh to the west. The Bay of Bengal lies to the west and the Andaman Sea to the south of the country, with a coastline of around 2 000 km. Myanmar consists of three topographic areas - the western ranges, the central plains and the eastern hill. The western ranges serve as a natural border between India and Myanmar. The Ayeyarwady Delta Region and the Sittoung and Thanlwin basins make up the Central Plain with extensive alluvial lowlands and a lengthy dry season. The Shan Plateau is the eastern mountain range with an average height 1 000 m above sea level.

2. Myanmar's population in 2014 was estimated at 51.5 million<sup>8</sup>, with a population density of 76 per sq. km, an annual growth rate of 1% and an average life expectancy of 66.2 years. Around 70% of the population is rural (down from 73% in 1995 indicating a very slow trend of urbanization). It is an ethnically diverse country, with 8 major ethnic groups, 135 sub-groups and 108 different ethno-linguistic groups. The total population is estimated to be 68% Burmese, 9% Shan, 7% Kayin, 4% Rakhine, 3% Chinese, 2% Indian, 2% Mon, and 5% Kachin and Kayah. Myanmar is a Least Developed Country (LDC) and one of the poorest nations in South-East Asia - the 2013 Human Development Report ranks the country 150<sup>th</sup> among 187 nations with an index of 0.524 (average low HDI countries is 0.466 and South-East Asia average HDI is 0.683).

3. Myanmar is a low income country with a 2013 GDP of USD 53.14 billion and a per capita 2013 GDP of USD 824. Its GDP growth rate was 6.8% while the inflation rate was 6%. In 2013, the agriculture sector accounted for 38% of GDP (down from 60% in 1995); the share for services was 41.7% (up from 30% in 1995), and that for industry/manufacture was 20.3% (up from 10% in 1995).

4. **Rural Poverty.** There is a strong co-relation between agriculture and poverty in Myanmar, and poverty is largely a rural phenomenon. Though there is no official poverty line in Myanmar, poverty and social deprivation are widespread in Myanmar. The Ministry of National Planning and Economic Development of Myanmar working with UNDP and a number of other UN agencies and INGOs, has carried out two Integrated Household Living Conditions Assessments in 2004-5 and in 2009-10. They provide a number of measures of poverty: (a) the *food poverty line (FPL)* or the amount of money necessary to pay for a consumption basket to meet the caloric requirements of household members; (b) the *poverty line (PL)* or the amount of money necessary to cover consumption expenditure to meet basic food and non-food needs; (c) the *poverty gap index* that measures the intensity of poverty; and (d) the *share of poorest 20%* in consumption. In 2005, an estimated 32% of the population lived below the poverty line - this had fallen to 26% five years later. Between 2005 and 2010, those living below the food poverty line had decreased from 10% to 5%<sup>9</sup>. Results also showed improvements in other measures of poverty over these five years: the poverty gap ratio showed a reduction of 35% whilst the consumption share of the poorest quintile in national consumption increased from 11.2% to 12%. Health statistics also indicate high levels of deprivation, particularly for women. The Maternal Mortality Rate in 2010 was 200 per 100 000 live births and the estimated infant mortality rate (IMR) in 2010 was 44.8 per 1 000 live births. However, these aggregated national statistics mask significant regional and rural/urban differences. The poorest states, such as Chin (73% living below the poverty line), Shan East (51%) and North (52%), have much higher levels of poverty and social deprivation than areas such as Yangon, Kayin and Mon.

5. The rural poor typically comprise the landless (between 5% and 53% of the rural population in different parts of the country) and those with access to small and marginal landholdings, usually below 2 ha (almost 5 acres). These rural poor suffer from inadequate food, nutrition and essential non-food

---

<sup>8</sup> 2014 Myanmar Census data as released in August 2014.

<sup>9</sup> IHLCA 2008 and 2011.

items<sup>10</sup>. In 2010, 54% of poor household members worked in agriculture, compared to 49% for non-poor households. Rural poverty is largely a function of lack of resource endowments. Poor agricultural households on average farm less than 2 ha of land. The average farm size for non-poor households is significantly higher (3 ha). A smaller proportion of poor agricultural households (9%) own farm equipment than non-poor agricultural households (19%). There are also slight differences in access to agricultural credit between poor households (37%) and non-poor households (39%). Most of the poorest either live in the central dry zone (where the soils are sandy, rainfall low and population density high) or in the hill tracts populated ethnic minorities; these are remote, inaccessible, have limited arable lands and are affected by conflicts.

6. However, due to conflicting results and major inconsistencies in data, the report cautions on the “*interpretation of data on poverty levels and trends, in particular on the magnitude of the decline of poverty*”. The main characteristics of rural poverty in Myanmar are presented in Figure 1.

**Figure 1: Rural Poverty in Myanmar – Characteristics**

<p><b>Who are the rural poor?</b></p> <ul style="list-style-type: none"> <li>➤ smallholders owning &lt; 2 acres of irrigated cultivable land and &lt; 5 acres of rainfed cultivable land;</li> <li>➤ sharecroppers or tenants;</li> <li>➤ landless households dependent on casual labor;</li> <li>➤ forest and mountainous households;</li> <li>➤ households with high dependency ratios (e.g. adult unable to work or disabled);</li> <li>➤ women-headed households;</li> <li>➤ young women and men living in extended households;</li> <li>➤ ex-combatants and internally displaced persons;</li> <li>➤ ethnic minorities;</li> <li>➤ households in conflict areas.</li> </ul>
<p><b>Where are the rural poor?</b></p> <ul style="list-style-type: none"> <li>➤ in rural areas with a greater ethnic group population, and in border states;</li> <li>➤ in rural areas of high population density and very small holdings;</li> <li>➤ concentrated in dispersed settlements with inadequate access to services;</li> <li>➤ in remote mountainous, hilly or forest areas;</li> <li>➤ often dependent on seasonal or long-term migration to urban areas or abroad.</li> </ul>
<p><b>Why are they poor?</b></p> <ul style="list-style-type: none"> <li>➤ high vulnerability to shocks: price volatility, climate change, sudden loss of land, disasters, conflicts;</li> <li>➤ inadequate access to knowledge and technology;</li> <li>➤ poor quality and limited/improper application of inputs;</li> <li>➤ very limited access to financial services;</li> <li>➤ lack of access to land, markets or employment opportunities;</li> <li>➤ limited access to local organizations;</li> <li>➤ social and ethnicity considerations;</li> <li>➤ absence of remitting family members.</li> </ul>
<p><b>What are their coping strategies?</b></p> <ul style="list-style-type: none"> <li>➤ out-migration (overseas; in-country);</li> <li>➤ high dependence on casual wage labor;</li> <li>➤ borrowing from relatives, local traders, pawnshops;</li> <li>➤ decapitalization.</li> </ul>

7. The Multidimensional Poverty Index (MPI) developed by the Oxford Poverty and Human Development Initiative for the 20th anniversary of the Human Development Report<sup>11</sup>, goes a step further beyond the traditional focus on income to reflect the multiple deprivations that a poor person faces with respect to education, health and living standard. This composite index uses 10 weighted indicators of the components of these three dimensions (see Figure 2 below) to assess the nature and intensity of poverty at the individual level; the MPI shows the combination of deprivations that affect a household at the same time. The MPI is a product of the incidence of poverty and the average intensity of deprivation; the MPI for Myanmar has been calculated as .154<sup>12</sup>. The MPI measure of

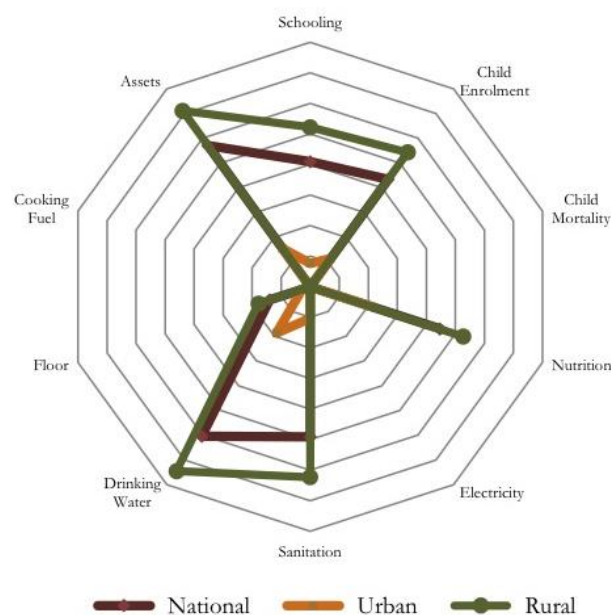
<sup>10</sup> Ibid.

<sup>11</sup> Alkire, Sabina & Maria Emma Santos. “Acute Multidimensional Poverty: a new index for developing countries” OPHI Working Paper 38 and UNDP Research Paper Series.

<sup>12</sup> See <http://www.ophi.org.uk/policy/multidimensional-poverty-index/mpi-country-briefings/>

intensity of deprivation for Myanmar is 48.3, i.e. the average percentage of deprivation experienced by people for the ten indicators of poverty used to calculate the MPI (Figure 2). One of the useful applications of the MPI is that it is possible to illustrate graphically the distribution of poverty within a country, for example, between rural and urban areas of Myanmar to show disparities. Figure 2 (below) illustrates the rural-urban divide: levels of deprivation (and hence poverty) for all of the components of the MPI are much higher in the rural areas than in the urban areas, indicating that the level of rural poverty in Myanmar is much higher across all the determinants of poverty.

**Figure 2: Myanmar - Comparison of proportions of population that are poor and deprived**



8. Table 1 below shows a comparison of the HDI and MPI for Myanmar with neighboring countries and other GMS countries. In terms of the HDI, Myanmar shows the lowest level of human development as compared with its neighbors and GMS countries. In terms of the MPI, however, Myanmar fares better than some of its neighbors such as Bangladesh and India, as well as some of the GMS countries such as Cambodia and Lao PDR, but does less well when compared with Vietnam and Thailand (see Table 1 below).

**Table 1: Comparison of Poverty Indices (2011) for Myanmar and neighboring and GMS countries**

Country	HDI	MPI
Bangladesh	0.50	0.292
Cambodia	0.52	0.251
China	0.69	0.056
India	0.55	0.283
Laos PDR	0.52	0.267
Myanmar	0.483	0.154
Thailand	0.68	0.006
Viet Nam	0.59	0.084

9. **Food Insecurity.** Food security (undernourishment) is closely co-related to the levels of poverty and is based on four dimensions: food availability, food access, food utilization, and stability of access to food. Nationally, Myanmar produces enough rice to meet its consumption needs. However the net national rice production is not an accurate indicator of food security and adequate nutrition at the household level, as there are severe problems with access to food for the most vulnerable groups in different areas of the country. Moreover, there are discrepancies between and within States and

Regions with regard to food deficits in the country. Shan, Kachin and Chin States are the most food insecure, with a very high food poverty level of 40% in Chin State 21% in northern Shan State and 20% in eastern Shan State. The headcount index of food poverty is generally higher in States than in Regions and in rural than urban areas. Poor infrastructure, restrictions on the movements of food commodities and restrictive market policies prevent the transport of food commodities from surplus to deficit areas. Constraints that affect a farming household's ability to feed itself from its own production include inadequate access to land and lack of rural support services. Households relying on market purchases to obtain food depend on having sufficient income, the existence of markets and the efficiency with which markets function to deliver food at affordable prices. There is widespread chronic and acute lack of access to food resulting from poorly functioning markets, poor transportation infrastructure and lack of non-farm employment opportunities for skilled or unskilled labor.

10. **Agriculture.** Myanmar is an agricultural country richly endowed with land and water resources and favourable climates for agricultural production. The agriculture sector forms the core of the national economy. Nearly 70% of the population lives in the rural areas. Agriculture (including hunting and forestry) employs over 61% of the working population and contributes over 16% of export earnings. Overall Myanmar has a surplus of food production and supply. In a normal year, the country produces enough food to supply its people and exports the surplus. Of the 67.7 million ha in Myanmar, the cultivable land represents 17.6 million ha (26%), of which only about 70% are actually farmed (12.3 million ha)<sup>13</sup>. The remaining land area is accounted for by reserved forests (18%), other woodland (25%) and others (31%).

11. Myanmar's share of agriculture in total GDP has remained quite high, indicating a lack of significant structural transformation of the economy over the past 40 years. While the abundance of land and water associated with low labour costs can allow for a rapid development of the sector, agricultural GDP growth has remained relatively low, in particular compared to GDP growth in industry and services that has accelerated in recent years. In 2010-11, total GDP growth was 5.5% and GDP growth in industry and services reached respectively 6.5% and 6.3% against only 4.1% in agriculture. Notwithstanding its large share in GDP and its importance for employment and livelihood, investment in agriculture has been almost non-existent (except by smallholders and foreign investors in ethnic states) and agriculture appears to have been very much neglected in terms of public expenditures. A significant part of MoALI's budget has been allocated every year to irrigation infrastructure to the detriment of extension services or research and development.

12. Over the last two decades, rice cultivated area has nearly doubled (from 4.8 to 8 million ha including 6.8 million ha of monsoon paddy and 1.2 million ha of summer paddy) and its production almost tripled (32.5 million MT in 2010-11 at an average yield of 3.9 MT/ha). As for pulses, their sown area increased over the past two decades from 0.7 to 4.5 million ha with a production now reaching 5.24 million MT at an average yield of 1.28 MT/ha. As for oil crops, since 1995, sesame harvested area increased by 76% and its production tripled, groundnut harvested area increased by 72% and its production more than doubled. As for spices and condiments, chili production grew over the past two decades from 30 000 to 118 000 MT, onion from 171 000 to 1.1 million MT and garlic from 37 000 to 213 000 MT for a total harvested area of 88 000 ha for these three crops. Producers and other stakeholders of commodity chains are organized in thirteen private agricultural crops associations under the Union of Myanmar Federation for Chambers of Commerce and Industry (UMFCCI), including among others: paddy producers; rice and paddy traders; rice millers; pulses, beans and sesame seeds merchants; and onion, garlic and culinary crops producers and exporters.

13. Myanmar is one of the largest countries in Southeast Asia in terms of land area 167 million acres of land. The land include 30 million acres of cultivated land (with a cropping intensity of 183%) 14 million acres of unused cultivable land, 83 million acres of forest land and other lands accounts for 41 million acres including freshwater resources.

14. The cropping intensity of the 30 million acres of cultivated land is presently around 183%.

---

<sup>13</sup> Based on the 2010 Myanmar Census of Agriculture (MCA) carried out by the MOALI.

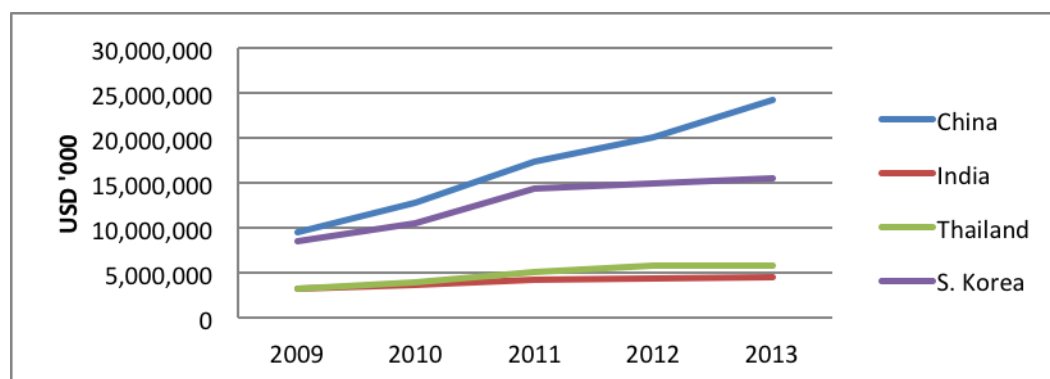
Within the present water resources availability, an increase of the cropping intensity to at least 230% (i.e. 47% increase) is possible with appropriate investments. Furthermore, an increase in the productivity of more than 50% for different crops cultivated is a reachable objective at medium-term. This potential together with the 14 million acres of unused cultivable land accounts for an enormous potential.

**Table 1: Productivity compared for selected crops**

Selected Crops	Myanmar (kg/acre)					Yields from (kg/acre) <sup>14</sup>		
	MoALI <sup>15</sup>	ARD <sup>16</sup>	Other <sup>17</sup>	Potential Yield Growth Over 5 Years <sup>18</sup>		China	Thailand	Vietnam
				Kg/acre	%			
Cabbage	3.000	20.100	17.000	17.000	460	13.570	14.467	17.444
Rubber	475	1.680	1.160	1.160	144		1.710	1.610
Mango	1.800	7.200	9.720	9.720	440	9.565	8.333	10.529
Groundnuts	595	2.310	1.360	950	59	2.050	1.588	2.275
Garlic	2.080	5.400	3.450	3.500	68	23.446	6.416	
Maize	1.300	2.590	2.330	2.500	92		4.418	4.435
Coffee	225	950	450	650	188	915	340	910
Paddy	1.645	3.125	2.700	2.700	65	2.720	1.271	2.254
Oil seed	615	1.170	785	850	38	766	725	580

15. All of Myanmar's neighbouring countries except for Laos and Cambodia has utilised their agriculture arable land 100%. Over the past 5 years Chinese import of agriculture produce and products experienced a steady growth of 21% per annum with an average annual incremental value of USD 3.7 billion. During the same period the import of India, Thailand and South Korea increased 7%, 13% and 13% valued at USD 325 million, USD 658 and USD 1.7 billion respectively.

**Figure 3: Import of Agriculture Produce and Products from Selected Countries**



16. Investment in agriculture is impeded by limited access to agricultural inputs, particularly seeds and fertilizers. Domestic enterprises producing fertilizers are not profitable due to unreliable electricity supply and thus domestic supply remains far below demand, while imported fertilizers are often

<sup>14</sup> Source: FAOSTAT

<sup>15</sup> Information obtained from Ministry of Agriculture in Shan and Kayin States

<sup>16</sup> Information obtained from the Department of Agriculture Research

<sup>17</sup> Cabbage - Bell company; Rubber - Rubber Association Kayin State; Groundnut Association and farmers in Kayin State; Garlic - Garlic Association and farmers in Shan State; Maize - Maize Association and farmers Shan State; Coffee - coffee farmers in Kayin State; Paddy and oilseed - State Ministry of Agriculture in Shan and Kayin States

<sup>18</sup> Estimated by the mission based on productivity potentiality and discussions with MoALI

adulterated. Most farmers use low-quality seeds of mixed varieties saved from previous harvests or bought from other farmers, which produce, when milled, a high proportion of low-value broken rice. While the production of seeds and planting materials is almost the exclusive responsibility of the DoA, some Rice Specialized Companies (RSCs) are now initiating certified paddy seed production and distribution through contract farming arrangements in designated areas. RSCs provide seasonal loans and inputs to farmers that the latter pay back in-kind after harvest at prevailing market prices. Farmers benefit from a guaranteed market and better access to credit, resulting in increased crop productivity and improved product quality.

17. Another constraint for any agricultural investment lies with extension services. Agricultural extension services are provided by the Agriculture Extension Department (AED) of the DoA and specialized state economic enterprises. Extension staff is inadequate both in numbers and quality. During the fiscal year 2011-12, the AED included 428 field extension officers and 3 085 village managers. Field extensionists are rotating quite quickly and do not stay more than 3-4 years in the same location. Lack of budget also prevents field visits and hinders efficient and effective knowledge dissemination. In addition, both need a much better orientation towards farmer problems so that they can become more effective in helping farmers by understanding the practical as well as the theoretical background to their work. Of particular concern is also the absence of operational interaction between Department of Agriculture Research (DAR) and extension staff. Most extension messages are centrally designed by managers and mechanically implemented by field staff over a diverse range of agro-ecological and socio-economic conditions, without proper consideration of farmers' needs and limitations, or market requirements, resulting in a low adoption rate of technical recommendations.

18. Finally, agricultural productivity is also hampered by high post-harvest losses. Processing facilities that help reduce waste and raise profit are still lacking for most crops. Smallholder farmers and private entrepreneurs are weak in the awareness of systematic postharvest handling practices in commercial application. Furthermore, in irrigated lands, the quasi-absence of farm roads also generates post-harvest losses.

19. Irrigation infrastructure has been significantly expanded since 1988, targeting mostly paddy-producing areas both in the Delta and in the Dry Central Zone (DCZ). A summer paddy programme, which is at the core of MoALI's activities, was introduced since 1992. The availability of irrigation water during the dry season has been instrumental to the extension of the summer paddy areas and to increased cropping intensities. Supplementary irrigation during the Monsoon period and improved drainage (which is particularly critical in the flood-prone Delta) gave a key contribution to the 30% increased the rice yields recorded over the last 10 years. The typical highly fragmented pattern of small bunded basins (0.25-0.30 acre) with irregular shape and at slightly different levels characterizing rice production under rain fed conditions is the most widespread in the irrigated rice growing areas. Irrigation water is discharged from the plots nearest to the canal outlets to the lower plots in a plot-to plot water distribution and drainage system. The flow is controlled by the upstream users by temporarily lowering and raising the earth bunds. Practically rice is the only crop that can be cultivated under these flow and drainage conditions. In a recent effort to capitalize on the gravity irrigation schemes financed during the past decade, with a vision of modernizing paddy rice cultivation, the MoALI has developed a number of model farms (covering an area of about 5 000 acres) with improved field roads and tertiary level irrigation and drainage networks, mainly in the Nay Pyi Taw Union Territory i.e. at the southernmost section of the CDZ. In these model farms a comprehensive approach to land development was tested, including land leveling, the realignment of plot boundaries and the reissuance of land titles in line with the provisions of the new Land Law. These model farms are proving effective in raising the farmers' interest in modernizing their production method through e.g. rental of small combined harvesters.

20. Both the Irrigation Department (ID) and the Water Resources Utilization Department (WRUD) are responsible for irrigation, including collecting water taxes. The ID is responsible for constructing and maintaining irrigation facilities down to the tertiary level, while Water Users' Groups (WUGs) are responsible for building field ditches and for operations and maintenance (O&M) of the latter as well

as of tertiary canals. The ID is also responsible for carrying out hydrological, geological and topographical surveys. The WRUD is responsible for supplying irrigation by pumping water from rivers, streams and groundwater sources. A total of 166 WUGs have been established covering about 40% of the total irrigation network system. They fall under the control of the township agriculture supervision committee.

21. The government disseminates up-to-date information every two weeks on agricultural prices and market flows through radio broadcasting and television channels, as well as weekly or bi-weekly newspapers and journals distributed at township offices. Furthermore, the Myanmar Business Coalition, a local NGO established by traders and businessmen and created in the dry zone to better connect farmers to traders, identified information/communication gaps and established a market information system maintained by local traders and using FM radio stations. Myanmar Agri-Business journal from MoALI, the Farmers journal and Agro-cyclopedia journals (private newsletter) are providing farmers with updated seed technology, cultural practices, GAP systems, integrated pest and diseases management practices. Moreover, the Farmers channel from Myanmar Radio and Telecommunication (MRTV) also disseminates agricultural information for rural households.

22. **Land Tenure.** In March 2012, the legislature enacted a new Farmland Law<sup>19</sup> that repealed the previous acts governing land, and set out amended rules for “*the right to work on farmland*” whilst retaining ownership of all land in the Government as vested in the 2008 Constitution. The new law officially reintroduces the concept of private ownership through Land Use Certificates, i.e. land tenure rights, which can now be sold, traded, or mortgaged. The law provides for *Farmland Management Bodies* shall be formed at the Union, State/region, District, Township, and Village Tract Ward or Village levels; lower level bodies (from State/Region downwards) shall be “*constituted by the Central Farmland Management Body*” thus allowing the Government to retain overall control of land tenure rights as well as their transfer, mortgage or inheritance.

23. However, land tenure security provided under this law is weak due to the fact that the Government retains ultimate ownership of all land and can rescind land use if the conditions of use are not met, for example, land could be repossessed if farmers fall into debt. As stated in the law, the Government also retains the right to determine which types of crops to be grown on agricultural land and to repossess the land if farmers do not comply. Moreover, anyone without an official land use title no longer possesses legal right to use land and the mechanisms to avail of such title are highly centralized as mentioned above.

24. The Vacant, Fallow and Virgin Land Law, also passed in 2012, legally allows the government to classify land as 'vacant, fallow or wasteland' (especially fallows and lowlands without official land titles) and lease these land to domestic and international for up to 30 years. This legislature could potentially put many smallholder farmers, and IFAD's primary target group, at the risk of losing their land since many farmers do not yet possess land use certificates or in the case they have land titles, have not been able to "permanently cultivate" their entire land holding due to high input costs. Moreover, under this law, community managed resources such as village forests, waterways, fishponds are equally susceptible to confiscation despite being crucial to local livelihoods.

25. **Land Holding.** Despite the large size of arable land per capita compared to neighboring countries, most cultivated land is cultivated by small-scale farmers; with an average landholding size of 2.4 ha (almost 6 acres). According to data provided by the Agricultural Census of 1992-93 and of 2003 and by the 2009-10 IHLCS, the number of agricultural landholdings has steadily increased over the last two decades, from 2.7 million in 1992-93 to 4.4 million farms in 2009-10. Consequently, the size of landholdings has declined over this period. In 1992-93, 54% of landholdings were below 2 ha and 82% below 4 ha. In 2003, 77% of households had farms below 2 ha, 15% had farms of 2-4 ha, and only 8% of them operated farms above 4 ha. In 1993, holdings below 0.4 ha covered only 36 699 ha, but up to 62 289 ha in 2003, and their number increased by 174% from 187 493 to 513 221 over this period. Land holding size varies considerably across regions. The 2009-10 IHLCS The largest

---

<sup>19</sup> Source: *Farmland Law enacted by the Pyidaungsu Hluttaw under Order No.11/2012 dated 30 March.*

average farm sizes are found in Ayeyarwady (11.2 acres) while the smallest are in Chin (1.7 acres).

26. **Landless.** A critical issue in the rural economy is landlessness. Landlessness in Myanmar includes landless poor and marginal farmers. It is related to household size and this relationship is particularly pronounced for the female-headed households. The Agriculture Census (2003)<sup>20</sup> gave the proportion of rural households '*not having access to land*' as between 35% and 53% of the rural population in different parts of the country (ranging from 20%)<sup>21</sup>. These 2003 census figures are supported by a recent survey by the LIFT (2012) baseline study of 4 000 households in 3 agro-ecological zones<sup>22</sup> which found that some 50% of households nationally are landless. The 2010 Agriculture Census found that nearly 50% of agricultural households, i.e. over 2.4 million households, had marginal landholdings of less than 2 ha. Even though the situation is gradually improving, ethnic minorities are still particularly vulnerable to forced relocation, destruction of livelihoods and confiscations of land and crops<sup>23</sup>. In ethnic upland areas, landlessness is often worse, with for example more than 50% of landless households in 12 of the 19 townships in Kachin state, according to Center on Housing Rights and Evictions (COHRE) report. The high landlessness and, at the same time, availability of some 6.7 million ha of land seems paradoxical. Recent Government initiatives such as the new "Vacant, Fallow and Virgin Lands Management Law" combined with the economic, social and political reforms combined with a more "people-centered approach" to rural development aims at addressing the inability of the poor to resettle in some of these areas. These reforms will also address issues such as: (a) lack of finance not just for land development but also for infrastructure, health care and educational services; (b) lack of awareness about these opportunities; (c) Government restrictions on movement of people between different regions, especially for ethnic minorities; and (d) lack of desire to move away from familiar surroundings and traditional support mechanisms that provide considerable assistance to the poor in times of emergency. The landless make up 25.7% of those working in agriculture as wage laborers on land farmed by larger-scale farmers or work as casual laborers in non-agricultural activities. The proportion of the working population in poor households working as casual laborers and as migrants is almost twice the proportion in non-poor households. The landless have also little access to knowledge and information, not to mention access to finance. As a result of that situation, very few landless are able to start any income generating activities and mainly work as casual laborers.

27. **Out-migration.** Poverty also forces more people to seek casual work in order to survive; poverty also forces them to migrate to other parts of Myanmar and to neighboring countries, such as Thailand and Malaysia in search of work. Out-migration, especially in Eastern States close to Thailand, poses a threat for the development of agriculture. Most households have at least one, but going up to three, member working permanently or seasonally abroad and sending remittances. This situation results in an overwhelming number of subsistence farming households due to: (a) insufficient availability of casual labor to assist farmers on their entire land, and (b) high level of remittances sent from relatives working abroad compared to casual labor wages and profitability of crops currently farmed. In Eastern States, out-migration is also not counter-balanced by mechanization. In mountainous areas as well as in most States across the country, mechanization is still at an nascent stage (very few combined harvesters and other agricultural equipments). Mechanization is also hampered by size and shape of land plots which do not favor the development of mechanized farming practices.

28. **Gender.** Although in theory under both Buddhist customary law and the 2008 Constitution, women and men are entitled to equal rights, the reality tells a different story. Less than 6% of parliamentary seats are currently held by women, but a woman has recently been appointed to the Cabinet as well as four women to key ministerial positions. Although previous Governments have enacted a series of five-year National Plans for economic and social development, none addressed

---

<sup>20</sup> As quoted in the 2007 WFP/FAO/EC report on "Identification and assessment of the poor, food insecure and vulnerable in the Union of Myanmar".

<sup>21</sup> The 2010 MCA does not give a figure for landlessness in Myanmar.

<sup>22</sup> LIFT Baseline Survey Results, July 2012.

<sup>23</sup> Source: *Situation on Human Rights in Myanmar*, United Nations High Commissioner for Human Rights, 2004.



gender equality. There was no evidence that the Government considered the effects of its programmes on women, especially rural women who were disproportionately affected by poverty and militarization. At local levels (districts, townships, villages), there were few women representatives, especially in the key decision-making bodies. Current reforms, which include decentralization and election of local government bodies, may see women playing a greater role in decision-making at the local level as well as in productive sectors, such as agriculture or business, rather than being confined to their former roles in service delivery in the traditional areas of health, education and welfare. It will also help address inequities such as the fact that although women make up 38% of the labor force, women's participation in decision-making bodies in the economic sector is low, under 20% amongst management, production and information and technology decision-makers. However, traditionally the role of women in the decision-making process in rural areas and in farming activities is quite dominant, with equal rights in land tenure and ownership of other family assets. Another exception is the teaching and academic professions, where women account for 62% of senior staff. In contrast, amongst the poor, a higher proportion of female household heads (37.6%) are illiterate than male household heads (16.1%).

29. **Financial institutions.** The financial sector is small and highly underdeveloped. Access to financial services is severely limited. While the agricultural sector represents 35-40% of GDP and employs 61% of the population, only 2.5% of all outstanding loans are made to this sector. Four state-owned banks and 19 private banks dominate the sector. In addition, the financial sector also comprises of 1 625 credit cooperative societies established under the Ministry of Cooperatives; state-owned and private pawnshops; 318 licensed microfinance institutions established by international donors (of which 222 are members of the Myanmar Microfinance Association) and local associations; 31 specialized agriculture development companies, and informal lenders, including traders and input suppliers. There is only one state-owned insurance company in Myanmar. It is small in scale and outreach and offers no insurance for any form of agricultural sector activities, such as flood, crop, or livestock. There are no credit bureau, formal microfinance APEX body, and specific microfinance training centre/institute (although CARD together with the German Savings Bank SBFIC will provide capacity building to 2 emerging MFIs, and PACT will launch a training programme funded by LIFT for up to 9 local NGOs to build their capacity in microfinance provision). Payment systems are underdeveloped, ATMs were only introduced in 2013 while credit cards (VISA and MasterCard) were introduced in Nov. 2012. International audit firms are re-entering the market (KPMG, PwC).

30. Expanding financial inclusion and microfinance especially in rural areas is closely related with the stage of development of the formal financial sector. Currently several factors inhibit financial sector growth and outreach to the unbanked populations: (i) capped interest rates set by the Central Bank: 8% on deposit and 13% maximum loan rate. This effectively curtails their ability to lend profitably to low-income segments due to higher operating costs; (ii) deposits limited to 25 times paid-up capital limiting the ability of banks to mobilize more savings. As a result, most banks do not serve rural areas, which represent at least two-thirds of the population; (iii) liquidity ratio of 20% resulting in a shift to more profitable segments, such as larger trade and construction companies, and further limits credit access to smaller enterprises and micro-clients; (iv) collateral requirements preventing most of the population to access loan (although land use rights can now be mortgaged and could be sued to borrow against despite restrictions); (v) limited provision of insurance services; (vi) absence of diversification of banking products. The sector is largely confined to fixed deposits and one-year fixed-rate loans, and (vi) limited prospects to use innovative technology to increase access. Branchless banking is seen as the main opportunity to expand financial services in rural areas. Commercial banks have already rested and implemented mobile phone banking services (Yoma Bank, KBZ) although mainly focusing for the moment on urban areas. However, both banks plan to extensively cover rural areas by the horizon 2020.

31. The Myanmar Agricultural Development Bank (MADB) is owned and supervised by MoALI. It is virtually the only major source of institutional credit for small farmers. However, the MADB caters only to about a third of the farming population. MADB reportedly claims to have 1.4 million active borrowers for an outstanding loan portfolio of USD 84 million (average loan outstaying of USD 59) and

to mobilize savings and deposits from 1.7 million people for a total amount of USD 86.9 million (average deposit USD 50.5) in addition to subsidized resources extended by the Myanmar Economic Bank. Its NPL is reportedly to be on the high side (above 30%) and incurs annual financial losses due to subsidized interest rate. Although the law gives MADB a mandate to provide diversified financial services to a broad spectrum of borrowers, in practice, it provides loans only to farmers for agricultural production. As rice farmers have been given top priority, they received about 81.4% of total loans in 2009-10, while the remaining loans are divided among farmers growing oilseeds (10.4%), pulses (6.9%), maize (0.7%) and cotton (0.6%) (Table 15). With a loan portfolio concentrated uniquely in agriculture, primarily in rice cultivation, MADB has high covariant risk. Seasonal loans (monsoon, pre-monsoon and winter loans) make up the bulk of MADB's lending, are uncollateralized with only joint-liability from 5-10 group members. In principle, loan size is to be determined according to the borrower's demand and capacity to repay. In practice, because of MADB's limited funds, the amount can be as small as USD 25-50 per ha, compared to an estimated production cost of USD 250-475 per ha, leaving farmers filling the gap by borrowing from informal money lenders who often charge 10–20 per cent interest per month. Finally, insufficient loan duration combined with an absence of storage facilities force smallholders to sell their production at harvest when prices are at the lowest, while middle-men are getting the largest share of the value added.

32. As the new Bank Law is more favourable for commercial banks, commercial banks are now envisaging to enter this sector and finance rural areas and agriculture (Yoma Bank, KBZ Bank). Both commercial banks and microfinance institutions are still reluctant to enter the agriculture financing market because of the unfair competition with the MADB and its subsidized interest rate and operating costs as well as increasing NPL. However, this competition is limited in scale as MADB has insufficient resources to finance the whole agricultural sector. A Working Group has been established at Government level also including donors, financial institutions and regulatory institutions to analyze the future of the MADB (privatization, semi-privatization, supervision by the Central Bank) and its operations with the agriculture sector (subsidies or market-interest rate). Their long position in resources at both short and medium-term, the possibility to access additional resources (mobilization of savings/deposits through an aggressive campaign and donor-funded resources earmarked for SMEs development such as Yoma Bank and KBZ Bank with IFC), the ease of using land titles to secure a loan, and the capacity building of their staff through professional organizations with regards to risk management especially with the agriculture-related SMEs are favorable elements enabling commercial banks to play a more active role in the financing of agriculture activities in the near future.

33. Supervised by the Ministry of Cooperatives, the entire cooperative sector comprises of one apex, 20 unions, 461 federations, and 10 751 primary societies (as of December 2012). The Central Cooperative Society (CCS) is the apex in the sector. Under a newly received microfinance license, CCS also operates 46 MFIs of its own that function as village banks, covering seven states and regions. CCS provides seed money to the MFIs. In return, they provide loans ranging from USD 45 to USD 120 with a compulsory saving equivalent of 2.5% of the loan size. The interest rate for loans is 2.5% per month flat (roughly 60% APR) and 1.25% for savings. According to CCS, MFIs have 98 to 99% repayment rates because the loans typically have a 60-day duration and repayments are collected every day which make them highly impractical for agriculture financing. As of May 2012, CCS reported total capital of USD 0.15 million, 32 851 total members, total savings of USD 0.34 million, and total loan outstanding of USD 1.1 million. Financial cooperatives are organized under the Union of Savings and Credit Federation (tertiary level society), which, as of March 2012, had 41 savings and credit federations (secondary level societies) and 1 625 primary level societies. The Union does not have a microfinance license. It lends to the primary societies at a flat 2 percent interest rate per month. It also launched its own lending to individuals in June 2012. As a whole, the Union reported savings of USD 24.2 million and outstanding loans of USD 16.5 million (average loan outstanding of USD 34), with a total membership of 476 632. Among thousands of primary-level societies, the Microfinance Cooperatives (142), and the Agriculture Savings and Credit Cooperatives (896) are among the largest groups. The Microfinance Cooperatives have 44 329 members, with USD 1.3 million in savings and USD 2.3 million in loans. The Agriculture Savings and Credit Cooperatives

have 121 312 members, with USD 2.3 million in savings and USD 2.0 million in loans. The Cooperative Bank (CB Bank), a private bank with 25 branches, is closely associated with the cooperative system. It is owned by 4 500 shareholders, including 1 500 individuals and 3 000 cooperative societies. CB Bank lends to CCS, the union, and the primary societies. CB Bank has an ambitious expansion strategy and has received Central Bank approval to: (i) further expand its activity to become a full-fledged commercial banks not only dealing with cooperatives, and (ii) expand its branch network from the current 25 branches to 55 branches by the end of 2015. The cooperative movement has a mixed reputation due to poor governance, previous crisis and long history of government interference. In addition, loans extended by cooperatives are barely suitable for agriculture financing.

34. Before the ratification of the Microfinance Law in November 2011, only PACT UNDP was allowed to operate in Myanmar legally. All others operated without legal status, which essentially prevented them from developing or scaling up their microfinance programs. Since then, most international NGOs and NGOs have received or will soon receive their MFI license. The leading institutions (GRET, PACT, Save the Children, and World Vision) have reached over 467 000 active borrowers with an aggregate loan portfolio of over USD 63.3 million (average loan outstanding of USD 135.5); with approximately 80 percent of total outreach and portfolio is accounted for by PACT UNDP (only 2 NGOs/MFIs are deposit-taking). NGOs/MFIs are supervised by the Microfinance Supervisory Committee while MADB is part of the MoALI, cooperatives by the Ministry of Cooperatives and commercial banks by the Central Bank of Myanmar which was not long ago a department of the Ministry of Finance and Revenue. New entrants in the rural finance/microfinance field include: IFC supporting ACLEDA of Cambodia to open a microfinance bank and several green-field microfinance institutions sponsored by LIFT.

35. Sixty Specialized Agricultural Development Companies (SADC) provide value chain finance for rice production (a bundled package including technical assistance/capacity-building services, seeds, fertilizers, rice milling, sales contract in addition to cash and in-kind lending at 2 percent per month). They extend around USD 50 million in loans during each season, supporting about 200 000 farmers. SADCs, usually one in each township, are typically owned by a few Yangon companies with export experience and local farmers, traders, and millers in the respective township. An average borrower holds five to seven acres and receives a loan of USD 70 to USD 100 per acre, compared to the USD 50 per acre they can get from MADB. An uncollateralized group lending methodology is used. SADCs reported a 95% repayment rate over the past three years but last year's low prices for paddy and rice have largely contributed to a drastic reduction of SADCs' profit margin and increase of their default rate. Most SADCs have now reduced the magnitude of their operations or even closed.

36. The Livelihoods And Food Security Trust Fund (LIFT), a multi-donor trust fund, provides funding to several MFIs (UNDP/PACT, Save the Children, GRET). It works with the World Bank on the Financial Inclusion for National Development (FIND) project which will primarily support the Microfinance Supervisory Enterprise. Assistance will focus on three main areas: (i) institution building for microfinance supervision; (ii) capacity building for MSE staff to perform its supervisory functions and for microfinance lenders; and (iii) financial literacy and awareness. It will also work with UNCDF on the MicroLead project, and on the Making Access Possible diagnostic of Myanmar.

37. Farmers indebtedness constitutes a serious problem in Myanmar, and the number of landless farm households is increasing. Working capital for farmers is excessively expensive considering the limited loan size extended by MADB and the necessary recourse to other sources of financing that are unsustainable for agriculture financing. Bad harvests or low market prices can result in farmers selling their land to satisfy loan repayment, hence become casual laborers. In that respect, financial institutions especially commercial banks together with processing companies are now promoting contract farming which ensure a secured exit route for farmers' production. In addition, commercial banks are extending more and more loans against land titles (land users rights). Generally, agricultural land is valued by financial institutions at 10-15% of its market value, which varies depending on its access to road. With market prices ranging from USD 10,000 to USD 40,000 per

acre (lowland, upland, close or far from the road), land titles constitute a sufficient security for commercial bank to lend to farmers when combined with contract farming or outgrowers scheme arrangements. Several commercial banks (such as Yoma Bank and KBZ) have received funding from the International Finance Company (IFC) for financing SMEs in rural and urban areas. These commercial banks have already agreed to finance primary agriculture production through contract farming arrangements against land titles and an eventual complementary guarantee from the processing company. More affordable interest rate applied by commercial banks compared to MFIs will positively impact on the profitability of agriculture production and will also enable farmers to finance better quality input supply for his/her entire land.

38. **Policy, strategy and institutional context.** Emerging from 50 years of isolation, Myanmar has embarked on a comprehensive programme of political and economic reforms that aims to introduce elements of popular representation in the political sphere, foster economic growth and inclusive social development, improve the business environment, attract foreign investment and reduce poverty. The EU lifted its economic sanctions in April 2013 and the USA has suspended its bilateral sanctions. ASEAN is now fully re-engaged, and South-east Asian investment in the country is increasing rapidly. The major multilateral and bilateral institutions are starting to establish operations in the country.

39. Government's reform agenda is articulated around the adoption of an open market economy; improvement of socio-economic conditions and reduction of rural-urban gaps; protection of social and economic rights; development of infrastructure and delivery of basic services, including for ethnic groups; improvement of health and education standards; protection of human rights and freedoms; respect for the rule of law and an independent and transparent judiciary; respect for the role of media; good governance and public scrutiny of executive and legislative bodies; institutional capacity-building and human resource development; government's accountability, responsiveness and inclusiveness; and decentralization. Many of these policy priorities are likely to impact on the rural sector, particularly in terms of safeguarding fundamental rights, including those of farmers.

40. Serious lack of capacity in the public sector to implement policy decisions is a major constraint to the success of these social, economic and political reforms. Thus there is an urgent need to build capacity at all levels of governance, ranging from central government agencies to institutions at state, regional and township levels. There is also a need to translate policy decisions, such as the poverty alleviation and rural development action plan, into sectoral plans and strategies to be implemented by Government institutions. Development partners have helped Government to set up various Working Groups to assist with drafting and implementation of these policies, strategies, sectoral approaches, and development plans (IFAD is a core member of the Agriculture and Rural Development Sector Working Group). Other major constraints faced by the public sector include the lack of robust and up-to-date operating systems and procedures, and excessively centralized decision making processes.

41. The agriculture sector comprises four sub-sectors: crops, livestock, fisheries and forestry. There are seven principal agencies responsible for agricultural and rural development, of which three have a direct bearing on the agricultural sector<sup>24</sup>: (i) Ministry of Agriculture and Irrigation (MoALI) responsible for crops, irrigation, agricultural credit and mechanization; (ii) Ministry of Livestock, Fisheries and Rural Development (MoLFRD); (iii) Ministry of Environmental Conservation and Forestry (MoECAF). Following Myanmar's five decades of isolation, MoALI (like other Ministries) is widely assessed as being weak in terms of human capabilities, technical capacities, fiduciary processes, farmer outreach and budgetary allocations. Its experiences with participatory approaches involving poor communities, small farmers and landless tenants are limited. It has little exposure to effective project management and execution in compliance with international standards and the requirements of external partners; and its administrative processes are outdated. Its coordination capacities are minimal, and its eleven

---

<sup>24</sup> The other ministries operating in rural areas are the Ministries of Cooperatives, Home Affairs, Industries, and Border Areas.

departments<sup>25</sup> work in silos. Decision making lacks transparency and internal procedures are unclear. Monitoring is poor and data reporting is unreliable, resulting in inconsistent institutional actions.

42. The Nay Pyi Taw Accord for Effective Development Cooperation agreed between Government and Development Partners (in early 2013), promotes transparency, collaboration and local ownership and management of development efforts. The Accord establishes a coordination structure between Government and partners to ensure development assistance brings maximum benefits to Myanmar, by supporting the implementation of strategies defined by Myanmar.

43. **National Rural Poverty Reduction Strategy.** Although Myanmar does not have a poverty reduction strategy *per se*, the series of national development plans have served that purpose in support of Goal 1 (poverty reduction) of the Millennium Development Goals. Moreover, the Government has started to put in place a more coherent and coordinated approach to development; this includes the long term National Comprehensive Development Plan (NCDP) and the Framework for Economic and Social Reform (FESR). The FESR sets a direction for the continuing reform process in the country and articulates the broad goals of the reform process as well as its medium term objectives. It provides a bridge between reforms and Government's twenty-year NCDP, and focuses on a policy agenda for the next three years that will provide potential "quick wins" to be implemented to deliver tangible and sustainable benefits to the population. The NCDP, the FESR and the PARDAP thus provide the umbrella for the entire agricultural sector through the National Medium Term Priority Framework 2011-2014 (NMTPF) and the Country Programme Framework 2012-2016 (CPF) agreed by Government and FAO. The first priority is to increase agricultural production to ensure food security, which includes measures for poverty reduction, while the sixth is to improve rural livelihoods by helping communities to harness their physical, natural and human capital. The areas for action for the first priority outcome include ensuring food security in deficit regions through a number of measures including "*empowerment of farmers to control over resources, access to opportunities and improved governance*", promoting access to irrigation water and supporting sustainable livelihoods by expanding options for income and employment generation. Regrettably, the NMTPF and resulting CPF do not mention any targeting of assistance to disadvantaged groups.

44. The Government is a signatory to the Global Summit on the Millennium Declaration and has reiterated its commitment to reducing poverty to 16% by 2015, half the 2005 level. In this context, the PARDAP focuses on eight priority tasks: (i) agricultural production; (ii) livestock and fisheries; (iii) rural productivity and cottage industries; (iv) micro saving and credit enterprises; (v) rural cooperatives; (vi) rural socio-economy; (vii) rural energy; and (viii) environmental conservation. It targets investments in rural poverty reduction to meet the needs of the rural poor and landless, and aims to strengthen services, such as extension and research, that in the past showed limited responsiveness to farmers' needs. The PARDAP further guides the formulation of sectoral plans which will define explicit actions for tackling rural poverty and targeting disadvantaged groups. The strategic documents link national development plans and the reform agenda, and underpin the formulation of the *Fifth National Economic and Social Development Plan 2011/12-2015/16*; together these provide a vision for the country to become a peaceful, modern and developed nation. The immediate objectives set in this plan include: (i) infrastructure development; (ii) development of border areas; (iii) development of rural areas; (iv) poverty alleviation; (v) achieving MDGs 1 and 7; and, (vi) maintaining good economic foundations and financial conditions. This Plan, coordinated by the National Planning Department of MoNPED, will also guide the formulation of the rural development strategy and action plan by the Department of Rural Development of MOLFRD in coordination with other relevant agencies.

---

<sup>25</sup> Departments of Agricultural Planning, Agriculture; Irrigation, Agriculture Mechanization, Settlement and Land Records, Water Resources Utilization, Agricultural Research, Surveys; and the Myanmar Agricultural Development Bank, the Yezin Agricultural University, and Myanmar Industrial Crop Development Enterprise.



## Appendix 2: Poverty, targeting and gender

### I. The National Poverty Context

1. Myanmar adopted its Country Millennium Development Goals (CMDGs) in 2001 with a target of halving poverty by 2015. The Human Development Index (HDI) for the Republic of the Union of Myanmar is 0.498, placing Myanmar 149th out of 186 countries globally in terms of poverty in the 2013 Human Development Report (HDR). In 2011 with the launch of Myanmar's first Poverty Alleviation and Rural Development Action Plan there has been a renewed focus on poverty alleviation in the country. Since 2004 there has also been a more systematic monitoring of poverty with an Integrated Household Living Condition Assessment (IHLCA) carried out by UNDP in consultation with the Government in 2004-05 and in 2009-2010.

2. The IHLCA series provides a number of measures of poverty: (i) the food poverty line; (ii) the poverty line; (iii) the poverty gap index, which measures the intensity of poverty and (iv) the share of poorest 20% in consumption. The results indicate a general improvement in poverty levels between 2005 and 2010 in those living below the poverty line (from 32% to 26%) and the food poverty line (from 10% to 5%). The poverty gap ratio showed a reduction of 35% whilst the consumption share of the poorest quintile in national consumption increased from 11.2% to 12% between 2005 and 2010.

3. Rural poverty is largely a function of a lack of resource endowments. Small farm size is a correlate of poverty, which has remained quite stable since 2005 among consumption deciles. Landlessness is a significant phenomenon at 24% of those whose primary economic activity is agriculture and is much higher amongst poor households (34%). The LIFT Baseline Study (2012) of 4,000 households in 3 agro-ecological zones<sup>26</sup> found that some 50% of households nationally are landless - the proportion of landless varies from 26% in hilly areas to 72% in the delta/coastal areas. The 2010 Agriculture Census found that of those households with access to land, 5% of the landholdings owned less than 0.4ha, a decline of 47.6% in farm size since the 2003 Census. This suggests that these households are functionally landless although they may not be registered as landless in the 2010 Agricultural Census.

4. At least half of rural households depend on wage labour for all or part of their livelihoods. Landless farmers and farm workers, and families not engaged in agriculture fall into this category, but so do many land-poor families. Farmers reported that opportunities for wage labour, either in agriculture or in nearby towns, were scarce. The ability to migrate has put a floor under real wages and it appears that wage-earning opportunities may have declined as lower crop prices and "expensive" wages cause farmers to cut back on labour-intensive transplanting and weeding, even though this reduces yield. Farmers with larger landholdings reported that they planned to hire less labour as they reduced acreage or the intensity of cultivation. Significantly, virtually all farmers – even ones with larger holdings – said they would engage in wage employment if it were locally available at prevailing wage rates<sup>27</sup>.

5. In terms of demographic correlates, there was a significant association between poverty and household size: nationally poor households are larger (6.0) than non-poor households (4.7). The average household size, i.e., the number of individuals in a household, nationally is 5.2 with little difference in household size between rural areas and urban. In poor communities, both fertility and mortality are high; this is due to high levels of illiteracy, and lack of knowledge about health services, health care, and nutrition. The economic dependency ratio, i.e. the number of economic dependents compared to the number of economically active persons in the household, is 0.47 in rural areas at the national level. The IHLCA surveys found no significant difference in the economic dependency ratio of poor and non-poor households, suggesting that that low returns or low remuneration are much more

---

<sup>26</sup> LIFT Baseline Survey Results, July 2012.

<sup>27</sup> 2009 - "Assessment of the Myanmar Agricultural Economy" IDE, for the Harvard Kennedy School

important determinants of poverty than unemployment or low participation rates in the labour force. Education of the household head, especially literacy, is an important determinant of poverty; illiteracy rates for poor household heads were close to double those of non-poor household heads. More than twice as many female household heads were illiterate than male ones. Poor households also have lower access to education, with a net enrolment rate for children from poor households of 80.1%.

6. The rural-urban divide is prominent in Myanmar with nearly 70% of the total population and 85% of the poor located in rural areas, a trend similar to the focal states. The rural poor typically comprise the landless (overall between 5% and 53% of the rural population in different states) and those with access to small and marginal landholdings, usually below 5 acres.

7. Recent reviews of the agricultural sector and extensive anecdotal evidence question the extent of poverty reduction recorded in the latest IHLCA survey. The IHLCA itself notes *“in light of conflicting results, caution is urged in the interpretation of the data on poverty levels and trends in particular on the magnitude of the decline in poverty”*. In particular, the share of income spent on food has increased, the per capita rice production has dropped and the price of paddy and many pulses has fallen in real terms, diminishing the income of many farmers. In addition, many farmers are deeply in debt with a current debt burden that is often larger than their expected annual incomes. If they have high cost debts, many farmers use funds borrowed at lower interest rates to pay off the high-cost debt. Therefore the new loan is not fully used for inputs and the cash flow from the subsequent crop is reduced. The landless did not borrow for production but they do typically borrow for consumption. In short high levels of indebtedness characterise both Myanmar farmers and the rural sector; a recent analysis suggests that in fact Myanmar is facing “a crisis of insolvency and illiquidity.”<sup>28</sup>

8. In sum, the factors causing rural poverty are complex with a nuanced picture of some temporary gains for the landless through rising wages and migration but an overall decline in resource endowments, employment opportunities, production and high indebtedness preventing sustainable poverty reduction. The challenge is to establish means to balance the competing interests of small farmers and the landless and find a locally tailored mix of interventions to restructure farm debt combined with investments in rural and agricultural infrastructure and institutions. The decision on how to respond to these challenges represents not only an economic issue but also a policy issue on how to tackle competing interests and develop models that work. These issues have contributed to the targeting rationale of the project developed in this paper.

9. The main characteristics of poverty in Myanmar are presented in figure 1:

**Figure 1: Main Characteristics of Poverty in Myanmar**

<p><b>Who are the rural poor?</b></p> <ul style="list-style-type: none"> <li>➤ smallholders owning &lt; 2 acres of irrigated cultivable land and &lt; 5 acres of rainfed cultivable land;</li> <li>➤ sharecroppers or tenants;</li> <li>➤ landless households dependent on casual labor;</li> <li>➤ forest and mountainous households;</li> <li>➤ households with high dependency ratios (e.g. adult unable to work or disabled);</li> <li>➤ women-headed households;</li> <li>➤ young women and men living in extended households;</li> <li>➤ ex-combatants and internally displaced persons;</li> <li>➤ ethnic minorities;</li> <li>➤ households in conflict areas.</li> </ul>
<p><b>Where are the rural poor?</b></p> <ul style="list-style-type: none"> <li>➤ in rural areas with a greater ethnic group population, and in border states;</li> <li>➤ in rural areas of high population density and very small holdings;</li> <li>➤ concentrated in dispersed settlements with inadequate access to services;</li> <li>➤ in remote mountainous, hilly or forest areas;</li> <li>➤ often dependent on seasonal or long-term migration to urban areas or abroad.</li> </ul>
<p><b>Why are they poor?</b></p> <ul style="list-style-type: none"> <li>➤ high vulnerability to shocks: price volatility, climate change, sudden loss of land, disasters, conflicts;</li> <li>➤ inadequate access to knowledge and technology;</li> </ul>

<sup>28</sup> Myanmar Agriculture in 2011: Old Problems and New Challenges, Ash Centre, Harvard Kennedy School.



<ul style="list-style-type: none"> <li>➤ poor quality and limited/improper application of inputs;</li> <li>➤ very limited access to financial services;</li> <li>➤ lack of access to land, markets or employment opportunities;</li> <li>➤ limited access to local organizations;</li> <li>➤ social and ethnicity considerations;</li> <li>➤ absence of remitting family members.</li> </ul>
<p><b>What are their coping strategies?</b></p> <ul style="list-style-type: none"> <li>➤ out-migration (overseas; in-country);</li> <li>➤ high dependence on casual wage labor;</li> <li>➤ borrowing from relatives, local traders, pawnshops;</li> <li>➤ decapitalization.</li> </ul>

### Ethnic dimension of poverty

10. Myanmar is an ethnically diverse country. The largest and the most socio-economically well off ethnic group, Barmar, forms around 70% of the population in Myanmar. The remaining 30% is comprised of more than 65 different ethnic groups, officially recognized and clustered into seven "national races", with Kayin, Shan, Rakhine, among the largest ethnic communities. Altogether, there are over 135 ethnic groups speaking more than 100 different languages and dialects. Myanmar's diverse ethnic groups are unevenly distributed throughout the country. However, the Barmars, the dominant ethnic group, are the majority in the central lowlands while the ethnic minorities are the majority in the border States. The table below provides an overview of the different ethnic groups as percentage share of Myanmar's total population.

**Table 1: Officially designated ethnic groups in Myanmar**

Major group	Number of sub-nationalities	Percentage share of population (2003 estimates)
Kachin	12	1.5
Kayah	9	0.5
Kayin	11	6.4
Chin	52	2.1
Barmar	9	67.9
Mon		2.7
Rakhine	7	4.2
Shan	23	9.4
Others	Unspecified and foreign races	5.4

Source: Office of Strategic Studies, Ministry of Defence, 2010

11. The ethnic minority groups have been more decades marginalised and impoverished due to inequitable distribution of revenue from natural resources. Myanmar has been heavily dependent on natural resources and for decades this dependence has had negative socio-economic impact on the ethnic minority population<sup>29</sup>. The resource rich ethnic states have been the primary sites of resource extraction, and this has led to years of conflict between the government and ethnic minority groups.

12. While the data from 2010 estimates the national poverty headcount at 26%, rates are far higher among many of the ethnic minority groups<sup>30</sup>. It is noteworthy that three out of the four poorest areas are ethnic minority states. The incidence of poverty in Chin State alone is almost three times the national average. This suggests a vicious cycle whereby years of conflict have held back development feeding into a sense of relative deprivation.

13. The startling contrast between relatively benign conditions in the few urbanised areas, which are mostly occupied by ethnic Barmar communities, and in the outlying regions, which tend to be

<sup>29</sup> ADB, 2012, Myanmar in Transition: Opportunities and Challenges.

<sup>30</sup> Ministry of National Planning and Economic Development and UNDP, 2011, IHLCA-Poverty Profile

inhabited mainly by other ethnic groups, is evident. Yangon has an electrification rate of 67% while in rural areas the average ratio is only 16%. Poverty is twice as high in rural areas, which account for nearly 85% of total poverty. In the countryside 75% of children end their education during primary school whereas in urban areas 63% of primary-school children progress to secondary school<sup>31</sup>. These kinds of deprivation in rural areas inhabited mostly by ethnic minority communities have resulted in destabilising tensions in many states.

14. The military governments fought long running wars against ethnic armed groups struggling for self-determination and independence. The armed conflicts have stunted development in ethnic minority areas. These conflicts inflicted a heavy toll, both in terms of socio-economic deprivation and the creation of large refugee populations. Refugees International in January 2012 estimated that around 500,000 people are displaced by conflict in eastern Myanmar<sup>32</sup>. Approximately three million people have been forced to flee to neighbouring countries. Around 150,000 refugees from Myanmar live in camps on the Thailand-Myanmar border. However, ceasefire deals signed in late 2011 and early 2012 with rebels of the Kayin and Shan ethnic groups, the two states which are in focus of this project, suggested a new determination to end the long-running conflicts and presents opportunity to attract investment in development of these states.

### **Gender dimension of poverty**

15. In Myanmar women make up 50.3% of the total population. Myanmar has achieved gender parity in education with regard to enrolment ratios of girls and boys in primary and secondary education. Women in Myanmar enjoy equal rights in inheritance laws and equal marital property rights in the case of divorce. However, patriarchal cultural values related to women's roles and responsibilities still shape familial relationships, contribute to the gendered division of labour and limit women's participation in decision making at all levels. Gender-based violence, mostly against women, is widespread, particularly in conflict areas.

16. Nationally, 18.9% of households are female-headed households; this proportion is much higher in urban (25.1%) than rural areas (16.7%). In Myanmar, female-headship does not appear to be related to poverty. The proportion of poor households headed by women is slightly lower than the proportion of non-poor households headed by women (18.3% compared to 19.1%). Accordingly, poverty incidence for female-headed households (29%) is comparable to poverty incidence of male-headed households (30%).<sup>33</sup> Myanmar ranks 90 out of 186 countries in the 2012 Gender Inequality Index<sup>34</sup> with an index of 0.492, the first year for which it was possible to calculate such an index due to inadequate data. This slight reduction from the HDI value would reflect women's lower adult literacy rate of 86.4% compared to that for men of 93.9%, and lower estimated earned incomes than for men - women can expect to earn two-thirds of the income of men. The average gender gap in adult literacy for Myanmar is 6.2%, however the gap is largest in Mandalay (9.7%) followed by Magwe (9.2%).

17. Women in Myanmar have been prominent participants of the labour force in a broad sense and claim an equal share of education opportunities, with women being well represented in tertiary education institutions. However, women are largely employed in the agricultural sector and in low-status, low-skilled positions, pointing to the hierarchical nature of gender relations. Traditionally working in the home, the worsening economic situation had brought women into paid employment, while maintaining the same level of household responsibility.

18. In the rural areas women play an important role in a wide range of income generating activities and are primarily engaged in agriculture, informal sector and as migrant labourers in factories and as housekeepers in neighbouring countries. In agriculture women are equally involved in farm-based activities, as men. Moreover, women, more than men, are involved in home-based agricultural activities and small scale vegetable and livestock production. Women are generally unpaid family

---

<sup>31</sup> ADB, 2012, *Myanmar in Transition: Opportunities and Challenges*.

<sup>32</sup> Extracted from <http://refugeesinternational.org/where-we-work/asia/myanmar>

<sup>33</sup> *Poverty Profile 2007 IHLCA-I & 2011 IHLCA, Ministry of National Planning & Economic Development, and UNDP.*

<sup>34</sup> *Human Development Report, 2011. UNDP.*

workers balancing both home and economic activities. Although women in rural areas appear to have equal decision-making power in the household, women do not generally own productive assets such as land and many miss out on agriculture technology and extension work.

19. There is a distinct division of role between men and women. Women predominantly carry out rice transplanting and husking and livestock rearing. They are usually not involved in marketing of agricultural products. However, interaction of gender norms with other socio economic factors, such as economic status of households, opens up opportunities for relaxing gender norms. Traditional norms are much more relaxed for example in the landless and small farm households, where women are relatively more engaged in diversified economic activities. Increasingly women are also working as agricultural labourers or are migrating to neighbouring countries along with male family members. This trend has particularly led to the problem of abandoning agriculture as a livelihood option and there is an increasing lack of available agricultural labour in the rural areas.

## II. THE INSTITUTIONAL CONTEXT

20. Myanmar is a country in transition. The new Government that took up office in March 2011 has, in recognition that a key explanation for poverty in Myanmar is the policies and institutions that influence the livelihood strategies and options of the poor, set out a public policy agenda and a frank assessment of the problems facing the country<sup>35</sup>, in recognition that a key explanation for poverty in Myanmar is the policies and institutions that influence the livelihood strategies and options of the poor. One of the major constraints to the success of these reforms is a lack of institutional and technical capacity, particularly at the middle management and working levels and capacity to translate policy decisions into sectoral action plans and strategies. Evidence-based policies are required to support action plans to address the major constraints in the rural sector.

21. **Land policies.** In March 2012, the national legislature enacted a new Farmland Law<sup>36</sup> that set out amended rules for “the right to work farmland” through obtaining a Land Use Certificate (LUC) whilst retaining ownership of all land in the Government. The new law officially reintroduces the concept of private ownership, i.e. land tenure rights, which can now be sold, traded, or mortgaged. This is a positive step as land was previously traded illegally but openly on a black market with little transparency. However, the new law also removes some protections for farmers, such as allowing land to be repossessed if they fall into debt. Farmland management bodies – represented at all administrative levels – are given the power to scrutinise land use and the government retains the power to “revoke the right to use farmland” and ordain what crops shall be grown if these are deemed “beneficial to the State”.

22. Restrictions imposed on land use rights and strict conditions placed on the choice of crops poses several major challenges for farmer capacity to respond to market incentives and maximise income. The challenge for poverty reduction is how to support farmers to realise the full potential of their land without undue exposure to risk and indebtedness that could compromise their land rights.

23. **Planned farming practices.** The policy to maintain national food self-sufficiency and the right of the government to ordain what crops can be grown has resulted in government restrictions on farmer self-determination in choice of cropping pattern. As said, this reduces farmer capacity to respond to the market and to seek alternative and less water intensive crops, and farmer capacity to generate maximum income from irrigated land and results in a complex distribution of benefits that has implications for targeting, namely; while irrigated land is generally associated with reduced poverty, in the project area some upland farmers who have access to tube-wells are better-off as they are able to respond to the market, and their land does not get waterlogged in the monsoon and they can control water applications better.

---

<sup>35</sup> *Situation on Human Rights in Myanmar. Report of the Secretary General, UN General Assembly, A/66/150, August 2011.*

<sup>36</sup> *Source: Farmland Law enacted by the Pyidaungsu Hluttaw under Order No. 11/2012 dated 30 March.*

24. **Land consolidation in irrigated areas.** The productivity of land in irrigated areas is sub-optimal because of the highly fragmented pattern of small bunded basins with irregular shape at slightly different levels. This plot-to-plot system also results in sub-optimal use of agricultural inputs (pesticides and fertilizers) regardless of the level of inputs used.

25. Recognising these constraints the Government has supported some agricultural infrastructure investment and land consolidation initiatives in which the land is levelled, the irrigation structure is upgraded and the land is consolidated into regular bunded plots. This procedure, however, requires some farmers to contribute parts of their land to the infrastructure works and new land titles to be issued to farmers for the newly created land plots. Whilst the collective benefits of this procedure are considerable the process is contentious because it requires a redefinition of title and plots. The previous Government has carried out land consolidation but it is not clear that farmers were able to fully express their reservations and priorities. There is clear expressed interest in agricultural infrastructure investment and land consolidation as well as related concerns: sale or expropriation of land to be developed; Reluctance to exchange the location of their plots after levelling; Having to allocate land to the infrastructure works; Requested evidence that the productivity would increase; and that mechanisation would decrease labour opportunities.

26. **Irrigation systems and Water User Groups.** Both the Irrigation Department (ID) and the Water Resources Utilization Department (WRUD) are responsible for irrigation, including collecting water taxes (from ID to SLRD), without clarity of land titles. The ID is responsible for constructing and maintaining irrigation facilities down to the tertiary level, while Water Users' Groups (WUGs) are responsible for building field ditches and for operations and maintenance (O&M) of the latter as well as of tertiary canals. The WRUD is responsible for supplying irrigation by pumping water from rivers, streams and groundwater sources.

27. There is currently no method or institutional framework for agricultural investment combined with land consolidation that is participatory and inclusive. There is still no policy framework that sets out the rights and obligations of irrigation stakeholders. The WUG are currently informal groups that are largely self-formed to manage water along tertiary canals. In the case of complaints members usually approach the field staff of the ID as individuals, there is no system of formal sanctions and rules that govern the groups. A farmer-driven approach that is based on participatory and service-oriented principles would make land consolidation and modernisation a real option for the existing irrigation schemes.

28. There is an obvious need to synergize farmer-agency relationships in irrigation, based on their complementary roles in system management and mutual accountability<sup>37</sup>. An important component of this is capacity building and training of WUGs and farmers. Current constraints are the lack of an enabling environment, which normally requires: (i) a stakeholder dialogue and consensus building process; (ii) an enabling legal framework in which the legal status, membership, rights and responsibilities of members are clearly stipulated; and (iii) a capacity building and support programme.

29. **Policy on ethnic minority communities.** Due to the prolonged insurgency, ethnic minorities inhabiting the border States of Myanmar have received minimal attention and development support from the government. To alleviate their situation, the government in 1994 established the Ministry of Progress of Border Areas and National Races and Development Affairs. As recently as 2011, the ministry was reorganized as the Ministry of Border Affairs. The Department of Progress of Border Areas and National Races under the ministry has been in charge of designing and implementing development projects that focus on economic infrastructure such as roads and bridges; energy; construction and telecommunications; and social infrastructure such as education and health. A 30 year Master Plan for the development of ethnic minorities, referred to the government as "national races", in the border areas has been drawn up for 2000-2030. The plan is currently under implementation under the 5 year short term phase from 2012-2016. The plan is also being supported

---

<sup>37</sup> *Review of access to, and management of, water resources in the CDZ, commissioned by the Livelihoods and Food Security Trust Fund (LIFT) to the International Water Resources Institute (January - June, 2013)*

by a range of external development assistance, including by UN agencies, bilateral and multilateral partners. Since 2011, a total of 16 projects, worth USD 264 million, are in implementation. The primary focus of such project have been the development of rural infrastructure. JICA is currently funding the development of a comprehensive plan for resettlement of internally displaced persons in Kayin state and could be a potential partner in the ESAP project.

30. Despite the implementation of the Master Plan, progress in many areas has been slow. In addition, the development of self-administered zones, as presented in the National Convention does not appear to fulfil the needs of the ethnic minorities. On the surface, these self-administered zones would grant fuller autonomy to certain minorities. Yet, the government has proposed that a self-administered zone must have at least two townships with one distinct racial or ethnic group holding a majority in each township and comprising at least half of the population of the total township. Thus, no ethnic group with its own state can qualify for self-administration in another state. Moreover, even if local autonomy is granted to the ethnic minorities in self-administered zones, their power at the national level will likely be limited. However, it is an important step towards the progression to peace.

31. **Gender policies and institutions.** Buddhist customary law and the 2008 Constitution provide equal rights to women and men. However women are not well represented in the political and higher level administrative sphere outside of the traditional areas of social services, health and education. At the local levels (districts, townships, villages), there were few women representatives, especially in the key decision-making bodies. The prevailing cultural disposition is towards a stereotypical gender division of roles with women closely associated with domestic activities, despite the fact that they are quite dominant in decision-making and often have ownership of assets. The five-year National Plans for economic and social development have not adequately addressed the issue of gender inequality and there has been limited attention to the disproportionate burden of poverty and militarisation that falls on women. In addition, systems for collecting sex-disaggregated data and monitoring women's welfare and gender are poorly developed and narrowly focused on reproductive functions.

32. There has been some progress in recent years to mainstream gender. The Department of Social Welfare is the focal point for gender and in 2011 prepared a "National Plan of Action for the Advancement of Women 2011-2015". A key objective is to see women play a greater part in current decentralisation reforms in order to play a greater role in decision-making at the local level as well as in productive sectors, such as agriculture or business. The Myanmar National Committee for Women's Affairs (MNCWA) is a national mechanism for the promotion of women's rights, a UN Gender Theme Group (GTG) was formed in 2009 to mainstream gender in the humanitarian and development interventions and a Gender Equality Network (GEN) is now a leading network of civil society, national and international non-government organizations (I/NGOs), UN agencies and technical resource persons on gender issues. Further, the Women Organizations Network of Myanmar (WON) was formed in 2008 to coordinate local and national women groups and organizations and now has a network of over 29 local women groups and organizations.

33. The experience of gender integration in rural and livelihood projects in Myanmar overall has been generally positive. In particular, women are the main recipients in many micro-finance schemes aimed at supporting income generation, such as those managed by PACT. Findings from design mission discussions are that women's groups are effective and established gender roles can be challenged to enable women to have greater access to and control over resources. Women should be included in the role of extension agents.

34. **Constraints and opportunities in community-led development.** The cultural homogeneity, community spirit and tradition of mutual help that are widely encountered in Myanmar communities are major strengths for community development. The existence of a number of social and welfare groups operating at community level also provides a background from which to build in the future. However, as said, there is little experience of collective action around production and economic development, to be developed gradually.

### III. RESOURCES AND LIVELIHOOD STRATEGIES OF THE POOR IN THE PROJECT AREA

35. Based on Government-IFAD dialogue at central and state levels, the project area consists of selected areas of Kayin and Shan States in the Eastern part of Myanmar. Although Kayin has a poverty rate lower than the national average, the mission found high concentration of poor households in the identified mission sites. On the other hand, Shan State (south) is one of the poorest states in Myanmar. Both states have a high rate of out-migration of population of productive age. This is resulting in ageing of farming population, labour shortage and consequent increase in labour costs and rising trend of subsistence farming. The site selection criteria has been based on potential for rapid agricultural and agro-forestry development, high financial returns, environmental benefits, irrigation and drainage potential, agribusiness linkage opportunities, rural employment prospects, and prevailing peace and security conditions.

36. This section looks in more details at the poverty context, resources and livelihood strategies of the poor in the project areas in Kayin and Southern Shan states.

#### Kayin and Shan in the regional context

37. Both Kayin and Shan (South) are located in south-eastern Myanmar. They are both border states sharing a long border with Thailand. On most social indicators Kayin State fares comparable to, if not better than, the national average. The available primary data and secondary sources suggest that Kayin State faces an extensive array of socio-economic challenges as it embarks on a new era of peace building, including limited infrastructure and a fractured economy, owing not only to decades of conflict and displacement, but the division of territory between the government and several non-state actors. On the other hand Shan State is endowed with vast reserves of timber, coal, metals and precious stones. It is famous for its garden produce as the temperate climate lends itself to growing a variety of fruits and vegetables. However, years of civil and political strife, have adversely affected socio-economic development in the State despite the tremendous potential. Now home to five of the six self-administered areas in the country, and with continued political instability in some parts, vast areas in the State remain un-reached by essential public services and household-based data collection exercises alike. It is therefore highly plausible that the socio-economic situation may actually be worse than indicated by available data. Shan State has one of the highest poverty incidence in Myanmar.

38. Tables 2 and 3 below provide a disaggregated overview of rural and urban poverty and food poverty by region<sup>38</sup>. Table 2 shows that Kayin State scores significantly below the average on the poverty profile (17.5 in rural areas) and Southern Shan state, scores slightly above the average in the rural areas. Whereas, with respect to food poverty profile, Table 3 shows that Kayin State scores significantly below the average (2.1 in rural areas) and Southern Shan State scores significantly above the average in the rural areas (5.6).

**Table 2: Poverty Profile**

State, Region and Union	Urban	Rural	Total
Kachin	23.4	30.6	28.6
Kaya	2.3	16.3	11.4
<b>Kayin</b>	<b>16.8</b>	<b>17.5</b>	<b>17.4</b>
Chin	52.1	80	73.3

**Table 3: Food Poverty Profile**

State, Region and Union	Urban	Rural	Total
Kachin	2.5	5	4.3
Kaya	0	1.9	1.2
<b>Kayin</b>	<b>0</b>	<b>2.1</b>	<b>1.7</b>
Chin	6.4	30.8	25

<sup>38</sup> Availability of data on a number of social and economic issues is a major constraint in Myanmar. Some of the data quoted in this working paper is derived from surveys by international donor agencies or INGOs. The Government does gather data routinely on social and economic issues, published annually in the Statistical Yearbook. However, much of this data is out-dated. Sex disaggregated data and data on income levels of the various ethnic groups was particularly hard to come by.

Sagaing	16	14.9	15.1
Tanintharyi	16.7	37.5	32.6
Bago	19	18.2	18.3
- Bago (E)	20.9	20.1	20.2
- Bago (W)	15.6	15.9	15.9
Magwe	15.8	28.2	27
Mandalay	14.1	31.6	26.6
Mon	17.8	16	16.3
Rakhine	22.1	49.1	43.5
Yangon	11.9	28.7	16.1
Shan	14.1	39.2	33.1
- Shan (S)	<b>8.3</b>	<b>31.2</b>	<b>25.2</b>
- Shan (N)	16.3	43.1	37.4
- Shan (E)	28.6	52.3	46.4
Ayeyardwady	23.1	33.9	32.2
Union	15.7	29.2	25.6

(IHLCA, 2010)

Sagaing	2.5	1.1	1.3
Tanintharyi	4.5	11.1	9.6
Bago	3.4	1.4	1.7
- Bago (E)	4.9	2.4	2.8
- Bago (W)	0.7	0.3	0.3
Magwe	2.1	3.8	3.6
Mandalay	2.3	6.5	5.3
Mon	2.4	3.8	3.6
Rakhine	4.4	11.5	10
Yangon	1.6	4.8	2.4
Shan	3.5	10.8	9
- Shan (S)	<b>3.6</b>	<b>9.8</b>	<b>8.2</b>
- Shan (N)	3.4	11.6	9.9
- Shan (E)	3.5	10.9	9.1
Ayeyardwady	3.8	6.5	6.7
Union	2.5	5.6	4.8

(IHLCA, 2010)

39. Poverty characteristics in Kayin and Shan State differ significantly. As evident from the tables above and Table 3 below, the poorest states, such as Shan (East and North), have much higher levels of poverty and social deprivation than other states such as Kayin. There is also a significant difference in their contribution to overall national poverty, however this could be explained by the fact that the population in the poorest areas tends to be lower.

**Table 4: Contribution to National Poverty and Food Poverty**

Poverty Incidence (%)	Poverty Intensity (%)	Poverty Severity (%)	Food Poverty Incidence (%)	Food Poverty Intensity (%)	Food Poverty Severity (%)
<b>1.9</b>	<b>1.3</b>	<b>1</b>	<b>1</b>	<b>0.6</b>	<b>0.3</b>
2.7	2.6	2.6	3.2	2.4	2.2
8.1	7.1	6.6	6.5	6.6	5.6
<b>10.6</b>	<b>12</b>	<b>12.7</b>	<b>15.4</b>	<b>14.2</b>	<b>11.1</b>
<b>3.6</b>	<b>4.2</b>	<b>4.8</b>	<b>6.2</b>	<b>7.1</b>	<b>5.4</b>
<b>5.1</b>	<b>6</b>	<b>6.2</b>	<b>7.2</b>	<b>6</b>	<b>5</b>
<b>1.9</b>	<b>1.9</b>	<b>1.7</b>	<b>2</b>	<b>1.2</b>	<b>0.7</b>

40. It is important to understand rural poverty characteristics in the two states. The following sections take a closer look at the socio-demographic characteristics of the two states. As mentioned earlier, data in Myanmar is seriously flawed. Poverty analysis is hard to individualise. *The IHLCA series and the 2010 Agricultural Census* do not have disaggregated data for all townships and, as already noted, there is no social and economic data collected by the townships themselves<sup>39</sup>. Therefore, the following section draws on what was made available to the design team by the local administration and what was observed in the field in order to present a socio-demographic analysis of the project areas.

<sup>39</sup> The township administration collects data mainly on items that can be counted not correlated.

## Socio economic condition in project areas

41. In consultation with the Kayin State Government, 11 irrigation sites have been initially selected covering three townships (Hpa-an, Hlain Bwe and Kaukarate). In addition fifty villages in Laketho sub-township (Thandaunggyi township), in the mountain of Northern Kayin, have been identified for agroforestry development. In Shan State, the project will focus on 2 irrigated sites and upland area of their respective watersheds: Ho-Pong valley (Hopong, Taunggyi and Siseine townships) and Hekke irrigation scheme (Taunggyi township).

42. The four townships of Kayin State selected for the project, are inhabited approximately by 1,044,300 inhabitants, of which 85% live in rural areas. In Shan, the four selected townships are inhabited by 600,214 inhabitants, of which 60% live in rural areas. Based on the township-level data provided by the state MoALI in Kayin and Shan States, the presently identified project command areas consists of around 20,385 households that are farming on irrigated lowland; 135,372 households that are cultivating on rainfed upland and 13,013 landless households. Around 6,160 households are cultivating in the selected forest areas identified for agroforestry development in Kayin state.

**Table 5: Command area of proposed project sites in Kayin and Shan States**

Sites	States	Command area (acres)	Project area (acres)	Tot active pop (command area)	Tot HH (command area)	No. HH (direct beneficiaries)
Irrigated lowland	Kayin	19.385	11.200	71.930	13.684	7.134
	Shan	38.926	23.926	71.443	13.251	13.250
<i>Total</i>		<i>58.311</i>	<i>35.126</i>	<i>143.373</i>	<i>26.935</i>	<i>20.384</i>
Upland	Kayin	317.640	63.530	539.940	117.380	13.810
	Shan	164.360	40.000	157.630	31.526	7.680
<i>Total</i>		<i>482.000</i>	<i>103.530</i>	<i>697.570</i>	<i>148.906</i>	<i>21.490</i>
Forest areas	Kayin	25.135	25.135	15.178	3.296	3.296
<b>Grand total</b>		<b>565.446</b>	<b>163.791</b>	<b>856.121</b>	<b>179.137</b>	<b>45.170</b>

43. In the project areas, as in the rest of rural Myanmar, farm size and landlessness is a correlate of poverty, which has remained stable since 2005 among the consumption deciles. Therefore, for this report the poverty categories presented below are based on size of land holdings, ranging from large to medium to small farmers to landless. Landlessness indeed is a significant phenomenon, with about 24% nationally of those whose primary economic activity is agriculture being landless. It is much higher among poor than non-poor households at 34% and 19% respectively. Many of the landless are usually employed as casual workers in agriculture. According to IHLCA findings, on an average, landless rate in agriculture in Kayin and Shan States stand at 15 and 7.4 per cent respectively. On the basis of the data provided by the township officials and information collected from meetings with the community, the table below provides an overview of the project area in Shan and Kayin:

**Table 6: Selected socio-economic indicators in project area and Shan and Kayin States**

State	Better off (>10 acres)	Moderate (5-10 acres)	Poor (1-5 acres)	Very Poor (0-1 acres/landless)	Total
KAYIN	6%	12%	29%	53%	100%
Avg. landholding (acres)	15	7	2.45	<1 acre or landless	5.2 acres (Avg. land holding size)
SHAN	12%	28%	33%	27%	100%



Avg. landholding size (acres)	13	6	2.5	<1 acre or landless	3.5 acres (Avg. land holding size)
-------------------------------	----	---	-----	---------------------	------------------------------------

Source: Mission findings and IHLCA survey 2010

44. In the project areas in Shan and Kayin states, majority of households belong to the moderate and poor category. In Shan State around 61% of households and in Kayin State almost 41% of the households own from 1 acre to 10 acres of land. On a weighted average, in the project areas of both states, 45,5% are very poor, while 30,2% are poor and 16,6% of HHs are moderately better off. However, it should be highlighted that the households with moderate size landholding do not represent better livelihood conditions. A survey of annual income of the households in the project area reveals that while the annual income of very poor and poor categories of households were found to be significantly below the poverty line of MMK 376,151<sup>40</sup>, even the moderate category of households were well below the poverty line and the better-off households (7%), although above the poverty line, is vulnerable to slipping back to poverty through natural and economic shocks.

**Table 7: Poverty Stratification of Households in Project Area**

	Kayin		Shan		Total	
Total population	1.044.300		600.214			
% of population in rural areas	85%		60%			
Rural population	887.655		360.128		1.247.783	
Better off	6%	53.259	12%	43.215	96.475	<b>7,7%</b>
Moderate	12%	106.519	28%	100.836	207.355	<b>16,6%</b>
Poor	29%	257.420	33%	118.842	376.262	<b>30,2%</b>
Very poor	53%	470.457	27%	97.235	567.692	<b>45,5%</b>

45. A significant majority of households in the project areas belong to ethnic minority groups. In Kayin state the dominant ethnicity is Kayin (also known as Karen). Most Kayin people are subsistence farmers, living in small mountain villages, and growing rice and vegetables and raising animals. Kayin families in lowlands also practice farming and animal raising. Most of the Kayin households both in lowlands and uplands have ancestral lands, although a significant portion of them own less than an acre. At least one member in each household is a migrant in Thailand. There is an increasing trend of HHs with grandparents and grandchildren, which both parents working in Thailand. There are Buddhist monasteries in most Kayin villages, and the monastery is the centre of community life. Kayin monks are religious leaders but they are often also community leaders, school teachers and human rights activists.

46. In Shan (south) State, the project areas are mostly inhabited by the Shan ethnic community. Agriculture is the main source of livelihood of the Shan people. Rice is the major cash and also grown for consumption of the family. Other crops grown by the Shan people include tea, soybeans, peanuts, coffee, and cotton. Traditionally, rice is grown in irrigated fields. However, farmers sometimes resort to "slash and burn" cultivation to grow hill rice. Farmers raise cattle and buffalo, not only for meat, but to draw plows. Almost all Shan HHs have ancestral land. Like in the case of the Kayin households, in Shan too almost all households have at least one family member migrating to Thailand for work.

47. Although the majority of the population in the project areas of the two states belong to the Shan and Kayin ethnic communities respectively, there is significant presence of households belonging to other ethnic groups such as Paoh, Inn and Mon in the project areas in both states (as presented in the table below).

<sup>40</sup> As established by IHLCA Survey, 2010.  
[http://www.mm.undp.org/content/dam/myanmar/docs/FA1MMRPovertyProfile\\_Eng.pdf](http://www.mm.undp.org/content/dam/myanmar/docs/FA1MMRPovertyProfile_Eng.pdf)

48. The proportion of households headed by women in the project areas is slightly lower than the national average of 18.9% as is the case with rest of Myanmar, in the project areas female headship did not appear to be related to poverty. Female-headed households were mostly found to be those of widows and wives of migrant labourers.

**Table 8: Ethnic distribution in the project area**

Project area	Shan State	Kayin State
<b>Better off</b>	Shan, Paoh, Chinese, Inn	Kayin, Mon and Paoh
<b>Moderate</b>	Shan and Inn	Kayin, Mon and Paoh
<b>Poor</b>	Paoh and Inn	Kayin and Mon
<b>Very poor</b>	Shan and Kachin	Kayin and Mon

### Assets and ownership in project area

49. Rural poverty in Kayin and Shan, as in most of Myanmar, is largely a function of lack of resource endowments. Land remains the most important resource endowment of the rural poor. On irrigated and lowland areas, paddy is the dominant crop in the monsoon period, followed by garlic and pulses in the winter. Where irrigation is not available, summer paddy and garlic are the only crops grown. In the upland region maize, rubber and orchards are the prevalent crops. From data made available and collected in the field, the average landholding in the project areas in Shan and Kayin States is distributed among the wealth categories as follows: better off have an average landholding of 13 acres and 15 acres in Shan and Kayin respectively; moderate landholding size is on an average 6 and 7 acres respectively, the poor households have an average landholding of 2.5 and 2.45 acres respectively in the two states. The landholding size is higher in Kayin State than in Shan State.

50. IFAD's primary target group consists of 30.2% of households below the poverty line, 16.6% moderately better off families whose annual income is still below the national poverty line. This group has a rapidly increasing reliance on livelihood strategies based on labour, migration, trade and other non-agricultural income. There is a high dependence on remittances of all poverty groups, in both Kayin and Shan states (comparatively more in Kayin than in Shan).

51. The other main differences in resource endowment that distinguishes the poorer households are as follows:

- Education levels differed significantly between households. Amongst the better-off households 75% and 25% of households had completed, respectively, primary and secondary school, this percentage declines with increasing poverty, amongst the very poor it is significantly lower.
- The percentage of female-headed households was highest in the very poor group.
- Whilst there are no large concentrations of livestock in the project areas, ownership declines with increasing poverty; the very poor do not own any draught cattle at all and have at the most a pig and a few chickens.
- The ownership of productive assets and physical capital declines with increasing poverty. The better-off and moderate categories own basic agricultural equipment as well as transport, the poor and very poor have a *bicycle and carts* at the most.
- The poor categories have less income and less access to credit.

52. Table 9 below presents an overview of the distribution of assets and ownership amongst the different wealth categories.

**Table 9: Indicative Characteristics of Project Area Households<sup>41</sup>**

Main features	Better off (>10 acres)	Moderate (5-10 acres)	Poor (< 5 acres)	Very Poor
Housing, water and sanitation.	All HHs are with corrugated iron sheets roofing and all the household access to sanitary toilet (fly proof latrine).	Most HHs are with corrugated iron sheets roofing and almost all HH have access to sanitary toilet (fly proof latrine).	Over half of the HHs are with corrugated iron sheets roofing and most of the HH have access to / share a basic sanitary toilet (latrine).	Few HHs (one third) are with corrugated iron sheets roofing and most HH (75%) have access to / share a very basic sanitary toilet (pit latrines) (outside).
Cropping pattern	Shan: 2 crops Kayin: 2 crops	Shan: 2 crops Kayin: 1 crops	Shan 2 crops Kayin: 1 crop	Unskilled, casual farm/off farm labour
Average livestock holding	Typically own 1-3 draught cattle, one pig and three chickens	Typically own 1 draught cattle, half of the HHs own one pig and most households own three chickens	Typically own 1 draught cattle, half of the HHs own one pig and most households own three chickens	Typically do not own cattle, one third of the HHs own one pig and most households has one chicken
Household assets	Mostly own motor cycle, hand tractor, water pump, thresher/crusher and cart	Some farmers own motor cycle, hand tractor, water pump, and cart	Some farmers own cycle and cart	Few households own bicycle
Education	Most HH heads completed primary (75%) and secondary school (25%) respectively	Half of HH heads completed primary and secondary school (25%) respectively	Less than half of HH heads completed primary and very few completed secondary school (10%) respectively	Few HH head completed primary (25%) and very few completed secondary school (<10%) respectively

### Livelihood Strategies and Options of the Poor in Project Areas

53. Data collected from the communities in the project area indicate that that the average income of 92% of households in the project area is below the national poverty line of MMK 376,151. Taking together the income from agriculture and agricultural labour, the total income from agriculture for the moderate and poor households barely takes them to the poverty line threshold. Caution is urged in the interpretation of the data on poverty levels and trends in particular on the magnitude of the decline in poverty. In particular, the per capita rice production has dropped and the price of paddy and many pulses has fallen in real terms, diminishing the income of many farmers, as confirmed by the IHCLA.

54. The very poor households in the project areas are composed of both the landless and the marginal farmers who own less than an acre of land. They mostly depend on remittances and employment as agricultural labour. The marginal farmers cultivate mostly for subsistence, while others do not cultivate at all and rely on income from casual labour and from remittances as their primary source of livelihood. They supplement their income with livestock farming. However, they do not own any draught cattle at all and have at the most a pig and a few chickens. This situation is similar to the landless households. Most landless households in the project area have indicated that they do not own land either because they have migrated from other states in the search of employment or because they have sold their land as they were not able to afford the inputs to cultivate the land anymore.

55. The project's main target group, households that own from 1-5 acres of land, along with the moderate households with 5-10 acres of land, are increasingly relying on livelihood strategies based on labour, migration, trade and other non-agricultural income. Income from crop selling is on an

<sup>41</sup> Note: In Kayin State most groups seem to be better off, compared to southern Shan state, both in terms of income, housing water and sanitation, livestock holding, and household assets.

average MMK 60,000 per year, and has to be supplemented with income from casual labour, livestock farming and remittances from migrating family members.

56. The better off households primary source of livelihood is agriculture. They are usually able to farm two crop cycles and hire agricultural labour. They own draught animals and also farm livestock, although that is not their primary source of income.

57. As already highlighted in earlier sections, there is an increasing trend of family members migrating to Thailand to secure a livelihood. The mission was informed by villages communities that 90% of young people, starting from the age of 20-22 years, migrate to Thailand for work. They are mostly long-term migrants and few migrate seasonally. Migrants in Thailand work in service sectors like hotels, construction, in garment manufacturing units as well as agricultural labour in high value crops such as flowers, fruits. They also work in the fisheries sector. They accumulate substantial skills, however, even if they want to come back to Myanmar, they have few employment opportunities that would present secured livelihoods. This is consequently leading to an ageing agriculture population and there is uncertainty among villagers if they will be able to keep their land when they are unable to work in the field anymore.

58. The tables below provide an overview of annual livelihood strategies of households in project area according to the landholding-size groups.

<b>Multiple Sources of Income per Year (Kyat) - KAYIN - LOWLAND</b>				
<b>Sources of Income</b>	<b>Better Off &gt;10Acres</b>	<b>Moderate &gt;5&lt;10Acres</b>	<b>Poor &lt;5&gt;1</b>	<b>Very Poor &lt;1/Landless</b>
Crop Selling	237.000	145.000	125.000	-
On-Farm Labor	21.000	42.000	56.000	-
Livestock Selling	94.000	84.000	10.000	-
Off-Farm Labor		-	-	20.000
Employee/Casual Job	24.000	-	18.750	180.000
Trading Sale	13.000	-	32.140	43.210
Remittances	15.000	19.000	29.000	25.000
<b>Total</b>	<b>404.000</b>	<b>290.000</b>	<b>270.890</b>	<b>268.210</b>

<b>Multiple Sources of Income per Year (Kyat) - KAYIN - UPLAND</b>				
<b>Sources of Income</b>	<b>Better Off &gt;10Acres</b>	<b>Moderate &gt;5&lt;10Acres</b>	<b>Poor &lt;5&gt;1</b>	<b>Very Poor &lt;1/Landless</b>
Crop Selling	225.630	109.710	59.202	3.933
On-Farm Labor	21.000	32.400	47.600	76.430
Livestock Selling	25.000	75.000	100.000	65.000
Trading Sale	12.190	23.560	32.130	43.540
<b>Total</b>	<b>283.820</b>	<b>240.670</b>	<b>238.932</b>	<b>188.903</b>

<b>Multiple Sources of Income per Year (Kyat) - SHAN - LOWLAND</b>				
<b>Sources of Income</b>	<b>Better Off &gt;10Acres</b>	<b>Moderate &gt;5&lt;10Acres</b>	<b>Poor &lt;5&gt;1</b>	<b>Very Poor &lt;1/Landless</b>
Crop Selling	201.700	108.900	65.180	10.070
On-Farm Labor	23.000	12.000	5.400	2.700
Livestock Selling	12.000	24.000	24.000	30.000
Employee/Casual Job	88.000	104.000	120.000	168.000

Trading Sale		3.500	6.000	15.000
Remittances	30.000	50.000	60.000	60.000
<b>Total</b>	<b>354.700</b>	<b>302.400</b>	<b>280.580</b>	<b>285.770</b>

<b>Multiple Sources of Income per Year (Kyat) - SHAN - UPLAND</b>				
<b>Sources of Income</b>	<b>Better Off &gt;10Acres</b>	<b>Moderate &gt;5&lt;10Acres</b>	<b>Poor &lt;5&gt;1</b>	<b>Very Poor &lt;1/Landless</b>
Crop Selling	128.000	86.400	60.800	19.200
On-Farm Labor	11.210	23.400	38.140	48.970
Livestock Selling	62.000	38.800	37.400	33.040
Employee/Casual Job	24.000	64.000	50.000	64.000
Trading Sale	22.000	28.000	42.000	54.000
<b>Total</b>	<b>247.210</b>	<b>240.600</b>	<b>228.340</b>	<b>219.210</b>

59. In addition, farmers reported that opportunities for wage labour were scarce<sup>42</sup>. The ability to migrate has put a floor under real wages and it appears that wage-earning opportunities may have declined as lower crop prices and “expensive” wages cause farmers to cut back on labour-intensive transplanting and weeding. Large farmers plan to hire less labour as they increasingly reduce acreage farmed or the intensity of cultivation. Most farmers in Kayin said they would engage in wage employment if it were locally available at affordable wage rates<sup>43</sup>. Therefore, poor households are becoming increasingly dependent on migration as a livelihood strategy.

60. As for the landless households, the main source of income are on-farm labour opportunities in combination with off-farm labour in the construction and services sectors as well as seasonal migration during the dry season. The traditional interdependence between the landed and the landless that provided a solid subsistence for the landless is under pressure; eg for (i) decreasing land sizes and the growing number of landless; (ii) decreasing opportunities in, rising agricultural wages and slow mechanisation has resulted in many farmers either choosing less labour intensive production or, for wealthier households, mechanisation. Seasonal migration remains one of the main options, but one that remains a challenge for households with limitations in human capital (female-headed, limited education, high dependency ratio and health concerns).

61. With regard to income from agriculture, the irrigated lowlands provide the main source of agricultural income for all poverty groups, whether from crop sales or agricultural labour. The average land size in irrigated areas is about 3 acres. The irrigation systems are highly inefficient, estimated at only a half to a third of potential, because of a near exclusive focus on providing irrigation for rice. In addition, irrigation is operated on a plot-to-plot water and drainage distribution system that is controlled by upstream users by temporarily lowering and raising the bunds. The current irrigation system, coupled with the policy requirement to grow paddy in the monsoon, the increasing policy support for high-input hybrid varieties and mechanisation, reduces the potential returns from irrigated lowlands, which are still the main source of income for the poor. Rice-growers are not sufficiently aware of lower input technologies more adapted to the economic constraints of small producers, or cannot access the credit to afford them.

62. The rainfed uplands are also an important source of income for all wealth groups. Overall, the uplands are owned by better off larger farmers at a descending order to poor farmers only owning lowland. Although the proportion of landholdings under rain-fed agriculture is lower than that for irrigated land in all wealth categories, it nevertheless constitutes about a half on average overall of the landholdings of poor households (in Kayin State).

<sup>42</sup> Some became landless, as their parents didn't own land, or because they had to sell it due to worsening economic circumstances, and went to work in carpentry and construction.

<sup>43</sup> 2009 - "Assessment of the Myanmar Agricultural Economy" IDE, for the Harvard Kennedy School

63. Livestock provide another source of cash income for households in all wealth categories. Although it only constitutes a small part of household income, for the poor and very poor groups income for livestock is an important insurance against one-off costs, especially related to health and education. With declining common property resources and a reduction in the demand for draught-power, the potential of livestock production as a source of income for poor households requires strategic support and intervention to be fully explored and realised. Livestock production should be given support through extension services. The same holds for other IGA for the poorest and most excluded segments of society, e.g. fish-ponds and community agro-forestry, further described below, under section III (social and gender inclusion).

64. Caution should be applied during project implementation to ensure that productivity increases for larger farmers (> 15 acre) are not achieved at the expense of poorer farmers (< 5 acres) requiring technologies adapted to their resource endowments and support with market integration. Support is to be focused on productivity improvements in irrigated lowlands, facilitating commodity development, value chain upgrading, market access and linkages among stakeholders.

### Debt burden

65. The circumstances and source of the debt varies between Kayin and Shan states, as well as households in different wealth categories. The choice of credit sources also varies between households with different resource endowments in the two states. An overview of the credit sources in the project areas of the two states have been presented in the table below:

**Table 10: Source of Credit and Credit Terms in Shan**

Credit Sources	Nr of Farmers	Monthly Interest Rate	Collateral	Requirement	Amount of Credit
Myanmar Agriculture Development Bank	About 30 to 40%	0.87%	No	Farmer with Paddy Land	100,000 Kyat / Acre (up to 10 Acre)
Agriculture Cooperatives	Very few (members of cooperatives)	2.50%	No	Farmer with Paddy Land	50,000 Kyat / Farmer
Licensed Pawn Shop	Very few	2%	Yes	Anyone	50% value of collateral
Informal Money Lenders	Most	5-10%	No	Farmers and Landless	Based on Trust worthiness
Gold Shop	Very few / none	2-4%	Yes	Loan by using Gold as collateral	50% value of collateral
Other – Rice broker <sup>44</sup> /miller	Very few	5%	Yes (ownership act)	After first harvest, reducing rice price (and increasing debt)	
Other – large farmers	Few	5 baskets of rice for good land, 3.75 for normal	No (mostly working for them already)	No cost in case of bad weather	Based on Trust worthiness

**Table 11: Source of Credit and Credit Terms in Kayin**

Credit Sources	Nr of Farmers	Monthly Interest Rate	Collateral	Requirement	Amount of Credit
----------------	---------------	-----------------------	------------	-------------	------------------

<sup>44</sup> Last 5 years most people grew rice and lowland crops. But bad weather conditions every three years resulted in bad yields, as well as ever increasing cultivation costs, creating a lot of debt, resulting in 50% gave up land (becoming small or landless), and the need to borrow, from rice broker especially.

Myanmar Agriculture Development Bank	Very few (as little as 15 – 85HH in sites)	0.87%	No	Farmer with Paddy Land	100,000 Kyat / Acre (up to 10 Acre)
Agriculture Cooperatives	Very few (started this year Site 4-47HH)	2.50%	No	Farmer with Paddy Land	200,000 Kyat / Farmer
Licensed Pawn Shop	No	2%	Yes	Anyone	50% value of collateral
Informal Money Lenders	Some	3-5 % (or 10 when no collateral, or > \$100)	No	Farmers and Landless	Based on Trust worthiness
Gold Shop	Very few	3%	Yes	Loan by using Gold as collateral	50% value of collateral

66. As evident from the tables above, poor households have limited sources of credit and mostly avail of informal sources, paying high rates of interest. In many cases farmers who already had high-cost debt were borrowing additional funds from sources such as the Myanmar Agricultural Development Bank to cover existing debts.

67. There are significant differences between the two states with regard to borrowing behaviour. In Shan State, poor farmers mostly prefer not to borrow, neither from formal or informal sources. If they have a bad yield (due to weather and market prices), they would rather try to reduce costs rather than borrowing. They are adverse to the risk of not being able to repay loans. This was evident from the fact that in some project sites, credit provided by UNDP at a 2.5% rate, have been used by only a handful of land-owning households (less than 5% of households). In the case of landless households, they choose not to borrow at all and in dire circumstances borrow informally. In most of these cases households seek credit from the landowners on whose land they work as agricultural labourer.

68. On the other hand, in Kayin State, there is a high prevalence of indebtedness with 50% - 75% of households reporting to be indebted. Interestingly, in Kayin there seems a less direct need to borrow money, due to its high inflow of remittances. However, most farmers have appear to have debts due to bad yields. Moreover, many households claimed that they had availed of credit through informal sources to cover expenses of migrating family members.

69. The preceding analysis shows the vulnerability of rural poor and the complexity of balancing rural livelihood strategies and needs. Better-off farmers require access to higher yielding varieties, accessible/affordable mechanisation enabling competitive commercialisation. Poor households require affordable seasonal labour and technologies adapted to smallholder constraints on land and financial capital. There is an on-farm seasonal labour shortage and off-farm season labour surplus.

70. Generally the situation could be deteriorating with bad weather conditions and fluctuating market prices. The Government of Myanmar introduced knowledge sharing on high yield varieties, but they have had limited up-take among farmers. Both the government and private sector are currently not providing affordable services adapted to smallholder and poor households. Access to financial capital that enables poor households to invest in production, rather than cyclical debt servicing and consumption, is key to poverty reduction. The challenge is also to establish means to balance the competing interests of small farmers and find a locally tailored-mix of interventions to restructure farm debt combined with investments in rural and agricultural infrastructure and institutions. These issues contribute to the targeting rationale for the ESAP project.

71. Institutional support and planned development will become increasingly important. Levels of trust and community bonds have been strong with considerable collective action on social services and social infrastructure, as well as interdependence between landed and landed households based on mutual support with land and labour. However the factors described – alternative labour sources,

rising land prices, mechanisation, modernisation, land fragmentation and so forth – will break down these traditional community bonds. Moreover, these ties are based more around social services than collective action around productive assets. The changing context and pressures described require alternative institutional arrangements to enable poverty reduction.

72. Women are particularly affected by the changing social and economic realities of the rural sector in the last few years. The gender analysis outlined earlier in this paper applies to women in the project area. However, there is no township level data available on the economic status of women in the project area or of total number of households that are headed by women. The IHLCA 2010 study found that, at a national level, women-headed households were not found to be more poor than those headed by men. Women and men play complementary and often interchangeable roles in agricultural labour, although weeding and transplanting tends to be women's work whilst men are more involved in land preparation and irrigation. Women have a lower wage rate than men and are less involved in seasonal migration, performing domestic, agricultural and labour tasks whilst men migrate. In general, men own assets and hold decision-making roles in the public domain whilst women are influential in household decision-making as well as in trade and market related decisions.

#### **IV. TARGETING AND SOCIAL AND GENDER INCLUSION**

##### **Targeting rationale**

73. The goal of the project is to improve economic status of poor rural women and men in selected areas of Kayin and Shan States. Its objective is to increase the incomes of smallholder and landless households in these areas and to create a sustainable model for post-conflict economic. The targeting strategy described in this section draws on the contextual analysis presented in the previous sections.

##### ***Geographic targeting***

74. The poverty analysis undertaken for Kayin and Shan States indicate that there is a high concentration of poverty in both the states. Although both the states are endowed with natural resources that have the potential to present better livelihood opportunities, years of conflict in the two states have hampered investment in rural areas and has stunted economic development despite their tremendous economic potential. The two states are also characterised by the concentration of the ethnic minority population and so far there has been little investment in infrastructure as well as on-farm or off-farm income generation opportunities in the ethnic states.

75. Kayin has higher rainfall and more irrigated lowland. Despite this, flooding is a major issue with rising wage rates and falling prices cutting into small farmer profits and declining opportunities for labour both on farms and reducing livelihood options for the landless. The level of indebtedness or debt proneness in Kayin particularly, further reducing the livelihood options the rural poor. Similarly, although Shan has the advantage of the temperate climate for growing a variety of crops, as well as fruits and vegetables, lack of inputs and market access, coupled with rising labour costs has limited its economic development. Kayin and Shan States provide opportunities for the project to develop a post-conflict model for economic regeneration that could provide a valuable evidence base for replicating in other ethnic states of Myanmar.

76. Within the two focal states, the final selection of targeted lowland and upland areas to be included in the project will be determined by poverty criteria such as high proportion of households between 0-10 acres of cultivated land, limited alternative livelihood options and high rates of migration. The selection criteria will be finalized following a targeting and gender study and strategy to be formulated during the project inception.

##### ***Enabling Policy and Institutional Environment***

77. A recent review of the agricultural sector has noted that questions related to how to recapitalise farmers and support growth in the rural sector "are more social and political than economic in nature ... they must be answered before any policy response to indebtedness and the other problems



confronting Myanmar's farm sector is implemented". The report goes on to note that "until the Government decides on the activities that it will support and the means of funding those activities, donor agencies can assist by funding pilot programs and working with selected government agencies to test approaches to rural incomes, food output and food security in various localities".

78. This represents the consensus view and is key to the targeting approach of the project. IFAD will work with key government agencies and other stakeholders to introduce and test innovative approaches and models for sustainable rural development in through the following main activities:

- Support GoM's decentralization initiatives have been carried out by the President Office Ministries who are working closely with the state and region governments to implement the Framework for Economic and Social Reform at the sub-national level;
- Support the capacity of officials of the MoALI at the state level to carry out land development through decentralized participatory planning methods that involve communities in the design and supervision process;
- Support the GoM's efforts of economic regeneration activities in the border states;
- Promote social mobilization and capacity building of communities to carry out planning and management of irrigation water supplies, group marketing, saving and credit operations and income generation activities;
- Increase the integration of GoM's support services with the activities of rural communities, such that extension messages (and research) cease to be commodity based and adopt instead a more integrated approach based on local constraints and options;
- Support the adoption of diversified cropping systems able to respond to water availability as well as market demands therefore reducing farmer vulnerability to climate and market driven shocks.
- Generate GoM's buy-in on approaches to increase rural incomes and food security successfully piloted in the project for replication in other regions.

### ***Self-targeting***

79. The goods and services provided by the ESAP respond to the priorities, financial and labour capacities and livelihood strategies of the targeted groups as indicated by the target groups at community meetings and stakeholder workshops. These services, as identified to being relevant by stakeholders, are:

- Agricultural investment and land development which is expected to support equitable water distribution, improved productivity of existing crops and ability to respond to market and climatic conditions in cropping patterns;
- Activities in the primary forest areas which will increase economic benefits of forest communities through introduction of new agro-forestry species or improvement of existing species, crop husbandry training and post-harvest handling;
- Information and extension support to improve crop productivity and access related knowledge, skills and implement new technologies;
- Empowerment and capacity building in accessing markets and negotiating market position;
- Access to credit and finance to overcome constraints in improving agricultural productivity and escape the cycle of indebtedness that has prevented sustainable poverty reduction;
- Access to agricultural employment through incremental labour on farms as a result of project investments;
- The development of agri-business based on smallholder production able to provide markets, employment and value chain services such as packaging, labelling, branding etc.

80. The target groups were consulted during the community visits and the two workshops held in Shan and Kayin States. Discussions were held with various stakeholders to assess the needs and the capacities of the target beneficiaries and the local government. All stakeholders consulted expressed interest and willingness to uptake the activities that were going to be offered by the project.

81. However, it is important to note that Component 1 is not entirely self-targeting in that the services provided benefits all households within the area in which agricultural infrastructure improvement will take place. The rest of the activities are largely self-targeting because the technologies and services that will be provided e.g. through the foreseen Knowledge Centres, will be tailored to the particular characteristics of smallholder production. Services of more general interest that might be subject to 'elite capture' have direct targeting and eligibility criteria attached, as outlined below.

### ***Direct Targeting***

82. The Agri-Business Fund will target joint-ventures in selected value chains, particularly those of newly introduced high-value crops. This fund will provide grants of 40% of total investment costs to agribusinesses that are involved in post-harvest handling of relevant commodities produced by smallholders. The eligibility criteria for selection of the agribusiness companies will include the number of project supported smallholders contracted, % increase in purchase price of smallholder production, number of jobs created for beneficiaries in the project areas and incremental profit generated for project supported beneficiaries. The eligibility criteria will be reviewed during project start-up.

### **Target Group and activities**

83. **Target group.** The project is expected to potentially benefit about 24,245 households in Kayin State (approx. 7,135 HHs on irrigated land; approx. 13,180 HHs on uplands and 3,300 HH in forest areas) and 20,930 households in Shan state (approx. 13,250 HHs on irrigated land; approx. 7,680 HHs in uplands). In aggregate terms, the project is expected to benefit approximately 45,175 HHs or 228,403 people rural women and men in Shan and Kayin States.

84. The project's target group consists of poor rural women and men of selected areas in Kayin and Shan (South) states. Specifically, the target groups consist of: (i) farmers with medium, small and marginal landholdings in irrigated lowland areas, with land ownership ranging from less than an acre acres to up to 10 acres each; (ii) farmers with medium, small and marginal landholdings upland rain fed areas from less than an acre to up to 10 acres each; (iii) agro-forestry households in hilly areas of Northern Kayin; and (iv) landless households that have access to job opportunities as agricultural labour and/or workers in processing plants and other entities implemented under the project. The project will also ensure that employment-generating activities facilitate the economic reintegration of returning migrants.

85. In addition to the above-mentioned target groups, the project will also benefit to 12,000 households whose members will access job opportunities as casual agriculture labour and/or unskilled/skilled workers in post-harvest companies. The project's direct beneficiaries will therefore amount to 57,000 households representing 289,000 people rural women and men in both Kayin and Shan States.

86. The selection of the project States ensures the direct targeting of ethnic minority women and men, namely the Kayin and Shan ethnic groups. In addition the project will ensure that other ethnic minorities in the project areas, namely Mon and Paoh, will also be integrated in all project activities.

87. The secondary target group will consist of the landless and better-off households in the project areas. The project will also ensure that employment-generating activities facilitate the economic reintegration of returning migrants. Key activities for the target groups are as follows:

- Smallholders in selected irrigated areas. Moderate and poor HH with average parcels of about 1-5 acres and 5-10 acres respectively, will benefit from expansion of irrigated areas and from

complementary investments in land development identified through a participatory approach. The project will strengthen the capacity of smallholders to initiate and sustain participatory water management within the rehabilitated irrigation schemes. Knowledge and technology transfer through the Knowledge Centres will ensure the availability of technical assistance to farmers and will be complemented with access to finance and market linkages. Such investments will create opportunities for crop diversification for lowland farmers and enable to move away from subsistence farming.

- Smallholders in selected upland areas. Moderate and poor HH with average parcels of about 1-5 acres and 5-10 acres respectively, will benefit from the introduction of Sloping Land Technologies aimed at reducing erosion and increasing soil fertility. They will also benefit from improved irrigation systems through investments in drip irrigation and solar powered pump stations. Knowledge and technology transfer through the Knowledge Centres will ensure the availability of technical assistance to farmers and will be complemented with access to finance and market linkages. Farmers upland will also benefit from the climate resilient construction/rehabilitation of sections of critical roads to facilitate access to local markets.
- Households in selected forest communities of Northern Kayin: HHs living in forest communities will benefit from improved living conditions through the installation of domestic water supply through harnessing springs and small mountain streams, installation of tubewells and connecting these water sources with piped-conveyance network; renewable energy through hydropower, solar power or woodchip/rice husk-fired steam generators; and construction climate resilient of sections of road to improve accessibility of the mountain villages. Together with improved living conditions households will also benefit from improved agro-forestry activities supported by the Knowledge Centres that will ensure the availability of technical assistance, access to finance and market linkages. Such investment will allow for improved husbandry practices for the smallholders to increase productivity of and returns from high-value crops on the mountain slopes.
- The secondary target group will consist of farmers with less than an acre of landholding and landless HHs in the project areas. The project will benefit these households from the creation of employment opportunities through: (i) incremental labour on farms generated by project investments; (ii) labour in the land consolidation infrastructure works; (iii) employment opportunities in project-supported SMEs; (iv) labour and employment in value chain investments generated by the project.

88. Activities related to land development, access to knowledge and markets, as well as skills enhancement will encompass all households farming in the project area irrespective of their level of poverty. However the activities related to knowledge, markets and skill enhancement will be self-targeting and of greater interest to the target group as they will be based around the resource endowments of the poor. Cultivation of monsoon paddy will be improved, and pre/post monsoon high value crops will be introduced. There is potential for significant benefits for the landless and the marginal farmers as the project will also benefit from creation of job opportunities as casual agriculture labour and/or unskilled/skilled workers in post-harvest companies.

## **Gender mainstreaming and Social Inclusion Mechanisms**

89. The project targeting strategy has a range of self-targeting features that have been outlined above. The self-targeting aspects of the project need to be supplemented by operational measures so that project services respond to the priorities and capacities of poorer groups and of women. The

overall project approach to ensure that principles of social inclusion and gender equity are mainstreamed in all aspects of project implementation will be operationalized through the instruments and mechanisms outlined in this section.

**Gender Strategy:**

90. A gender mainstreaming strategy will seek to maintain women's access and participation across all components of the project, from extension to project evaluation and across all thematic areas of project activities, namely infrastructure, community development and value-chain development. A gender aware approach will be a crucial focus of the project whereby women's position and roles will be recognized and acknowledged and women's economic empowerment will be realized through the development of pro-poor gendered economic opportunities.

91. The purpose of the gender mainstreaming strategy will be to promote gender equality so that targeted women and men have equitable access to, and control over, resources (e.g., livelihood supports) provided by and benefits (e.g., food security) gained from the project. The gender mainstreaming strategy will ensure:

- *Gender equality concepts* are adequately introduced to project staff as well as women and men from project communities as much as possible during the project work.
- *Facilitation of women's/men's equal and meaningful participation* in the project activities and their voices heard in decision-making to be ensured by the project implementing partners.
- *Gender sensitive language is used in all documents* – resource and information, education, and communication materials, reports, etc.
- *Mechanisms and tools* are in place to ensure equitable access to and control over resources
- *Gender impact assessment* of the project are to be conducted along with periodic review and learning of the project.
- *Sex disaggregated data* is to be collected, analysed and used for ongoing project development and reporting - with both quantitative and qualitative information.
- *Gender sensitive organizational policies, practices and staff recruitment* for all levels (from management positions to field level positions). This includes ensuring that the project does not lose female extension workers when the position is upgraded under the project.

92. At the onset of the project, a gender and social inclusion study will be undertaken in the project areas that will determine in detail:

- (i) the priorities and needs of poor households, i.e. HHs with landholdings of 1-5 acres, 5-10 acres, as well as HHs with marginal landholding and without land; the concerns of the targeted beneficiaries with regard to the project's planned activities; and recommend how the project can respond best to these needs and concern within the scope of broader activities of ESAP;
- (ii) activities to be based at KCs and within the scope of broader activities of ESAP that would be of particular interest and relevance to women and youth, including skills training, income generation, household planning, access to rural finance, involvement in farmer organisations and decision-making bodies relating to the project;
- (iii) opportunities and gender aware measures required to promote inclusion of poor and vulnerable households by setting appropriate targets, quotas and time frames for empowerment and capacity building;
- (iv) analysis of community level institutions and leadership, particularly with reference to their outreach among poor, women and youth, and recommend how ESAP activities can enhance their participation in community level institutions;

- (v) recommend gender mainstreamed and socially inclusive representation systems for project governance structure at township and village tract; and
- (vi) elaborate on specialist training to be provided to the MOALI staff and PMU members in gender analysis, planning and mainstreaming, and monitoring and evaluation skills.

93. Gender Mainstreaming at the project level: All project interventions should be gender mainstreamed. Decisions taken by the community, especially relating to land development and training needs, must be decided jointly by the men and women of the community. The mission had noted that almost all important decisions at household level were taken jointly by the women and men heading the household. It should be reinforced in participatory processes in the course of the project. Women will have set quotas of a minimum of 30% (to be finalized at implementation stage) to ensure their participation in the project governance and in the various community based institutions and common-interest groups to be supported by the project.

94. The Project Director, with the assistance of the Community Development and Gender Specialist (CDGS), should have overall responsibility for ensuring that gender mainstreaming is given sufficient attention in project activities and institutions. Based on the findings of the gender and social inclusion study a gender mainstreaming strategy for both Shan and Kayin States will be developed by the PMU.

### ANNEX 1: IFAD targeting Checklist

Questions	Design
<b>1)</b> Does the <b>main target group</b> - those expected to benefit most- correspond to IFAD's target group as defined by the Targeting Policy	The target group is divided between the poor and the income and food insecure but also includes an estimated 7% of better off households who will be included as part of inclusive targeting policy.
<b>2)</b> Have <b>target sub-groups</b> been identified and described according to their different socio-economic characteristics, assets and livelihoods - with due attention to gender differences?	The target sub-groups have been extensively described. A detailed breakdown has been provided of the assets, resources, demographic characteristics, strategies, needs and priorities of the target sub-groups with due attention to gender.
<b>3)</b> Is evidence provided of <b>interest in and likely uptake of the proposed activities</b> by the identified target sub-groups (self-targeting)?	The proposed activities address the priorities of the target sub-group. The communities were consulted during the design mission and there is a clear interest in and very likely an uptake of activities.
<b>4)</b> Does the design document describe a feasible and operational <b>targeting strategy</b> in line with the Targeting Policy? <i>The targeting strategy will involve either all or some of the following measures and methods</i>	The design document does provide a feasible and operational targeting strategy based on an assessment of institutional realities and socio-economic relations in the project areas.
<b>4.1) Geographic targeting</b> – based on poverty data or proxy indicators to identify, for area-based projects or programmes, geographic areas (and within these, communities) with high concentrations of poor people	The two states are characteristic in that they are inhabited almost exclusively by ethnic minority communities. The project area has high concentration of poverty. While Kayin state is slightly above the national average poverty rate, Shan state is one of the poorest in the countries.
<b>4.2) Enabling measures</b> – These include measures to strengthen stakeholders' and partners' attitude and commitment to poverty targeting, gender equality and women's empowerment, including policy dialogue, awareness-raising, capacity-building, and appropriate project management arrangements; language in describing staff positions (s/he).	A key focus is capacity building and awareness-raising on mechanisms and institutional arrangements able to support poverty reduction in the rural sector. This focus is supported by corresponding implementation arrangements able to support these objectives at the state-level.
<b>4.3) Empowerment and capacity-building measures</b> including information and communication, focused capacity- and confidence-building measures, organisational support, in order to empower and encourage the more active participation and inclusion in planning and decision making of people who traditionally have less voice and power.	A key objective of the project is to empower poor rural people to improve their livelihoods through improving their access to resources, information, options and the power to negotiate and protect their rights.
<b>4.4) Direct targeting</b> when services or resources are to be channelled to specific individuals or households. Measures may include eligibility criteria, to be developed and applied with community participation; quotas (e.g for women), earmarked funds	The investment funds in component 2.2 are directly targeted to the famers with landholding ranging from 1-10 acres, comprising of two groups, the poor and the moderately better off households (both categories below poverty line in the project areas).
<b>4.5) Attention to procedural measures</b> that could militate against participation by the intended target groups (such as, excessive beneficiary contributions; cumbersome legal requirements, etc)	The procedural issues that could militate against participation by the intended target groups have been considered both in the targeting and in the technical papers. They include issues related to land rights, access to beneficiary contributions, information on procedure; these have all been considered as risks and mitigating actions are included in the design.
<b>5) Monitoring targeting performance.</b> Does the design specify that targeting performance will be monitored using participatory M&E?	Yes this is specified.

## Annex 2: Gender Check-List

Questions	Design
1. <i>The project design document contains – and project implementation is based on - gender-disaggregated poverty data and analysis of gender differences in the activities or sectors concerned.</i>	The design provides an analysis of gender differences in the sectors concerned but there is very little gender-disaggregated data available in Myanmar. What exists tends to be on reproductive health and is not particularly useful. This information gap has been noted in the analysis.
2. The project design report articulates – or the project implement – actions with aim to: <ul style="list-style-type: none"> <li>•Expand women’s economic empowerment through access to and control over fundamental assets ;</li> <li>•Strengthen women’s decision- making role in community affairs and representation in local institutions; and</li> <li>•Improve women’s knowledge and well-being and ease their workloads by facilitating their access to basic rural services and infrastructure.</li> </ul>	The design includes an analysis of the gendered division of labour in rural communities and the social, economic and cultural roles that influence women’s options. The design makes provisions for women’s economic empowerment and supporting them to become decision-makers in community affairs. The activities to disseminate knowledge and improve local capacity to make informed livelihood choices will be made available and relevant to women through gender sensitive design and delivery. Additionally to that, no specific provisions have been made to ease women’s workload or facilitate their access to infrastructure per se. However, infrastructure works, including bringing electricity to communities will indirectly impact on women’s workload.
3. <i>The design document describes - and the project/programme implements - operational measures to ensure gender-equitable participation in, and benefit from, project activities. These will generally include:</i>	Yes, see below
3.1 Allocating adequate resources to implement the gender strategy;	Yes. Resources will be allocated for implementation of the gender strategy, including studies and trainings for both PMU and beneficiaries.
3.2 Ensuring and supporting women’s active participation in project- related decision-making bodies and committees;	Yes provision will be made for including women in project committees (e.g. KCs, User groups, village level committees).
3.3 Ensuring that project/programme management (composition management coordination unit, project terms of reference, etc.) reflect attention to gender equality and women’s empowerment concerns; and	The gender objectives of the project are/will be reflected in the composition of the project teams, KCs, user groups and various committees and the selection process of project partners will pay due attention to capacities to work with women.
3.4 Ensuring direct project/programme outreach to women (for example through appropriate numbers and qualification of field staff), especially where women’s mobility is limited.	The project design has considered outreach to women and women’s mobility in the public sphere. In principle there is no barrier against this. The project will support women staff to upgrade their qualifications and expand their sphere of influence, according to their interests represented. Equity and gender inclusion is to be verified.
4. The project’s logical framework and monitoring and evaluation (M&E) system specify in design – and project	Yes. Gender specific mainstreaming indicators, <i>not only measuring their target in number, but also the capacity safeguard their interest and of their family</i> , will (need to be) be included.

### **Annex 3: Draft Terms of Reference for Gender and Social Inclusions Study**

#### **Context**

In Myanmar women make up 50.3% of the total population. Myanmar has achieved gender parity in education with regard to enrolment ratios of girls and boys in primary and secondary education. Women in Myanmar enjoy equal rights in inheritance laws and equal marital property rights in the case of divorce. However, patriarchal cultural values related to women's roles and responsibilities still shape familial relationships, contribute to the gendered division of labour and limit women's participation in decision making at all levels. Gender-based violence, mostly against women, is widespread, particularly in conflict areas.

Women in Myanmar have been prominent participants of the labour force in a broad sense and claim an equal share of education opportunities, with women being well represented in tertiary education institutions. However, women are largely employed in the agricultural sector and in low-status, low-skilled positions, pointing to the hierarchical nature of gender relations. Traditionally working in the home, the worsening economic situation had brought women into paid employment, while maintaining the same level of household responsibility.

In the rural areas women play an important role in a wide range of income generating activities and are primarily engaged in agriculture, informal sector and as migrant labourers in factories and as housekeepers in neighbouring countries. In agriculture women are equally involved in farm-based activities, as men. Moreover, women, more than men, are involved in home-based agricultural activities and small scale vegetable and livestock production. Women are generally unpaid family workers balancing both home and economic activities. Although women in rural areas appear to have equal decision-making power in the household, women do not generally own productive assets such as land and many miss out on agriculture technology and extension work.

There is a distinct division of role between men and women. Women predominantly carry out rice transplanting and husking and livestock rearing. They are usually not involved in marketing of agricultural products. However, interaction of gender norms with other socio economic factors, such as economic status of households, opens up opportunities for relaxing gender norms. Traditional norms are much more relaxed for example in the landless and small farm households, where women are relatively more engaged in diversified economic activities. Increasingly women are also working as agricultural labourers or are migrating to neighbouring countries along with male family members. This trend has particularly led to the problem of abandoning agriculture as a livelihood option and there is an increasing lack of available agricultural labour in the rural areas.

#### **Purpose of Gender and Social Inclusion Study**

A Gender Study Social Inclusion will be commissioned in the preparatory phase to examine and develop gender and youth related socio-economic aspects of ESAP in more depth. The study will have the following main outputs:

- (i) Assessment of the priorities and needs of poor households, i.e. HHs with landholdings of 1-5 acres, 5-10 acres, as well as HHs with marginal landholding and without land; the concerns of the targeted beneficiaries with regard to the project's planned activities; and recommend how the project can respond best to these needs and concern within the scope of broader activities of ESAP;
- (ii) Development of activities to be based at KCs and within the scope of broader activities of ESAP that would be of particular interest and relevance to women and youth, including skills training, income generation, household planning, access to rural finance, involvement in farmer organisations and decision-making bodies relating to the project;



- (iii) Assessment of opportunities and gender aware measures required to promote inclusion of poor and vulnerable households by setting appropriate targets, quotas and time frames for empowerment and capacity building;
- (iv) Analysis of community level institutions and leadership, particularly with reference to their outreach among poor, women and youth, and recommend how ESAP activities can enhance their participation in community level institutions;
- (v) Recommendation on gender mainstreamed and socially inclusive representation systems for project governance structure at township and village tract; and
- (vi) Elaboration on specialist training to be provided to the MOALI staff and PMU members in gender analysis, planning and mainstreaming, and monitoring and evaluation skills.

The outputs will be suitable for incorporation in the project implementation manual.

### **Methodology**

The work will be undertaken by an international consultant and a national consultant working in close association with PMU's Community Development and Gender Specialist.

The study methodology would comprise:

- Discussions with key informants in MOALI, Department of Social Welfare, Women's Organizations Network of Myanmar and various UN agencies
- Discussions with staff from Yezin University of Agriculture and a review of the curriculum for extension staff
- Fieldwork in selected project sites, to conduct interviews with the community and village development committees, focus groups, local institutions and households to identify the structure, challenges and priorities in lowland and upland rainfed farming livelihood systems, disaggregated by sex, age and wealth.



## Appendix 3: Country performance and lessons learned

1. While Myanmar has been a member of IFAD since 1990, the first loan to the country, for the FARM project, was approved in 2014. The design process of ESAP has been informed by the lessons learned by partner institutions in the country, such as UNDP, UNOPS (LIFT), JICA and NGOs working with ethnic groups. Key lessons of relevance to ESAP that emerge from these operations are:

- *Cultural sensitivity.* Design of development activities in a multi-ethnic country such as Myanmar requires a culturally sensitive approach, as evident from the earliest UNDP township community development projects to the latest work of UNOPS/LIFT and several NGOs.
- *Services.* In Myanmar, investment in productive infrastructure needs to be complemented with provision of services in order to sustain economic benefits and returns to the rural poor. In the irrigation sector, JICA financed operations have demonstrated that a package of infrastructure, participatory management, and services is required to create a sustained flow of benefits.
- *Financial inclusion.* Farmers and micro-entrepreneurs in rural areas require access to financing to invest in the growth of their activities. There are positive experiences in Myanmar with credit and savings groups and with microfinance (particularly under the PACT umbrella) which need to be scaled up in rural areas and the agriculture sector.
- *Human capital.* Kayin and Shan states have experienced substantial out-migration of the labor force (particularly the youth) over the past decades, and face seasonal shortages of labor. Experiences in reintegration of migrants, ex-combatants and displaced people in Myanmar confirm that access to economic and job opportunities is vital for successful reintegration.
- *Social capital.* Water users' groups, producers' associations, savings and credit groups, and other self-help groups gradually improve the access of poor rural women and men to resources, services and opportunities. Various development activities in Myanmar, particularly those of JICA, UNOPS/LIFT and NGOs, demonstrate the importance of community organizations.
- *Participation.* Linked to social capital, a participatory approach is fundamental for communities to articulate needs and priorities, to effectively manage their natural resources, to take active roles in design and implementation of development activities, and eventually to influence policy.
- *Decentralization.* A range of NGO operations in Myanmar indicate that decentralized project management generally produces better results than centralized management. Decentralization to state level of development planning is also a priority of Government.



## Appendix 4: Detailed project description

1. The project will adopt a modular approach consisting in a standard package of investments to be financed in each State, suitably adapted as required. Such an approach will facilitate scaling-up of the model in other Eastern States and more generally across Myanmar. The project will benefit from lessons learned from the previous IFAD-financed FARM project.

### Component 1: Strategic Investments.

2. This component includes two sub-components: (i) paddy land development, and (ii) community agro-forestry.

#### Sub-component 1.1: Land Development.

3. The project will contribute to the expansion of irrigated areas served by primary and secondary canals, with complementary investments in land development identified through a participatory approach. Objectives are to improve existing drainage networks, delivery of irrigation water and field access, as well as to create opportunities for crop diversification in response to market signals.

4. Proposed project infrastructure interventions include both off-farm and on-farm<sup>45</sup> activities. Off-farm activities include: rehabilitation of weirs/sluice gates, lining of main canals and distributaries, farm to market roads, main drains, rehabilitation of irrigation pumping stations etc. While the on-farm activities broadly termed here as “land development” includes, land levelling, land reclamation, construction of watercourses, drainage and distributaries, small hydraulic structures (culverts, small bridges etc.) and inlet/outlet structures.

5. In Kayin State, State-level MoALI has mainly proposed on-farm activities. Land development work will be carried out on some 12 irrigation schemes in Hpa-An, Hlain Bwe and Kaukarate townships, covering about 11,200 acres within a total command area of 19,200 acres. The command area of each site varies considerably depending upon the size (capacity) of irrigation system largely pumping from river. Table 1 summarizes the various activities to be carried out under land development with the corresponding quantities required for a sample of 80 acres.

**Table 1: Typical activities under land development on 80 acres**

S. No.	Description	Quantity	Unit
1	Land Levelling	80	acres
2	Canal (distributaries & watercourses)	1.1	mile
3	Drainage ( 3 different sections )	0.8	mile
4	Farm Roads	1.1	mile
5	Bridge		
	Small and Medium	5	No.
	Culverts	40	No.
6	Head Regulator (1 large and 8 small)	9	No.
7	Inlet/Outlet Pipe (6" diameter)	640	feet
8	Main Drain	1-3	mile

**Source:** MoALI; Kayin State

6. In Shan state, State-level MoALI has mainly identified off-farm infrastructure activities. Interventions focus on rehabilitation and improvement of existing irrigation infrastructure. These

<sup>45</sup> *Though strictly speaking on- farm activities only include land leveling and watercourses (tertiary level canals); yet for simplicity these activities have been bifurcated in two categories.*

include lining of main and distribution canals, farm to market roads, heavy long bridge, small bridges, various hydraulic structures, head regulators and box culverts. In addition, 300 acres of land would be consolidated on pilot basis (in case of successful implementation, State-level MoALI ID and the project will promote such development with other communities for the remaining 23,635 acres). State-level MoALI has identified two irrigation systems: Ho Pong valley and Hekke scheme. Ho Pong valley area is currently irrigated by a system of 7 weirs with a total command area of around 39,000 acres. Of these seven, the project area includes 5 weirs with a total command area of 25,000 acres. MoALI has prioritised these weir systems based on the level of urgency needed for rehabilitation/improvement of irrigation infrastructure. In Hekke scheme, the project activities will be carried out in Sewgyi and Magyibin<sup>46</sup> weir areas. The Sewgyi weir system was constructed in year 2001 for taking an annual inflow of about 137,000 acre-ft from a total catchment area of 274 square miles (175,360 acres). The weir has 30 automatic flood gates and two canals, one on each side (left and right). Total length of 2 canals is 7.8 miles while total planned command area is 3,000 acres. This command area has been increased further by 600 acres through constructing Magyibin sub-weir, downstream of left canal. The irrigation infrastructure activities proposed by project in Hey Key area include, lining of left and right main canals of Sewgyi and Magyibin weirs, de-silting of Hey Key main drains and consolidation of 100 acres land on pilot basis.

7. Globally, the project will improve/rehabilitate some 35,125 acres of flood and pump irrigated land in the both Kayin and Shan States. Table 2 illustrates the different infrastructures to be built or rehabilitated in the 12 selected irrigation sites in Kayin State and for the 2 major selected irrigation sites in Shan State. These infrastructures have been identified after consultations with State-level MoALI IDs and farmers communities.

**Table 2: Infrastructures identified for each site**

S.No.	Infrastructure Interventions	Unit	Qty per acre	Kyin State												Shan State			Grand Total	
				1	2	3	4	5	6	7	8	9	10	11	12	Total	1	2		Total
				Yae Kyaw Gyi	Kyauk Ka Lat	Yae Baud dam	Than Hle	Kyon Phe	Tayote Hla	Bar Kat	Htone I (1)	Htone I (2)	Jaing	Zarthapyin	Kan Ni		Hopang Area	Hey Key Area		
1	Land Levelling	Acres	1	1.000	1.000	1.000	700	2.300	1.000	1.200	180	1.220	600	500	500	11.200	200	100	300	11.500
2	Distributary Canals (4-4.5x2-2.5')	ft	54	54.138	54.138	54.138	37.896	124.516	54.138	64.965	9.745	66.048	32.483	27.069	27.069	606.340	10.828	5.414	16.241	622.581
3	Watercourses/Tertiary Canal (2.5x1')	ft	144	144.400	144.400	144.400	101.080	332.120	144.400	173.280	25.992	176.168	86.640	72.200	72.200	1.617.280	28.880	14.440	43.320	1.660.600
4	Drainage (3.5'x4.5x2'-2.5')	ft	54	54.138	54.138	54.138	37.896	124.516	54.138	64.965	9.745	66.048	32.483	27.069	27.069	606.340	10.828	5.414	16.241	622.581
5	Farm Road (13'-16' wide)	ft	126	126.338	126.338	126.338	88.436	290.576	126.338	151.605	22.741	154.132	75.803	63.169	63.169	1.414.980	25.268	12.634	37.901	1.452.881
6	Brigdes (small to medium)	No.	0,063	63	63	63	44	144	63	75	11	76	38	31	31	700	13	6	19	719
7	Culverts	No.	1	500	500	500	350	1.150	500	600	90	610	300	250	250	5.600	100	50	150	5.750
8	Head Regulator (HR)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HR (large)	No.	0,013	13	13	13	9	29	13	15	2	15	8	6	6	140	3	1	4	144
	HR (small)	No.	0,1	100	100	100	70	230	100	120	18	122	60	50	50	1.120	20	10	30	1.150
11	Inlet/Outlet Pipe (6" dia)	ft	8	8.000	8.000	8.000	5.600	18.400	8.000	9.600	1.440	9.760	4.800	4.000	4.000	89.600	1.600	800	2.400	92.000
12	Main Drain	ft	100	100.000	100.000	100.000	70.000	230.000	100.000	120.000	18.000	122.000	60.000	50.000	50.000	1.120.000	20.000	10.000	30.000	1.150.000

### Need and Rationale for Key Infrastructure Activities - Quality Assurance

- **Rehabilitation/Lining of Main Canals.** The main canals serve as first level of water transportation mode in overall irrigation system. In Shan state main canals for both project areas are earthen channels representing poor geometric sections due to extreme weather conditions and neglect of proper maintenance. Similar situations were also observed for main canals in Kayin State irrigation systems. However upstream sections with lengths not more than 100-150 feet were observed lined in some of the main canals. Overall situation presents a

<sup>46</sup> Sub weir located downstream of Sewgyi weir

bleak picture in terms of water conveyance losses; reduced availability of water at farm gate and high O&M requirements both for human and financial resources. Project would therefore fund rehabilitation/lining of 14 miles at various sections of main canals in project areas. The work includes both remodelling of sections and lining of canals at upstream sections as identified during detailed survey and design of project. Activities under the rehabilitation of main canals will comprise: removal of bushes, preparing proper geometric sections (mostly trapezoidal), remodelling of sections and lining. The canals would be lined with brick or stone masonry with 1:3 cement sand mortar. In project area, the bottom width of existing main canals varies from 6 to 16 feet with depth ranges from 4-6 feet excluding free board. The final sections will however depend upon designed discharge, full supply level at point of source and size of command area. Irrigation supplies directly from the main canals to farms would be avoided to the extent possible and will be routed through distributaries/watercourses.

- **Distributaries.** Distributaries or minors represent secondary level canals that carry irrigation water off the main canals and distribute water among farm level watercourses/channels to irrigate cultivable lands. In project areas existing distributaries present a dismal picture as all of them are earthen channels largely characterized by irregular section, broken embankments causing frequent overflowing and inundating adjacent fields. Absence of proper outlet structures offers no/minimal control over quantity of water to be withdrawn; frequent closing and opening of earthen outlets weaken these sections resulting into frequent overflows impacting crop yield and quality as well. The project will address the issue by constructing, rehabilitating, or lining distribution canals both under land development activities and irrigation improvement works. Distributaries and minors will be properly built trapezoidal earthen sections. Designed sections would depend upon maximum discharge and command areas to be served. Typical sections of the distributaries vary from 2-5 feet bottom width and 2-4 feet depth. Permanent outlets with proper opening and closing arrangements would be provided at appropriate locations.
- **Watercourses/Tertiary Canals.** The application of water to farms is mostly done through tertiary level earthen watercourses which draw water from distributaries/minors. In project areas these tertiary level canals are completely non-existent. As a part of land consolidation /on-farm activities, project will fund construction of well aligned watercourses along the periphery of farms with adequate provision of proper outlet facilities to benefit more than 11,500 acres of land. Watercourses are the earthen tertiary canals and would be built at farm levels. These are so located that any one watercourse would cover maximum command area. The typical rectangular section of a watercourse varies from 12-18 inches wide and 18-24 inches deep. Each watercourse would be provided with adequate number of permanent brick lined outlets with proper opening and closing arrangements. Final alignment and dimensions will be determined through survey and design TA.
- **Drainage Canals.** Both in Shan and Kayin States the project areas seriously lack proper drainage. Frequent flooding as a result of heavy rain and swelled streams inundate lands for much longer time. In the absence of drainage facility there is no way to drain accumulated water out of lands making it timely cultivable. Consequently farmers could grow only single crop a year during relatively drier season making use of water from irrigation canals. Drainage issue is also restricting full utilizing irrigation potential of canal command area. Accordingly provision of drainage canals has been identified as one of the much needed infrastructure interventions. Drainage canals will be earthen canal with trapezoidal sections. The alignment of drains would follow the lowest contour line to allow inflow of drainage water from fields through gravity. A typical drainage canal section varies from 4-6 feet bottom width and 3-6 feet deep. Final sections would however be designed as per site requirements depending on discharge and catchment area.
- **Rural Access Road.** Project would implement about 48 miles of farm to market roads. These would be in addition to access roads built under land consolidation (on-farm) activities for an area of 11,500 acres. The construction of these roads would not only provide easy access to

poor farmers to the market for selling their produce but also contribute significantly in reducing post harvest losses particularly for more perishable items. Farm to market /Rural access roads will be designed as per normal roads specifications and standards adopted by MoALI / Ministry of Livestock, Fisheries and Rural Development (MoLFRD). The rural roads will largely be non-bituminous gravel pack/earthen roads. Concrete or black top finished surfaces would be used in fewer cases at critical sections (near town or where gravel roads/earthen are not technically suitable). A 15 feet wide typical road section would comprise 9 inches thick crushed stone (hill gravel of 3/8 to 1/2 inches size) mixed with sand and binding material (clay) over 18 inches thick stone (6"-9") over well compacted earth. The width and depth of sections may vary as per site requirements. Cross drainage works will be provided at appropriate locations to allow water to pass through without damaging road structure. These will include box or simple concrete culverts, pipes and passages etc.

- **Culverts.** The construction of culverts is an integral part of overall land consolidation process. With the improved irrigation system and construction of new watercourses, drainage canals and distributaries; there would be significant demand for culverts to provide smooth access across these canals for rural traffic and even for pedestrians. The project has accordingly proposed adequate number of culverts under both on & off-farm activities.
- **Small Bridges.** As the project proposed construction of farm to market and rural access roads along with provision of new drainage canals and distributaries, the need will arise for the construction of small bridges along/across the proposed structures. Small bridges will therefore provide smooth and levelled access for rural traffic in parallel with other developmental activities. Culverts and bridges will be of RCC type and be constructed as per standard designs being used by MoALI/MoLFRD. The depth of concrete slab and quantity of steel reinforcement would depend on the effective span of culvert/bridge and would accordingly be designed while keeping factor of safety in view
- **Land Levelling.** Current agriculture and irrigation practices are based upon traditional farm sizes. Farms are of various sizes and at various grades without taking care of land levelling and regular geometric shapes. The poor levelling and undulations restrict uniform depth of water all across a farm. The shallower spaces are obviously subject to intense water while higher spaces prone to relatively lesser water depth; leading to non-uniform watering for crops. This anomaly prevails almost without exception as farms were never levelled precisely. With the introduction of improved irrigation systems (proposed by the project), the land levelling would become essential. The water application through newly constructed watercourses will require that respective command areas should essentially be at lower elevation (with precise levelling) to account for gravity inflows in fields. The project has therefore proposed land levelling of 11,500 acres to achieve the mentioned results. Land levelling would be achieved through rear/front end blades mounted on tractor. Before levelling a detailed topographical survey (conducted by consulting firm) will be available for each block of land to be levelled. This will precisely determine the level to be maintained as finished farm surface. The final farm level will obviously be lower than the watercourse to allow inflow through gravity.

8. Land development plans will be prepared for contiguous areas (blocks of about 500 acres each). A participatory land use planning (PLUP) approach will be applied for all land development works, and an appropriate service provider (a local NGO) with experience in community mobilization and free, prior, informed consent (FPIC) methods<sup>47</sup> will be selected to manage these activities. For each block, the PLUP approach will engage with farmers to make informed decisions and will set up mechanisms for the sharing of any loss of cultivable land arising from construction of roads, drains and tertiary canals. In addition to consultation on the routes for roads and canals, farmers will be assisted to prepare maps indicating the boundaries and ownership of any reconfigured plots, for the purpose of the issuance of land titles after completion of civil works. Farmer concurrence with any proposed reconfiguration of plots will serve as a pre-requisite for construction activities. The selected

---

<sup>47</sup> Annexed to this appendix



service provider will operate in coordination with the Irrigation Department (ID) and Settlements and Land Records Department (SLRD) of MoALI as well as the Project Implementation Committee.

9. In addition, the project will finance the rehabilitation of hydraulic structures at Sewgyi weir to mitigate excessive silt load (Shan State) and the rehabilitation of the irrigation pumping station of Hpa-An (Kayin State), while in Kayin State, the project will also pilot the introduction of piped-conveyance network associated with solar powered pumps in about 400 acres. If successfully implemented, the pilot will be scaled-up in all selected irrigation sites upon approval by the communities.

10. IFAD will finance 100% of direct costs (net of taxes) of land development executed by the ID (e.g. fuel, lubricants, materials, labour), while the Government will cover indirect costs (machinery work) in kind. The average direct investment cost of land development works has been estimated at USD 1,375/acre while indirect investment cost will be in the range of 10% of direct costs. The official unit rates issued at district level and the adopted norms on machinery output will be reviewed on an annual basis.

### **Climate Change - Adaptation and Resilient Infrastructure**

11. The effects of global climate change on Myanmar are manifested by the increase in temperatures and decrease in length of monsoon, increase in the intensity of precipitation which results in more frequent floods and droughts. The frequency and intensity of floods are further increased through deforestation leading to reduced water infiltration in soil and increased soil erosion, resulting in sedimentation of rivers, streams and lakes which further aggravates flooding problems. The aggregate negative impacts of flooding and erosion include decreasing soil fertility, cropping intensity and productivity in both upland and lowland areas.

12. **Observed Climate Variability/Change in Myanmar.** Myanmar National Adaptation Programs of Actions (NAPA) highlights the following observed climate change over the last six decades:

- General increase in temperatures across the whole country (~0.08°C per decade), most notably in the northern and central regions;
- General increase in total rainfall over most regions, however, with notable decreases occurring in certain areas (e.g. Bago Region);
- Decrease in the duration of the south-west monsoon season as a result of a late onset and early departure times; and ,
- Increase in the occurrence and severity of extreme weather events, including; cyclones/strong winds, flood/storm surges, intense rains, extreme high temperatures and drought.

13. **Projected Climate Change and Vulnerability for Myanmar (2001-2100).** Whereas NAPA also predicts the projected climate change and vulnerability up to end of this century. These include:

- General increase in temperature across the whole country, particularly from December - May with the Central and Northern regions experiencing the greatest increases;
- Increase in clear sky days exacerbating drought periods;
- Increase in rainfall variability during the rainy season including an increase across the whole country from March - November (particularly in Northern Myanmar), and decrease between December and February;
- Increase in the risk of flooding resulting from a late onset/early withdrawal of monsoon events;
- Increase in the occurrence and intensity of extreme weather events, including cyclones/strong winds, flood/storm surge, intense rains, extreme high temperatures and drought.

14. Keeping in mind the scenario explained above, the project will take appropriate adaptation measures for climate change. Accordingly all infrastructure schemes will be so designed that each scheme is expected to be climate smart/resilient. It will be achieved through taking appropriate design modifications (proper site locations, use of richer specifications, strengthening critical sections etc.) before implementation. Table 3 below suggests possible considerations at design and implementation stage for each type of infrastructure scheme proposed by project.

**Table 3: Climate Resilient Infrastructure - Possible Considerations at Design Stage**

Infrastructure Scheme	Climate Resilient Considerations
Farm to Market and Rural Access Roads	<ul style="list-style-type: none"> <li>• Raise overall road structure at least to highest flood level.</li> <li>• Provide adequate drainage structures at all critical locations.</li> <li>• Ensure optimum compaction of road structure (base and sub-base) for achieving maximum strength against weathering.</li> </ul>
Lining of Main Canal	<ul style="list-style-type: none"> <li>• Provide adequate drainage structures at appropriate locations.</li> <li>• Line the sections at locations more prone to floods.</li> <li>• Use richer specifications (cement-sand mortar, use of reinforced concrete instead of brick masonry etc. ) at critical sections</li> <li>• Strengthen backfills of walls with proper earthen slopes</li> <li>• Avoid providing temporary outlet structures</li> </ul>
Distributaries, Minors and Watercourses	<ul style="list-style-type: none"> <li>• Provide good drainage facilities (culverts, pipes etc.) at critical sections</li> <li>• Provide proper outlet structures (masonry work with opening/closing facility) to avoid creating weak sections.</li> <li>• Strengthen backfills of walls with proper earthen slopes.</li> <li>• Tree plantation along distributaries /watercourses is a good option to reduce soil erosion.</li> </ul>
Drainage Canals	<ul style="list-style-type: none"> <li>• Provide ample (additional slopes for quick drainage of any accumulated water</li> <li>• Use richer specifications at critical locations (flood prone areas, usual routes of hill torrents)</li> <li>• Provide adequate cross drainage structures (culverts, pipes etc.) where necessary.</li> <li>• Well consolidate the embankments.</li> </ul>
Bridges and Culverts	<ul style="list-style-type: none"> <li>• Use richer specifications (richer concrete, additional reinforcement etc.) for bridges at critical locations.</li> <li>• Make adequate provision of good drainage particularly around foundations to avoid water accumulation and soil erosion beneath.</li> <li>• Strengthen backfills of walls with proper earthen slopes</li> </ul>
Land Levelling	<ul style="list-style-type: none"> <li>• Make provision for drainage where necessary.</li> <li>• Plant tree along watercourses to avoid soil erosion</li> <li>• Ensure proper land levelling with laser levels to avoid creating uneven spaces.</li> </ul>
Hydraulic structures	<ul style="list-style-type: none"> <li>• Select optimum locations; avoiding flood prone areas, minimum drainage disruption etc.)</li> <li>• Use richer specifications at critical locations.</li> <li>• Raise/lower crest level of structures than normal designed cross-sectional values thus incorporating a factor of safety against floods/droughts.</li> </ul>
Drinking Water Schemes	<ul style="list-style-type: none"> <li>• Site pump/motor other permanent structures to appropriate places to avoid flood prone locations.</li> <li>• Raise pedestal of pumps and motors to appropriate level for avoiding flood damages</li> <li>• Provide 10-15% additional filter pipe (and accordingly overall boring depth) to cater water table variations during drought like conditions.</li> <li>• Provide proper drainage facilities around water points to avoid wastewater stagnation and resulting contamination of water source.</li> </ul>
Head Regulators	<ul style="list-style-type: none"> <li>• Site at appropriate locations away from flood prone areas.</li> <li>• Use richer specifications if needed at critical locations.</li> </ul>

15. The proposed Irrigation improvement infrastructure schemes are environment friendly interventions because of their relatively smaller size and type of interventions. For instance all irrigation related interventions would considerably improve water management and reduce (30-40%) water conveyance losses. Other socio-economic benefits include increased crop yield as a result of increased and reliable availability of irrigation water, reduction in required labor for maintaining improved watercourses. Drainage schemes would help reclaiming a large majority of abandoned farm lands in addition to achieving an incremental crop area. Rural access roads with proper drainage structures would help reducing soil erosion and provide all weather access for farmers to farm inputs (seeds, fertilizers etc.) at a cheaper transport cost and reduce post-harvest losses to reach market in a shorter time.

16. Similarly flood protection works would not only avoid farm losses (of standing crops) but also protect human settlements and mitigate people's displacement.

17. The project will strengthen participatory water management within the rehabilitate/improved irrigation schemes. Currently, farmers are responsible for dealing with irrigation water distribution at tertiary level; however, they are organized in village water management committees (VWMCs) with limited capabilities and responsibilities, and without access to or control over financial resources for O&M. The network of knowledge centers (see below), supported by experienced service providers, will provide support to: (i) formalize existing informal groups (VWMCs) into Water Users' Groups (WUGs), of about 20-30 members each, along tertiary canals and register them compliance with the legal framework, where feasible; (ii) strengthen WUGs through capacity building in management and technical skills; (iii) support WUGs to establish cost-recovery mechanisms for O&M and emergency repairs, and (iv) empower WUGs to channel their concerns on the timing and quantity of water delivered to State-level MoALI IDs, and to air any grievances. This work will be undertaken in coordination with ongoing water management activities of other projects (e.g. those financed by JICA) to ensure best practice and methodological consistency. When the WUG model is operating successfully in the targeted 35,125 acres, the scope for its expansion across the remaining command area of project irrigation schemes (23,000 acres) may be considered. KCs will instrumentalize this potential scaling up. In the medium-term, IFAD country programme will work with partners to assess the scope and methods for federating WUGs into secondary-level Water Users' Associations or integrating them into a broader cooperative structure.

### **Sub-component 1.2: Community Agroforestry**

18. Project investment in agro-forestry will aim at improving living conditions in forest and sloping upland villages and increasing economic benefits for communities within these areas. Investment will also protect ecosystems, reduce encroachment on primary forest, increase soil water infiltration and reduce soil erosion. All sloping upland and agro-forestry activities will be defined through a full participatory and culturally sensitive approach. Activities developed under this sub-component will include: (i) improvement of degraded mountain slopes in Shan State through Sloping Agriculture Land Technologies, and (ii) improvement of livelihoods in mountainous agro-forestry villages in Northern Kayin.

19. *Sloping Agriculture Land Technologies (SALT)*. On upland areas degraded and prone to soil erosion in Shan State (20,000 acres out of 40,000 acres of Inle Lake watershed), the project will introduce Sloping Agriculture Land Technologies (SALT) aiming at reducing erosion and further increasing soil fertility resulting in increased potentiality to develop high value crop farming. Under SALT, and according to the steepness of slopes, permanent natural terraces will over time be formed resulting from contour lines planted with hedgerow of moringa that will effectively increase water infiltration, reduce flooding, reduce erosion, retain plant nutrition and further build soil fertility. Terraces will be cultivated with different field crops including high value vegetables, fruit and nut trees while the steepest part of the slopes will be used for production of fuelwood and timber. Moringa hedgerows will also be used/sold as animal feed thus generating complementary income. The introduction of SALT will lead to a positive environmental impact thanks to the reduction of sedimentation of the drainage system in Hopong valley significantly reducing the frequency and cost of de-silting dams, silt-traps, and drainage canals. As a result, the sedimentation and eutrophication of Inle Lake will also be reduced thus contributing to the rehabilitation of the lake. The project will benefit from lessons learned and experience in the region (China, the Philippines, Vietnam and Thailand) as well as from experience in other States (Mon, China and Kayin States). Capacity building of relevant MoALI staff will be improved by a study tour and an international NGO contracted by the PMU to assist MoALI in the development of SALT procedures.

20. SALT will be implemented by the respective KCs within the project area of sloping agriculture land with support from a NGO. The KC and the NGO will receive the necessary training in demarcation of the contour lines by the State-level MoALI Mechanization Department (MD). The KC and the NGO will be responsible for undertaking the demarcation of the contour lines together with the owners of sloping land. The work will be supervised by the State-level MoALI MD. Farmers will be

responsible to plant the hedgerow under the supervision and advisory services of the NGO. It is estimated that a total of 5,400 km of double contour lines will be planted over a period of 5 years covering around 4,000 acres per year. The project will finance the cost of the NGO, the supervision costs by the Mechanization Department as well as the planting material for the hedgerow (in the form of a grant to farmers. The contribution of farmers will include planting and weeding of the hedgerow (labor force - in-kind contribution).

21. Together with the implementation of SALT, the project will also finance the construction of 50 tubewells and harness 50 springs/streams for drip irrigation (one infrastructure for every 200 acres), the installation of 50 solar pumping stations for drip irrigation in lower part of upland sloping land. Adequate locations for these infrastructures will be identified by the NGO and the project. Implementation of these infrastructures will be carried out by the suppliers together with the communities. Suppliers will also train some community members in basic operation and maintenance of these infrastructures. The PMU Community Development and Gender Specialist will assist communities in selecting these members.

22. *Community Facilities.* In Kayin State, living conditions in mountainous villages are harsh and constitute one essential factor for out-migration. Together with the development of agro-forestry activities, the project will seek to improve living conditions in 20 villages located in the mountains of Thandaunggyi township in Northern Kayin through the installation of drinking water network and micro-hydro power station.

23. The selection of these 20 villages will be made by the project (PMU Community Development and Gender Specialist), the NGO and the State-level MoALI DA based on:

- poverty level of the community and percentage of extremely poor and poor households within the community;
- outreach (effective number of households that are defined as main project target group);
- cost per individual (overall cost of the infrastructure per member of the community and per member of the project target group);
- technical feasibility (preliminary study undertaken by the irrigation specialist in each State-level PIO).

24. It has to be noted that tubewells implemented in Shan State for drip irrigation will also be used for drinking water. Finally, the project for both agro-forestry sites in Northern Kayin and terraces in Shan States will support the eco-friendly and climate resilient construction of critical sections of roads totaling 30 km in each State, thus improving access to regional markets.

25. Agro-forestry activities in North Kayin will be executed by an NGO already working in the area with experience in working with ethnic groups in forest areas, selected by the Kayin PIO on competitive basis (RFP method). If the NGO selected for the assistance to KC Managers has the necessary experience, it will not be required to select another NGO. Should the selected NGO not have this experience, then the PMU and Kayin PIO will proceed to the selection of a new NGO for that purpose. Where applicable, the NGO will work with State-level SLRD for issuance/reissuance of land titles. Communal land titles for agro-forestry communities will be considered.

## **Component 2: Enabling Investments.**

26. This component includes two sub-components: (i) knowledge and technology; and, (ii) business services. This component will also benefit from the lessons learned from FARM project since it also includes Knowledge Centres and access to a diversified range of financial instruments to stimulate collaboration between entrepreneurs and producers. The project will contribute to building the capacity of farmers through access to new techniques and technologies, through strengthened backward and forward linkages with other stakeholders in selected value chains (input suppliers, processors, buyers, other service providers). Its objectives are: (i) skills of farmers and producers are

improved; (ii) permanent and seasonal jobs are created, and (iii) selected value chains are strengthened with the possibility to replicate this strengthening to any commodity. The project will also contribute to facilitate the access of farmers, small entrepreneurs and project target population to a wide an diversified range of financial instruments at an affordable rate through financial institutions sustainably implemented in the project area. Its objectives include: (i) financial inclusion is promoted and improved; (ii) financial environment for the development of crop production, the implementation of micro and small enterprises as well as the creation of processing units in partnerships with local private investors is improved.

### ***Sub-component 2.1: Knowledge and Technology.***

27. *Demand for services.* A strong demand for pluralistic advisory services covering production, postharvest handling, marketing, financing, and farm business management of smallholder activities is currently unmet as MoALI's extension service has little rural outreach due to budgetary constraints. Knowledge transfer is limited and the adoption rate for new technologies and inputs is low. Furthermore, extension and research services focus on crop productivity, with little attention to commodity development, value chain upgrading, market access, and linkages to markets and financial services. However, MoALI at State level in both Shan and Kayin States (among others) are piloting a new concept of Knowledge Centres (KC) at a few irrigated schemes which have undergone land consolidation. These KCs have been very effective in introducing new varieties, husbandry and irrigation practises for rice production as well as for non-rice winter and summer crops vegetables (potato, garlic, onions, carrots etc), oilseed (radish, rape seed, mustard seed, gram, soya and groundnut), maize for animal feed and sweet corn for fresh consumption.

28. *Knowledge Centers.* Services for smallholder households will be delivered through a network of *Knowledge Centers (KCs)* which will build on the existing structure of MoALI extension services. Up to 43 KCs will gradually be set up across the project area in Kayin and Shan States to serve as focal points for the provision of services, supply of inputs, aggregation of outputs, and linkages among value chain stakeholders. The operation of KCs will build on MoALI's pilot experience as well as on regional and global best practices. KCs will operate on the basis of several key principles: a decentralized and bottom-up approach; pluralism of actors in service delivery; promotion of partnerships, particularly public-private partnerships (PPPs); clear market orientation, and vision for cost recovery.

29. KCs will be low-cost facilities established on PPP basis. They will be owned by MoALI, governed by an elected, gender-balanced Board representing all ethnic groups and socio-economic categories of the rural population (as well as MoALI), and managed by a MoALI-seconded extension officer trained by the project for this purpose. While a multi-disciplinary team may be preferable, the cost implications would be too high and prospects for sustainability unacceptably low. Instead, the selected extensionist would manage the KC and broker the services demanded by its members, utilizing existing capacities in the public and private sectors. A financial mechanism will be elaborated for members to gradually contribute to KC operational costs.

30. Each KC located in irrigated areas will serve about 3,000 acres cultivated by about 1,000 farming households, each KC located in uplands will serve about 5,000 acres cultivated by about 1,000 farming households, and each KC in agro-forestry sites will serve about 5,000 acres cultivated by around 700 farming households. To facilitate the delivery of services and maximize their impact, farming households will be organized into gender-balanced common interest groups (CIGs) of about 50 members each, revolving around WUGs for irrigated farms and geographically for agro-forestry households, as appropriate.

31. *Supply of services.* The project will organize the delivery of a range of diversified services to farming households. These services may include: (i) technology transfer, skills improvement and knowledge development for productivity improvement; (ii) access to improved inputs; (iii) access to markets, market information and contractual linkages with other value chain stakeholders (contract farming, outgrower schemes); (iv) access to storage and primary processing options; (v) access to

mechanization (in areas of insufficient labor supply); and, (vi) access to financial resources through partnership with financial institutions. In the medium-term, the project may support producers to associate into registered organizations, allowing them to enter into commercial agreements with private investors; in this case, legal, financial and business training would also be offered.

32. Based on market demand and potentiality for post-harvest activities to be developed, KCs will promote new varieties of existing crops and/or promote high value crops suitable for each different agro-ecological zones in which the project will develop its activities:

- *Irrigated land.* Investments in land development on a total of 35,125 acres and water management together with the provision of adequate technical services will enable farmers to plant monsoon rice at the onset of the season instead of the present situation whereby farmers have to wait until flood water **recedes**. Such investments will allow for the introduction of new high yielding rice varieties and for mechanized harvesting practices; a significant improvement particularly for the Hopong project area where most of the paddy area is currently harvested in 1-1.5 meter standing water. Investments in water management will also allow the introduction of a second crop e.g. sesame, groundnut, soya, maize, gram, vegetables (Kayin and Shan States) as well as potato and garlic (Shan State). With flood control and irrigation improvements, the production of a short duration third crop like grams and/or oilseeds will be facilitated based on residual soil moisture. In some locations, summer rice will also be cultivated where sufficient river water is available for pumping. Investments in water management associated with related changes in cropping patterns will pave the way for increased production of diversified crops; a triggering factor for the establishment of post-harvest facilities within or near the project areas. The overall increase in rice production will warrant investments in upgrading the milling and storage capacity with a focus on exporting the surplus of rice.
- *Mountain Agroforestry.* Fifty villages totalling 23,625 acres will receive support from the project. Currently, crops grown include cardamom (major crop), coffee (second crop) and a mix of different fruit trees (third crop) and trees for fuel and timber (fourth crop). In addition, households also keep a few pigs and chickens on a yearly basis for subsistence and produce bamboo-woven baskets for local commercialization. Signs of slow encroachment on the primary forest have recently emerged as a result of households' needs for increased income. To reduce encroachment on primary forest and improve households' income, the project will introduce through its Knowledge Centres (see below) improved husbandry practice for cardamom and coffee together with new varieties. The introduction of black pepper, passion fruit and shiitake mushroom, as well as the assistance to implement small processing activities at community level such as drying of coffee and cardamom and production of bamboo chopsticks will offer additional sources of income for the communities and contribute to a more sustainable and environmental-friendly use of natural mountain resource base. Private companies have committed to purchase and process cardamom, passion fruit, coffee and shiitake mushroom through a contractual arrangement and/or direct sale by the farmers.
- *Agriculture on Gently Slopping Land.* The project will also provide support to 63,500 acres of upland in Kayin State of which around 10,000 acres are smallholder rubber plantation located on the gentle sloping hills at the foot of the mountains and with the remaining upland being either very gentle sloping or level upland with limited or no soil erosion. Small scale rubber farmers have been seriously hit by the recent drop in price for natural rubber latex. To improve farmer's income the project will support the introduction of intercropping oilseeds and black pepper with rubber trees and the increased use of fertilizer for rubber trees which will lead to their timely maturity and increased production of latex. Post-harvest activities will also be promoted and supported by the project such as cleaning, coagulating, pressing latex into ripped sheet and smoke-drying latex sheets into Ribbed Smoked Sheet (RSS) ready for the market.

33. The responsibility for organizing the provision of services will be assumed by KC managers, initially supported by a contracted service provider (a local NGO). In addition to production and market-related services above-described, other services will also be extended: (i) CIGs creation and

training of their representatives; (ii) coordination of agricultural demonstrations and trials on progressive farmers' land in collaboration with the State-level Department of Agriculture Research (DAR), the Agriculture Institute (AI), and private sector companies. A number of demonstrations/trials will be organized annually by each KC, the cost of which will gradually be borne by the private sector, and (iii) WUGs through capacity building in water management, maintenance of water delivery system, maintenance of water pump stations (the latter for Kayin State), and development of a business model for operating the pump station and maintaining the delivery system based on a sustainable cost recovery system. The local NGO will more specifically support value chain analyses, contractual linkages among stakeholders, post-harvest processing options, and farmer integration into professional entities.

34. At the onset of the project, capacities of MoALI extension staff will be strengthened by a project-contracted local NGO through a training programme to improve their skills in participatory methods of service delivery. Training of selected extension officers to serve as KC managers will cover partnership building, value chain management, technologies, networking and marketing. Selected officers will have annual performance-based contracts for KC management, renewable based on satisfactory assessment by KC members. The project will finance equipment (mobile phone, motorcycle) and operating costs (field allowances at official MoALI rates).

35. *Sustainability.* The KCs managers' current salary will be borne by the MoALI. The project will finance a motorcycle, a mobile phone and travel expenses of each KC Manager enabling him/her to affectively provide services to farmer members of the KC in the field. Motorcycles and mobile phones will be issued on a hire-purchase basis ensuring continuous availability of transport and telephony. The local NGO together with KC Managers will assist farmers in developing a cost-recovery mechanism for KCs' current operating expenses while expenses incurred when implementing trials and demonstrations will be gradually borne by the private sector. Technical assistance will be provided to develop capacities for managing the KC as a business/PPP venture in the medium term. IFAD best practices in cost recovery for service delivery will be applied gradually, in consultation with the *Global Forum for Rural Advisory Services* of which IFAD is a governing member.

36. With regards to DAR and AI in each State, support will be provided by the project for building their capacities. In that respect, the project will finance technical equipment and staff training.

37. Mechanization will also be promoted and supported through KCs, especially for irrigated land develop under the project. Current shortage of rural labour hampers the development of commercial agriculture and lack of access to financial services prevent farming households from substituting rural labour with agriculture machinery and equipment. The KCs managers will facilitate the operational linkage between farming households and micro-entrepreneurs who have invested in agricultural equipment and machinery rental services.

38. MoALI extension staff capacities will be strengthened through an intensive training programme to improve their skills and participatory methods to deliver services responsive to the priorities of small farmers. Training of selected extension officers to serve as KC managers will cover partnership building, value chain management, networking, technologies, marketing and management. Selected officers will have one-year performance-based contracts for KC management renewable based on satisfactory assessment by KCs members. The project will finance their equipment (mobile phone, motorcycle) and operating costs (field allowances at official MoALI rate). The NGO, selected by the PMU with the support of UNOPS, will have an annual performance-based contract, renewable subject to satisfactory assessment of performance by project management and beneficiaries.

39. The same PMU-contracted NGO will be responsible for the provision of services to small entrepreneurs interested to apply for support under the project's supported financial products. The NGO will; identify technical needs and create links with vocational training institutes; provide business management training; support the elaboration of business plans, market studies, and loan applications; undertake simple value chain analyses and marketing studies; and foster linkages with MFIs and other stakeholders.

40. Under FARM the MoALI seed inspectors will be supported to become service providers for farmers interested to participate in multiplication of seeds for sale to other farmers and contracted by established input suppliers. These seed inspectors will also be used for activities in ESAP's project areas. Farmers' field schools will be introduced to facilitate the link between new crops/new technologies, improved harvest/post-harvest processing for processors. Project will also support state-level agricultural institutions such as research departments, agriculture institutes and laboratories. In particular, the project will finance equipment and materials for the Kayin State Agriculture Institute, and will finance capacity building of staff from State Agriculture Institutes, research departments and laboratories in both Kayin and Shan states through technical training, access to new technologies (workshops) and study tours.

**Sub-component 2.2: Services.**

41. Activities implemented under this sub-component will provide smallholder farmers as well as entrepreneurs with economically viable access to local and international markets and with access to adapted and affordable financial products enabling them to create and/or expand their activities. Under this sub-component, the project will (i) promote linkages between producers and post-harvest investors and existing companies and international food security and traceability certification of agricultural production to facilitate exports, and (ii) implement three financial instruments: (a) a complementary credit guarantee associated to a cash deposit for farmers outside of contract farming arrangements; (b) a matching grant facility to incentivize investors to develop post-harvest activities within/close to the project area.

42. **Value Chain Linkage Development.** The project's support to agribusiness development in agro-forestry areas will adopt a three-pronged focus, consisting of market development, capacity building, and financing. In both Kayin and Shan States, a significant potential exists for the improvement of traditional crops and the development of high-value horticultural crops for both the domestic market and the export market. Initially, KCs supported by the service provider (NGO) will undertake detailed value chain analyses for different crops to maximize the benefit for smallholders when producing crops with secure markets. Potential high value crops with growth potential and which are already grown by a large number of smallholders in the project area include: (i) wide range of vegetables; (ii) fruits, nuts and coffee; (iii) cut flowers; (iv) grains, and (v) rubber. On the basis of these value chain analyses, the project will promote Public Private Partnerships (PPPs) with existing companies and/or investors willing to increase post-harvest processing capacities within or near the project-selected production areas increasing demand for high value/quantity crop production. Through such PPPs, companies and/or investors interested will support capacity building of farmers through the provision of advisory services on crop husbandry, quality control and production standards (Myanmar GAP, ASEAN GAP, GGAP, in close collaboration with KCs Managers and the local NGO assisting them. The project will seek to ensure that the provision of this support is carried out in the context of contractual arrangements such as contract farming and/or outgrower scheme between producers and post-harvest add value companies. PPPs can be implemented with existing companies willing to expand their production through the inclusion of new crops or new suppliers, with investors willing to invest in modern post-harvest added value units and also with producers/farmers willing to develop post-harvest activities in order to get a larger share of the value added of the product. Potential post-harvest activities include (non-exhaustive list): canning factory for vegetables, maize drying/storage facilities, paddy drying, milling/storage facilities, mushroom drying, Individual quick frozen (IQF) facilities for passion fruits and other fruits, seed processing, as well as tissues laboratories in both States; tomato paste, mango de-pulping, packaging and storage facilities for mangoes, drying of mango pulp, and garlic powder processing in Shan State and groundnut, coffee cardamom drying in Kayin State.

43. **Export promotion.** The project will assist existing and newly created companies to obtain HACCP and/or ISO 22000 as well as organic certification to comply with international standards enabling these companies to access export markets and compete with imports on the domestic market. In that respect, the project will contract qualified experts to upgrade companies' capabilities



to required international standards. KCs Managers and processors will receive support to participate in regional and international trade missions and trade fairs combined with tours to study market requirements in recipient countries. Processors/exporters will also be supported to ship strategic trial consignments to new export markets. The cost related to these export promotion activities will be shared between the project and the processing companies.

44. ***Credit Guarantee Associated to a Cash Deposit.*** Through KCs, the project will further promote contract farming arrangements between producers and processing companies for both existing and newly introduced crops. Contract farming arrangements are already widely spread across Myanmar. Participating commercial banks will finance smallholders but loan proceeds will be disbursed to processing companies for them to purchase and supply agricultural inputs in-kind to smallholders. Bank loans will complement the amount received by smallholders from the Myanmar Agriculture Development Bank (maximum MMK 100,000 at 5% interest rate for 6 months) and will be guaranteed by land titles (valued at about 10-15% of the land commercial value) and an additional guarantee extended by processing companies if necessary.

45. The land value estimate will be reviewed at the beginning of each fiscal year by the bank, the State-level MoALI and the project on the basis of land commercial value and experience in selling land after foreclosure.

46. The project will facilitate the implementation of such arrangements, especially assisting smallholders to form producers' groups at the level of each KC to reduce transaction costs. The NGO supporting the KC manager will be in charge of that activity. Arrangements will be made between the processing company, the lending institution and each producer within the KC group. The KC group will be joint-liable. The commercial bank will issue a loan contract to be signed by each producer member of the KC producers' group and a Memorandum of Understanding (MoU) with the processing company stipulating the purpose of the loan (purchase of agriculture inputs detailed for each input with its purchase price, the quantity to be provided to each farmer and the amount owed by each farmer to the processing plant as well as the deadline for inputs physical delivery at the KC). The KC manager will also sign the MoU.

47. For crops that cannot be dealt with under a contract farming arrangement, the project will substitute the guarantee extended to the lending bank by the processing company with a cash guarantee. Based on the amount that farmers can receive from the Myanmar Agriculture Development Bank to finance their activity and on the bank estimate of the value of land titles related to farmers' land pledged as collateral, it has been estimated that in average 20% of the total financing needed by farmers would be uncollateralized (will not be covered by the estimated value of the land titles pledged as collateral against which the commercial bank has extended the loan).

48. The guarantee provided by the project as a substitution to the company's guarantee in the case of crops outside contract farming arrangement possibility, will cover 70% of the risk on the uncollateralized part of the loan, the remaining 30% of the risk is borne by the lending commercial bank. The guarantee mechanism will be as follows:

- ***The project provides a portfolio guarantee.*** It implies that the project will not review each loan application and business plan submitted by the farmer to the commercial bank. The guarantee is automatically extended provided that the loan meets the following eligibility criteria: (i) loan financing a crop that is not dealt with under contract farming arrangement; (ii) farmers located in a project-selected site, and (iii) the loan only finances primary production from land preparation to harvesting.
- ***Maximum coverage of the guarantee.*** The maximum coverage of the guarantee is defined at 70% of the uncollateralized portion of the commercial bank loan. The uncollateralized portion is defined as the difference between the loan amount extended by the commercial bank and the estimated value of the land pledged as collateral by the farmer.

- Approval mechanism. On a monthly or quarterly basis, each participating commercial bank will submit to the manager of the guarantee mechanism the list of all loans extended during the period that the bank considers as eligible to the project guarantee mechanism. The project guarantee manager will select randomly a few loans and will ensure that the eligibility criteria for these loans are effectively met. If not, the related loan will be excluded retroactively from the project guarantee mechanism and the bank will be duly notified.
- Claims. 90 days after the date of the first missed instalment, the commercial bank has the possibility to call on the project's guarantee. In that respect, the following documents will be submitted: (i) loan contract; (ii) loan statement indicating the outstanding loan amount; (iii) value of the collateral, and (iv) actions initiated by the bank to foreclose on default farmer. The claim will be reviewed by an ad-hoc committee ('claim committee') composed of one banker, one representative of the relevant state-level DoA, and the relevant PIO manager. A maximum of 30 days is given to the committee to reach a conclusion. In case the claim is accepted, the payment will be twofold. The first payment will be processed when the claim is accepted and will amount to 50% of the liability at the date of the approval of the claim. The second payment will be processed 90 days after the first payment and its amount will be equal to the project's guarantee liability at that date minus the first payment.
- Fees. The access to the portfolio guarantee of the project will be charged by the project to the commercial bank at 0.5% of the loan amount guaranteed.
- Reporting. On a monthly basis, a maximum of 10 days after previous month's end, the bank will submit to the project guarantee manager an ageing balance of all loans falling under the project guarantee mechanism.

49. The project will deposit an amount equivalent to a maximum of 25% of the loan portfolio guaranteed with the commercial bank by the project guarantee mechanism up to a maximum amount of USD 2.5 million. The bank account will be specifically dedicated to the project guarantee mechanism. Signatories on that bank account include: (a) the project guarantee manager, and (b) the PIO Financial Manager. The formal letter issued by the relevant PIO to authorize pay-outs will be signed by the relevant PIO Manager and will be addressed to the project guarantee manager.

50. The project guarantee manager's position will be contracted out to an audit firm, and more specifically to its senior partner. The PMU will publish a call for expression of interest. Local audit firms affiliated to an international network will have the possibility to apply. Short-listed companies will submit a technical and financial proposal reviewed by a local consultant (banker) contracted by the PMU. The responsibility of the audit firm/project guarantee manager will be spelled out in the ToR attached to the contract. Responsibilities will mainly include: (i) follow-up on the bank account and resources deposited; (ii) evaluation of the maximum liability of the project guarantee; (iii) evaluation of the guarantee commitments so far in comparison with amount deposited; (iv) determination of the leverage (guarantee amount against loan portfolio guaranteed); (v) provision of advisory services to the PMU Manager as to increase the amount of the deposit, and (vi) consolidation of financial reporting from participating commercial banks and submission of a monthly financial statement of the project guarantee mechanism; with key indicators (amount deposited, amount committed, leverage, pay-outs, default rate on portfolio guaranteed). The project guarantee manager will also closely monitor the repayment rate of each participating commercial bank to ensure their strict compliance with their procedures. Any variation of more than 5 percentage points in the repayment rate will trigger the suspension of the access to the project guarantee mechanism.

51. The project will contract an international financial expert to build the capacity of participating banks' staff enabling them to interact with the project guarantee mechanism. The international financial expert will also provide advisory services to the project guarantee manager especially with regards to risk management and assessment of the guarantee's commitment and liability. Finally the international expert will also draft the manual of procedures of the project guarantee mechanism and

train all stakeholders accordingly (bank staff, PMU and PIOs Rural Finance specialists, project guarantee manager).

52. At project inception, a call for expression of interest will be issued by the PMU Rural Finance specialist for MFIs and commercial banks. Interested financial institutions will submit their financial statements, development plans, manuals of procedures, and a short description on financing modalities, capacities, terms and conditions to be applied for project-supported beneficiaries. The project will contract an audit firm to carry out a due diligence exercise for the final selection of participating financial institutions in the project guarantee mechanism. Another due diligence exercise would be undertaken under the same procedure during PY3, if necessary.

53. *Agribusiness Fund (ABF)*. The ABF will provide competitive grants to encourage agribusinesses or new investors to set up facilities close to production areas and to enter into equitable contracts with smallholders. This is fundamental in order to enable smallholders to cultivate high value crops and to access relevant services. At a later stage when nascent producers' associations evolve into strong organisations effectively serving their members, the project will promote the Public Private Producers Partnerships (PPPP) model developed by IFAD as a mechanism to replace the Agribusiness Fund and create joint ventures; this transition is expected to be considered in the medium term (after PY3).

54. The ABF will support commodities and post-harvest facilities as recommended by the value chain analyses. Competitive grants will cover up to 40% of the total investment cost of establishing the post-harvest facility, up to a maximum of USD 180,000 per investment. The ABF will operate based on periodic (semi-annual) calls for proposals issued by the project. Proposals will have to focus on commodities with demonstrated comparative advantage, market demand and growth potential in order to be eligible. Selection criteria will include outreach (number of farmers to be contracted), volume (quantity of output to be purchased), returns (unit prices to be paid to farmers), employment (number of jobs created), and commitment (to enter into contracts with producer; to provide technical support). Activities to be grant-financed include: drying, processing into juice, paste, chips, sterilizing, milling, canning cold and dry storage, packaging, refrigerated transportation. For coffee, activities could include: drying, sorting, grading, washing, while for rubber, they could include: latex processing into sheets and smoking. In addition, private sector-owned tissue cultivation units as well as greenhouses are also eligible for project matching grant financing. It is expected that ABF support will generate substantial financial benefits for farmers, employment opportunities, economic multiplier effects, and tax revenues for Government.

55. Twice a year, a call for proposals will be issued by the project (PMU Rural Finance and relevant PIO Business/Value Chain specialist) for the submission of projects within the project-supported commodity chains. Proposals will be assessed against defined criteria by project management and an auditor, reviewed by an independent ABF Committee, and cleared by IFAD. The ABF Committee will be independent and will decide on which proposals meet the criteria set out; this may include ranking proposals if necessary. Committee members will not be involved in any other aspect of the project, nor will have any conflict of interest, nor will stand to gain from their decisions. The Committee will have representation from civil society, the private sector and Government, and members will have the technical skills to make informed decisions. Committee membership will be defined at project start up.

56. The ABF will be managed on the basis of standard operating procedures consistent with IFAD's *Technical Note on Matching Grants* and best practices. An adapted version of the *Competitive Small Grants Manual* developed and operationalised by the Viet Nam ICO will be utilised as a reference.

57. **Financial Inclusion.** Financial inclusion will be promoted by fostering the establishment of Savings and Credit Groups (SCGs) and by providing financial literacy training to rural households in the project area.

58. The project will assist rural communities to establish their own SCGs (one per KC). For that purpose, the project will contract the Myanmar Microfinance Association (MMA - regrouping 222 member MFIs working across Myanmar) to assist communities to establish and register their own SGCs and to provide adapted technical assistance and support (election of bureau, training and

capacity building, implementation of procedures, monitoring and control of activities and financial statements).

59. Beforehand, the project will contract an international MFI such as Caisse Desjardins operating in Vietnam to build up the capacity of MMA and its working group consisting of MFIs operating in Kayin and/or Shan States, in close coordination with UNCDF. This international MFI will assist MMA and its working group to fine-tune the establishment and support methodology for SCGs as well as the methodology to gradually incorporate these new SCGs in their network. SCGs activities will primarily focus on savings mobilization and provision of micro-credits for households consumption. It is not expected that such institutions finance agriculture.

## Annex 1: Elements for a FPIC implementation methodology to be solicited during implementation phase

At the beginning of the implementation of the project, the start-up workshop will provide the opportunity to discuss as part of the implementation arrangements, this overall FPIC plan included in the project design and will start identifying the details for the consultation plan leading to consent, and capacity-building measures with concerned local and ethnic minorities' communities representatives.

The start-up workshop will:

- ✓ Discuss arrangements for conducting the socio-cultural and land tenure assessment.
- ✓ Engage experts on local/indigenous peoples' communities;
- ✓ Assign responsibilities for implementing the FPIC plan, including identification of independent organizations/experts to conduct the FPIC process
- ✓ Assess the need for building the capacities to implement the FPIC and plan accordingly
- ✓ Assign a specific role to local communities in managing resources and include capacity-building measures, as necessary at community level.

Consultation and participation processes leading to the free, prior and informed consent (FPIC) of local communities on the proposed activities of the project will be undertaken through the following activities:

- Socio-cultural and Land Tenure Assessment (including a tentative timing on when this will be conducted e.g. as one of the priority activities at project effectiveness and before any activity affecting the land and resources of the people will be initiated. Also indicate who will conduct the study: e.g. independent NGO, consultant, with full participation of the community;
- Identification of decision making institutions and representatives to ensure full, effective and equal participation of stakeholders leading to FPIC (This could be simultaneous to the socio-cultural and Land Tenure Assessment during communities consultations for the assessment);
- Consultation plan leading to FPIC on the proposed project (including calendar and timeline agreed upon with the identified decision making institutions), which will be developed on specific project components/activities likely to affect land access and use rights of communities. The FPIC process will be designed as a continuous consultation process during project cycle to improve and adjust project design and implementation to identify positive impact and results for the communities in order for them to gain the best benefit from the projects. The FPIC plan will specify the format of the Consent Agreement. FPIC process will be conducted through an independent facilitator.
- Participatory mapping as part of the consultation and participation process leading to FPIC will be conducted as part of the FPIC process.

The table below elaborates the activities to be undertaken to ensure a comprehensive implementation of FPIC plan:

What to do	How to do it
<p><b>Socio-cultural and Land Tenure assessment:</b></p> <ul style="list-style-type: none"> <li>- Identify the community stakeholders and land owners and users in the project area including neighbours (who can be affected by use of resources), who has right to give or withhold consent, and identify customary laws, informal rules and organising practices, claims on land ownership, occupation and use</li> <li>- Identify types of livelihoods and resources communities depend upon</li> <li>- Identify institutions, governance systems and decision making roles; and existing dimensions of traditional leadership and traditional mutual support and solidarity/reciprocity mechanisms;</li> <li>- Identify social, economic, cultural and spiritual relation with land and territories;</li> <li>- Assess possible consequences for local communities resulting from the change on the status of land, territories</li> </ul>	<ul style="list-style-type: none"> <li>- The implementing agency responsible for conducting the Assessment to engage experts on local/indigenous peoples' communities and land tenure</li> <li>- Carry out consultations with the full and effective participation of communities; focus groups (men, women, youth) interviews and questionnaires focusing on relations among society groups (individuals, families, clans, tribes, neighbouring villages);</li> <li>- Consult local governments and institutions (Civil Society, local and national Indigenous Peoples' Institutions and Organizations, NGOs), and international organizations present in the project area;</li> <li>- Share with stakeholders the results of the process</li> </ul>



What to do	How to do it
	<ul style="list-style-type: none"> <li>- <i>Respective expectations;</i></li> <li>-</li> <li>- <i>Proposed project duration, expected results and activities;</i></li> <li>- <i>Participatory monitoring and verification plan and procedures;</i></li> <li>- <i>Identification of grievances procedures and mechanisms;</i></li> <li>- <i>Terms of withdrawal of consent;</i></li> <li>- <i>Record of the FPIC process through means and languages accessible to all stakeholders and parties involved.</i></li> </ul>
	-





## Appendix 5: Institutional aspects and implementation arrangements

1. Myanmar is starting to accumulate experience in managing and implementing externally-funded investments in the agriculture sector. While public sector capacity in the sector has historically been weak, it is gradually improving due to recent capacity building support provided by IFAD, JICA, WB and other partners. Development assistance in rural areas to date has largely focused on grant-based activities of NGOs operating at limited scale. The private sector, particularly in rural areas, generally remains under-developed and concentrated; widespread compliance with the rule of law and adoption of ethical business practices is considered to be a medium term prospect.

2. The decentralization process is at a relatively early stage, and state-level institutions are also weak. Borrowing from experiences in similar contexts and consistent with the country programme, the ESAP implementation approach will consist of: (i) strengthening state-level MoALI and other agencies dealing with agriculture and rural development; (ii) increasing the responsibility of MoALI departments to implement activities, in a sequenced manner; (iii) establishing a small Project Implementation Office (PIO) in each state to coordinate activities and organize implementation through contracts with public and private service providers; and (iv) strengthening the central Project Coordination Unit created under FARM for dialogue with Ministries, interface with IFAD, progress reporting, and consolidated services in financial management and procurement. A robust technical assistance package will be a fundamental tool for implementing this approach.

### **Governance.**

3. **Governance.** The project will be governed by a National Project Steering Committee (NPSC), State Project Coordination Committees (SPCCs), and village tract monitoring groups (VGs).

4. The NPSC will be chaired by the MoALI Deputy Minister. Its membership will include senior representatives of relevant MoALI departments (Office of the Minister and Departments of Planning, Irrigation, Rural Development, Agriculture, Agricultural Research, Livestock, Agricultural Land Management and Statistics) and representatives of MoPF and MoNREC. Representatives of the state-level MoALI will be represented in the NPSC to the extent feasible. The Committee will convene in Nay Pyi Taw. Its responsibilities will be to provide strategic and policy guidance, endorse consultants' selection, approve annual work plans/budgets, and oversee the external audit process.

5. A SPCC will be constituted in each state. It will be chaired by the respective State Minister of MoALI. Members of the committee will include representative from the Office of the Chief Minister, Home Affairs, directors of relevant state-level Ministries and MoALI departments, and representatives of community organizations. Its responsibilities will be to meet to provide overall guidance, approve annual work plans and budgets, endorse consultants' selection, review progress reports, and ensure coordination. The SPCCs will convene in Hpa-An (Kayin) and Taunggyi (Shan) as required.

6. In participating villages tracts, VGs will be organized and chaired by the elected village group leader. They may include representatives of partner NGOs, KCs, farmers' groups, women's groups, and local representatives of MoALI. They will be responsible for ensuring a participatory approach, monitoring implementation, and ensuring poverty focus and gender equality. VGs are expected to meet on regular basis.

7. **Central level management.** The Irrigation Department (ID) will be the focal department of the project. It will be responsible and accountable for the performance and results of the project. A Project Management Unit (PMU) will be established within ID and will be integrated with ID structures. It will be responsible for project implementation, fiduciary management (including financial management, procurement and contracting, legal compliance), work planning and budgeting, and monitoring and evaluation, and progress reporting.

8. The PMU will be headed by a Project Director from the ID appointed by MoALI. Daily operation of the PMU will be the responsibility of a Project Manager recruited from the market through a competitive process. The PMU will be staffed by: (i) relevant assigned officers from ID, DRD, and other MoALI departments as required; and (ii) a set of competitively recruited consultants on annual contracts (agribusiness/value chains; rural finance; community development and gender; accounting; procurement, M&E). As per national guidelines, assigned MoALI staff will be remunerated on Government terms and conditions, while consultants will be remunerated at competitive market rates.

9. The PMU will be supported by a strong technical assistance team to be financed through the IFAD grant. The grant will be executed by UNOPS on the basis of an Agreement with MoALI. UNOPS will competitively recruit the technical assistance necessary to strengthen ID and MoALI in relevant areas. It will provide a medium-term Project Management Advisor (CTA) and specific short-term TA (for example in irrigation design and supervision, participatory irrigation management, agroforestry, enterprise development, rural finance, financial management, procurement, M&E).

10. **Central financial management.** Project financial management will be administered by the existing Finance Unit of ID. The ID will assign a Finance Officer and accounts staff from its existing staff specifically for the project, who will work under the supervision of the unit's Finance Director. This ID Finance Unit will be supported by two consultants within the PMU, namely a Finance Officer and an Accountant.

11. **State level management.** One Project Implementation Office (PIO) will be established in each State, mainstreamed within the state-level ID. In Kayin State the PIO will be located in Hpa-an while in Shan State it will be located in Taunggyi. The PIO will be responsible for coordinating implementation at state level and for monitoring and reporting on progress.

12. The PIO will be headed by a state Project Coordinator, to be assigned by ID from its state-level staff. Daily operation of the PIO will be the responsibility of a state Implementation Officer recruited from the market through a competitive process. The PIO will be staffed by: (i) assigned officers from relevant state MoALI departments (DRD, DoA) and relevant Ministries (such as MoNREC); (ii) a set of competitively recruited consultants on annual contracts (agriculture/agroforestry, rural finance, community development and gender, accounting, M&E). As per national guidelines, assigned MoALI staff will be remunerated on Government terms and conditions, while consultants will be remunerated at competitive market rates.

13. The PIOs will be supported by a strong technical assistance team to be financed through the IFAD grant. UNOPS will competitively recruit the technical assistance necessary to strengthen state level ID and MoALI in relevant areas. In each state, it will provide a Project Implementation Advisor for the durations required, and specific short-term TA (for example in participatory irrigation management, agriculture value chains, enterprise development, rural finance, financial management, M&E).

14. **State financial management.** State-level financial management will be administered by the existing Finance Unit of state-level ID. It will assign a Finance Officer and accounts staff from its existing staff specifically for the project, who will work under the supervision of the unit's Finance head. This ID Finance Unit will be supported by an Accountant within the PIO.

15. **Institutional strengthening.** An institutional capacity assessment of relevant departments of MOALI in Kayin and Shan States was undertaken as part of the design process. The assessment evaluated their institutional set-up and culture, and their capacity to carry out administrative, support and technical functions. A capacity building plan has been developed (WP 6) to address the institutional weaknesses identified, which will contribute to state-level MOALI's enhanced capability of implementing development investments.

16. **Implementation.** Project activities will be implemented through contracts with service providers such as ministries/departments, NGOs and the private sector. Service providers will be appointed on performance-based contracts, with their performance assessed by the PMU, PIOs and community representatives where applicable. The specific arrangements are out-lined below.

#### *Sub-component 1.1: Land Development*

- PLUP and FPIC will be implemented by local service providers selected by the PMU on a competitive basis, in consultation with the PIOs.
- Land development financed by IFAD will be implemented by state-level IDs. An engineering firm will be contracted to support design, assess construction norms, verify unit costs, supervise civil works, and provide TA. Supervision will be multi-level, involving ID, PIOs, village tract monitoring groups, and the service provider.

#### *Sub-component 1-2: Community Agroforestry*

- The design of contours and TA to farmers for SALT activities will be implemented by a contracted service provider, while land works will be undertaken by the state-level MoALI AMD.
- Investment in tubewells, solar powered pumps and drinking water networks will be designed and implemented by DRD or a private company on the basis of a contract with ID.

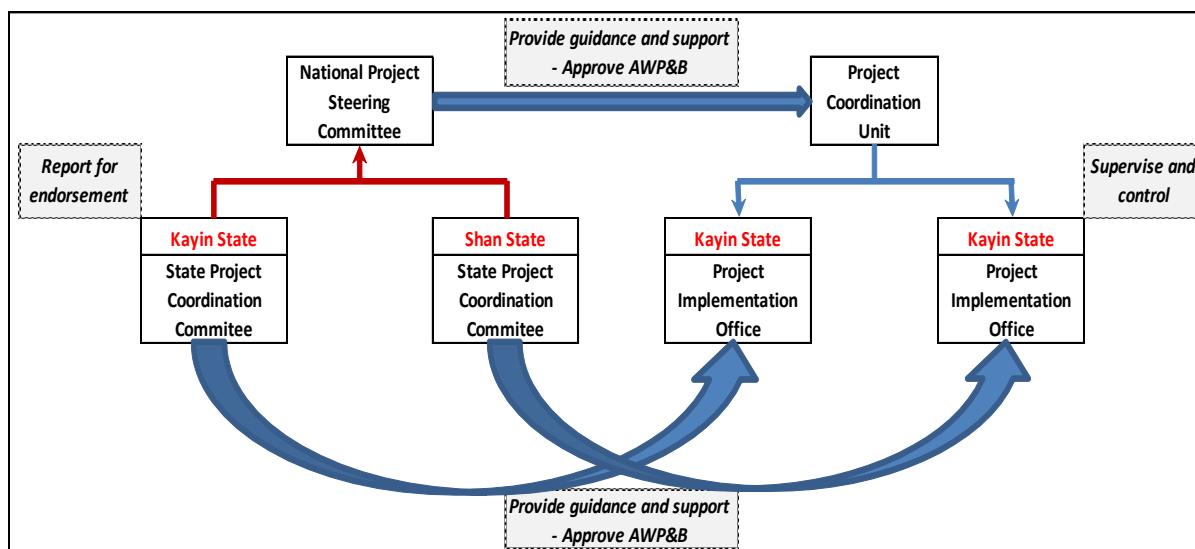
#### *Sub-Component 2.1: Knowledge and Technology*

- KCs will be constructed by local contractors selected on competitive basis by the PMU. Where feasible, community contracting using local labour will be considered. IFAD procurement rules will be followed for the selection of contractors.
- KCs will be supported by the PMU, TA and service providers (competitively-selected) for capacity building of managers, operational support, and brokering arrangements with public and private entities for services to farmers and agro-forestry households.
- Value chain analyses will be carried out by competitively-selected service providers such as consulting firms or NGOs.

#### *Sub-Component 2.2: Agribusiness Development and Financing*

- The ABF will be managed by the PMU with external support as required (e.g. by UNCDF), in collaboration with each PIO, with NPSC oversight. Funding decisions will be made by an independent ABF Committee.
- Guarantee deposits in financial institutions will be managed by an audit firm selected by the PMU, with IFAD concurrence, and subject to due diligence. A Guarantee Committee consisting of a banker, agriculture specialist, auditor will review claims and approve pay-outs. Signatories on the guarantee accounts will be the audit firm's main partner and the Project Director.
- Participating financial institutions will be selected by the PMU. The process will include public announcement, expressions of interest, shortlisting, submission of proposals, evaluation, and clearance by NPSC and IFAD.
- Savings and credit groups will be developed by the Myanmar Microfinance Association, which will be supported by an international service provider contracted by the PMU.

**Figure 1: ESAP Governance and Management Chart**



17. **Implementation arrangements.** Project activities will be implemented through partnerships with the relevant line ministries/departments, international/local NGOs and the private sector. Partners and service providers will be appointed on performance-based contracts, with performance assessed by PIOs and the PMU as well as beneficiary representatives. Specific implementation arrangements are out-lined below.

#### Sub-component 1.1: Land Development.

18. The PMU will be responsible for administration of funds, procurement and payment for services and works carried out under the Paddy Land Development sub-component. The Infrastructure Specialist based in each State PIO will monitor and oversee the implementation of infrastructure works under the overall guidance of the PMU Irrigation Specialist. For the land development work financed by IFAD, the State-level ID will be the key implementing partner, operating under a MoU with the PMU and the relevant State-level PIO. Under this MoU, each State-level ID will retain the key responsibility for confirmation of pre-selected sites, surveying, designing and assessing the costs for the land development works. Each State-level ID will be also responsible for coordinating with other State-level MoALI departments involved in specific aspects of implementation (e.g. the SLRD for the provision of cadastral maps and land titling).

19. The PMU and relevant State-level PIO will ensure timely mobilization, assistance for field operations and monitoring of performance of the Technical Assistance and Implementation Support Services required by the State-level ID for the implementation of investments in Land Development. The key services to be procured by the project include: (i) TA from one consulting firm with relevant experience on land development to support the State-level IDs designers (only for land development work financed by IFAD), and (ii) a local NGO with proven experience in community mobilization, participatory land use planning (PLUP) and free, prior, informed consent (FPIC) approaches to lead the participatory process for irrigation development at each village identified for land development work in both Kayin and Shan States (financed by IFAD).

20. For easier and speedier implementation and to meet the highest standards in procurement, the services of the local NGO will be procured by the PMU with support from UNOPS applying a Quality Based Selection method. By delegation from the PMU, each relevant State-level PIO will administer and process payments for field allowances for the State-level ID staff directly involved in project field activities (surveyors, designers, site supervisors).

21. The central-level or State-level (whenever possible) key branches of the ID involved in the implementation of the component will be: (i) the Investigation branch; (ii) the Design branch; (iii) the Construction branch, and (iv) the Maintenance branch.

22. **Awareness Raising and Participatory Land Development Planning.** In both Kayin and Shan States, the local NGO responsible for conducting awareness raising and participatory Land Development planning meetings in each village targeted under the sub-component will submit monthly work plans to the PMU Community Development/Gender Specialist (CDGS). The CDGS will coordinate the contracted NGO and the ID designers in carrying out joint field visits geared to develop the plans and build up consensus on the land development works. The NGO and the PMU CDGS will also support the establishment of a Project Implementation Committee (PIC) at each block with elected farmers' representatives, whereby each farmer will have one vote regardless of holding size. Each PIC will comprise of one representative per tertiary canal or Water Users Group (corresponding to approximately 75 acres) and be responsible for monitoring the execution and for carrying out the acceptance of the works in the respective block. The membership in a PIC will be voluntary. Women participation in PICs will be encouraged.

23. **Detailed Topographic Survey.** The ID Investigation branch at the ID Head Office located in Yangon has staff, equipment and experience to carry out the required detailed surveys of the target areas within the projected implementation timeframe. A topographic survey team (consisting of 5 people led by an Assistant Engineer) equipped with a total station and experienced in using digital mapping will be responsible to carry out the detailed survey of the selected sites for investments in land development in both Kayin and Shan States. This will be indicatively based on a 30x30m grid with 15 cm contour intervals for all lands up to 1/100 slope. The topographic survey will report all the relevant drain levels and irrigation canal sections which are the basis for a comprehensive and accurate design. Data processing carried out by the survey team will also include the preparation of an overlay of topographic and cadastral maps reporting the current location of plot bunds.

24. **Engineering Design.** A team from the Design branch at the ID Head Office will be assigned to the project and based in Hpa-An (Kayin State) for the duration of the detailed design phase. Since the land development in Shan State will only concern 300 acres, in the first phase, the team from the Design branch will travel from Kayin to Shan State on a regular basis. All the 6 design units of the ID (each comprising of 6 staff led by an Assistant Engineer) are trained in the use of CAD software, but have limited experience in the designs of land development projects, having mostly focused on development of primary and secondary canals. To this effect, TA will be mobilized to support the designers with trainings on the job. Capacity building for the ID designers is a pillar of the component exit strategy. With the current structure of institutional responsibilities and with farming HHs' limited ability to pay for irrigation water, ID is likely to retain a key role in the operation, management and development of irrigation infrastructure in the near future. The scaling up and replication of similar investments in land development to other areas in Myanmar either directly by the MoALI or by other projects will be also sustained by the availability of in-house design capacity at ID.

25. **Financing and Execution of Construction Works.** Upon completion of the detailed design of each block, the quantities of the key construction items will be validated by the TA and will serve as a basis for computing the works' implementation budgets at each block. Based on the computed quantities (mainly earthwork volumes and number of standard structures by type) the direct cost of construction will be calculated following the ID standard practice. The cost of earthworks will be calculated based on the standard output of labor (for hand fill or excavation by hand) and on the output/fuel consumption of the proposed machinery combination for all the works carried out by machine. Applicable rates will be the official rates for hired labor and of fuel. For structures, unit rates issued at the township level and the official rates for the procurement of specific construction items (cement, reinforcing bars, precast pipe culverts) applied to all government entities will apply.

26. Following IFAD prior review, the PMU will enter contracts with the ID for the implementation of land development works on a block-by-block basis. Whenever feasible, each block will consist of a contiguous area of indicatively 700 acres. For small sites, the land development will be carried out in

one single work (7 sites - 5 in Kayin State and 2 in Shan State, are below 700 acres while 7 sites in Kayin State are above 700 acres and will be developed on a block-by-block basis). However, land development works in the same site will be completed within the same year. The provisions of the contract will specify: (i) the duration of the works (to serve as a basis for reimbursement of field allowances for supervisors); (ii) the type of equipment to be made available on site as per the requirements of the design; (iii) the number of man days of hired labor required; and (iv) the applicable rates of machine hire for the specific combination of equipment selected (to quantify the GoM in kind contribution). Leveling will be subcontracted by ID to either the AMD or to private contractors. In both cases the reference rates will be based on existing norms, capacity and fuel consumption of equipment. Such arrangement for the construction works will be subject to IFAD supervision missions' review and might be modified depending on developments and possible increased competitiveness of the private sector.

27. IFAD will cover 100% of the direct cost (fuel and lubricants, materials and workmanship) of the land development works while Government will finance 100% of indirect costs (machinery works) in kind. The PMU will release the loan funds in two advance tranches on the basis of work done. Fifty-percent of IFAD funding will be transferred to ID as advance payment, the remainder being released after at least 50% of the work is certified by the ID appointed supervising engineer. A 10% retention will apply to both instalments and this will be released upon acceptance of works by an acceptance committee including members from MoALI, UNOPS and a representative of the PIC established at each block.

28. **Complementary Activities.** The project will strengthen participatory water management by: (i) registering these VWMCs into formal WUGs (of 20 members each along a tertiary canal) in accordance with the evolving legal framework; (ii) strengthening WUGs through capacity building in governance and technical aspects; (iii) supporting WUGs to establish a cost recovery mechanism to be utilized for operation and maintenance purposes as well as emergency repairs; and, (iv) empowering WUGs to channel their concerns on the timing and quantity of water delivered to State-level ID, and to air any grievances. In the medium term, the project may support WUGs to federate into water users' associations (WUAs) at secondary level, in line with best practice, or to be placed within a broader cooperative structure, as appropriate. To achieve the support to WUGs, the project will use service providers contracted by the PMU and organized at the level of KCs.

### **Sub-component 1.2: Community Agro-forestry**

29. **Sloping Agriculture Land Technology.** SALT will be implemented by the respective KCs within the project area of sloping agriculture land with support from a NGO. The KC and the NGO will receive the necessary training in demarcation of the contour lines by the Shan State MoALI Mechanization Department (MD). The KC together with the NGO will be responsible for undertaking the demarcation of the contour lines together with the owners of the sloping land. The work will be supervised by Shan State MoALI MD.

30. Farmers will be responsible to plant the hedgerow under the supervision of the NGO. It is estimated that a total of 5,400 km of double contour lines will be planted over a period of 5 years covering around 4,000 acres per year.

31. The project will finance: (a) the cost of the NGO, the Shan State MoALI MD supervision cost as well as the planting material for the hedgerows. In-kind contribution from farmers will consist in the labor force for planting and weeding of the hedgerow.

32. Together with the implementation of SALT, the project will also finance the construction of 50 tubewells and harness 50 springs/streams for drip irrigation (one infrastructure for every 200 acres), the installation of 50 solar pumping stations for drip irrigation in lower part of upland sloping land. Adequate locations for these infrastructures will be identified by the NGO and the project. The PMU and the Shan State PIO will issue an invitation to tender to national suppliers for these equipments. Implementation of these infrastructures will be carried out by the selected suppliers together with the

communities. Suppliers will also train some community members in basic operation and maintenance of these infrastructures. The PMU Community Development and Gender Specialist will assist communities in selecting these members.

33. **Livelihoods Improvement.** In Kayin State, living conditions in mountainous villages are harsh and constitute one essential factor for out-migration. Together with the development of agro-forestry activities (see below), the project will seek to improve living conditions in 20 villages located in the mountains of Thandaunggyi township in Northern Kayin through the installation of drinking water network and micro-hydro power station. The Kayin State PIO together with the PMU will issue an invitation to tender to national suppliers.

34. The selection of the 20 villages will be made after a rapid poverty and potential impact assessment undertaken by the project (PMU Community Development and Gender Specialist), the NGO and the State-level MoALI DA. This rapid poverty and potential impact assessment will consider the following selection criteria: a/ poverty level (global and percentage of project target groups within the community); b/ outreach (number of households benefiting from the infrastructures - global and percentage of project target group within these beneficiaries); c/ cost per individual, and d/ technical feasibility. It has to be noted that tubewells implemented in Shan State for drip irrigation will also be used for drinking water. Selected suppliers will also be responsible for training a few members of each community on operation and maintenance of these infrastructures. The PMU Community Development and Gender Specialist will assist communities in identifying the members to be trained. Rotation could be implemented,; so as to maximize the number of people trained and responsible for the operation and maintenance of these infrastructures.

35. Finally, the project for both agro-forestry sites in Northern Kayin and terraces in Shan States will support the eco-friendly and climate resilient construction of critical sections of roads totaling 30 km in each State, thus improving access to regional markets.

36. Each State-level PIO will issue an invitation to tender for the villages neighboring the agro-forestry sites (in Kayin State) and the villages neighboring the sloping land selected for SALT initiative in Shan State. The PMU and each State-level PIOs Engineers together with the PMU Community Development and Gender Specialist will undertake a rapid potential impact and poverty assessment to rank the villages that have answered to the invitation. The ranking will be done based on the following selection criteria: (i) poverty level (global and percentage of project target group within the community); (ii) outreach (global and percentage of project target group); (iii) cost per beneficiary (global and project target group); (iv) technical feasibility, and (v) estimated impact outside of the community benefiting from the rehabilitation of critical section of the road. The PMU and each State – level PIO will issue an invitation to tender to national construction companies for the rehabilitation of the critical sections of roads. Apart from technical expertise and price, selection criteria will also include: (i) willingness by the contractor to hire local labor, and (ii) willingness and capacity of the contractor to train members of the community on maintenance of works. The PMU Community Development and Gender Specialist will assist communities in identifying the proper members; focus should be made on women and youth.

### **Sub-Component 2.1: Knowledge and technology**

37. **KCs implementation and governance.** Each PIO will contract a local contractor under a local bidding process procedure to build 43 KCs over a period of 3 years starting PY1 or to rehabilitate premises that have been identified by the MoALI in the project area (27 in Kayin State and 16 in South Shan State). In both States, construction of KCs will start in command areas of selected irrigated sites and in agro-forestry sites (for Kayin State only). Then concomitantly to the progress of land development work, construction of KCs will take place in irrigated areas and in upland sites after land development.

38. Representatives from smallholders farming within the KC's catchment area will participate in the selection of the most appropriate location and the KC design or will validate the choice of the MoALI.

Representatives selection process will be supported by the PMU Community Development-Gender Specialist. S/he will also support farming HHs within the KC catchment area with the election process of the KC Board. Legal aspect of KC Manager and KC Board members will be explained by a PMU-contracted legal advisor (role and responsibilities of Board members, legal environment of KCs) while the project-contracted NGO and the PMU/PIOs Rural Finance specialists will also provide training to Board members in KC long-term planning, development and management. The KC Board shall meet twice per year to define the KC annual work plan and budget (AWP&B) and strategy and review the half-year progress made against the AWP&B and strategy. The AWP&B and policy shall be elaborated with a close participation from beneficiaries (better-off, moderately poor, poor and very poor farming households as well as women and youth) and from the KC manager-supporting NGO.

39. **Strengthening capacity of extension officers.** The appointment of KCs managers will be strictly restricted to existing extension staff of MoALI Extension Department. The process will start at the earliest possible, will be supported by an IFAD-contracted consultant, and will be in compliance with IFAD guidelines. The following six steps will be followed: (i) publication of vacancy announcements in local newspaper, internet and MoALI internal newsletter; (ii) shortlisting of qualified candidates according to pre-defined criteria; (iii) short-listing of qualified candidates based on an objective scoring matrix; (iv) interviews of short-listed candidates by a panel composed of state-level MoALI staff (department of agricultural planning, irrigation department, department of human resources); (v) preparation of the panel report with recommendations for selection of candidates, and (vi) IFAD prior review and no-objection. Each SPCC will oversee the appointment of KCs managers in its State. Selected extension officers will be awarded a performance-based contract of one year renewable upon satisfactory assessment carried out by each PIO and beneficiaries.

40. The PMU will contract through a national bidding process a NGO to strengthen the capacity of DoA extension officers. 27 extensionists operating in Kayin State and 16 extensionists operating in South Shan State will be trained to become KCs managers. Training will include, among others: update on agriculture techniques and technologies; value chains upgrading and contractual linkages; networking skills; marketing; innovations (especially in processing and new cultures); information technologies; water management; planning; business management and group management.

41. Apart from training, the project will also finance KC Managers' operating expenses as well as equipment (motorcycle and mobile phone). For both the motorcycle and the mobile phone, the KC manager will have to pay them back within 3 years on a monthly basis, before enjoying full ownership. To avoid distorting the MoALI salary scale, extension officers will be seconded by the MoALI to the project. MoALI will continue to finance and pay their basic salary in line with MoALI salary scale. The project will pay the travel expenses that are part of the extension officers' package but that are not effectively paid by the MoALI due to lack of resources, thus leading to few field visits and weak extension services. The KC Manager will detain a logbook to be signed by farming HHs after visit (with remarks and comments on services provided). Based on this logbook and controls carried out by the PIO Business/Value chain specialist, each PIO will pay the travel expenses allowance to the State-level Department of Agriculture (DoA) which will transfer the funds to the DoA representative at township level on a monthly basis, and then the township DoA staff will then proceed to the payment of the travel expenses allowance to KCs managers.

42. **Support to KCs managers.** Based on the experience from FARM project, one or two NGO(s) already operating in Myanmar will be selected to provide assistance to KCs managers with regards to support to farming HHs. The selection of the NGO(s) will be based on simple criteria such as: (i) experience in similar activities in Myanmar; (ii) human resources availability to implement the project's activities; (iii) willingness to work in the project area; (iv) capacity to link with financial institutions; (v) existing network of service providers to complement staff, and (vi) cost of intervention. The selection will be done through a request for proposals, initiated at project onset, supported by an IFAD-contracted consultant and in line with IFAD procurement guidelines. A specific panel will be established composed of one representative from the central-level MoALI DoA, one from State-level MoALI DoA, one from LIFT, in addition to the PMU and PIOs managers. The selection panel report



with recommendation for the NGO selection will be submitted to the NPSC for final approval. The NPSC will oversee the procurement and contracting of NGO while IFAD prior review of the process and the proposed award of contract will be necessary. Should there be two different NGOs to operate in the two ESAP-selected States, the selection process will be similar. The panel report would be submitted to the relevant SPCC for approval and to the NPSC for endorsement. In that case, the SPCC will oversee the procurement and contracting of the selected NGO for its State while IFAD prior review of the process and awarded contract will be necessary.

43. Globally, the selected NGO(s) will second 5 to 7 officers responsible for 7 to 9 KCs each during 3 years (2 years full-time and 1 year part-time). Contract between selected NGO(s) and PMU/PIOs will be performance-based with gender-disaggregated performance indicators detailed in the contract. The project will pay a lumpsum for each of the 5 to 7 NGO officers seconded to the project inclusive of per diem and travel costs.

44. **KCs activities for farming HHs.** Once trained, selected and approved by their respective KC Board, the KC manager will plan and organize KC activities, in accordance with the annual work plan and budget (AWP&B) and long-term strategy defined by the KC Board: (i) training sessions for representatives of farming HHs in each farmers groups; (ii) demonstrations and trials; (iii) linkages with other commodity chain stakeholders such as input suppliers, traders, processors, and other service providers; (iv) field visits to ensure effectiveness of knowledge sharing among farmers groups; (v) assistance to WUGs; (vi) linkages with professional associations, and (vii) assistance to farmers' groups based on their demand.

45. **Value chains analysis.** The selected NGO(s) will also undertake value chain analyses on crops already grown in the project area as well as on alternative crops that can be farmed either in irrigated lands or in agro-forestry sites and have a strong market potential, comparative advantages and can substantially increase farming HHs income. A minimum of 10 value chain analyses will be undertaken during the first 4 years of the project. Value chain analyses will also focus on identifying potential commercial partners (processors, buyers, and others) that could help developing and strengthening these value chains. Based on a SWOT analysis of each value chain and identification of possible partners, KC Managers will intermediate between project-supported farming HHs and these potential partners and broker possible investments and contractual arrangements. The NGO together with the relevant PIO Rural Finance Specialist and the PIO Manager (agricultural specialist) will promote contract farming and tripartite contracts. The value chain analysis will also be used at the level of the Agri-Business Fund to ensure that proposed investments are compliant with the options and recommendations of the value chain analysis.

46. **Demonstrations/trials.** Demonstrations on progressive farmers' land will be organized through partnership agreements between each PIO, the DAR, the YAU, and private sector companies (input suppliers) based on a planning issued by each KC manager. 4 demonstrations every season during 3 years will be organized at the level of each level. Progressive farmers will be selected on the basis of: (i) their willingness to participate and allocate some land for the demonstration, and (ii) evaluation from the PMU community development/gender specialist. DAR/YAU staff will disseminate lessons learned in the form of leaflets and brochures to all farming HHs in the project area and to the MoALI. Gradually, input suppliers and other stakeholders will also participate technically and financially in demonstrations.

47. Demonstrations as well as partnership developed with potential private sector investors will be the cornerstone for the development of alternative crops in the project area (irrigated land and agro-forestry sites) and the related change in the current cropping pattern. The project will develop a bottom-up approach with regards to change in the cropping pattern which will be materialized by the following steps: (i) identification of possible alternative crops on the basis of their potential to grow in the area, their market potential and their potential for increasing farming HHs income; (ii) demonstrations organized with the assistance of the DAR and YAU (and latter with private sector) under the monitoring of the KC Managers, and (iii) adoption by farming HHs once demonstrations have proven to be successful i.e. that these alternative crops have potential to generate a more

important income than the traditional cropping pattern and once potential partners are ready to either invest in new processing plants, other needed investments or enter into equitable contractual arrangements with ESAP-supported farming HHs.

48. **Water Use Management.** The PMU Water Management/WUG specialist and the project-contracted NGO will strengthen participatory water management by:

- i. Transforming the existing Village Water Management Committees (VWMCs) into formal Water Users' Groups (WUGs) of 25 - 30 members each along a tertiary canal;
- ii. Assisting WUGs to implement a governing structure (WUG representatives);
- iii. Registering WUGs in accordance with the evolving legal framework;
- iv. Strengthening WUGs' representatives through capacity building in governance and technical aspects;
- v. Supporting WUGs to establish a cost recovery mechanism to be utilized for operation and maintenance purposes as well as emergency repairs;
- vi. Empowering WUGs to channel their concerns on the timing and quantity of water delivery from ID, and to air any grievances.

49. The WUGs Manual of Procedures will be drafted under a participatory approach by the PMU Water Management/WUG specialist with the assistance of WUGs members, taking into account the lessons learned from the FAM project. With a view to harmonizing approaches in Myanmar between donors, the draft Manual of Procedures will also be shared with other donors working in similar areas (JICA, LIFT, World Bank) to ensure common approach.

50. In the medium term, the project may support WUGs to federate into water users' associations (WUAs) at secondary level, in line with best practice, or to be placed within a broader cooperative structure, as appropriate. This form of project support for participatory water management, once successfully practiced in LC&D model units, may be extended across the entire irrigated project area (58,125 acres) through the delivery of services. KCs will instrumentalize this potential scaling up.

### **Sub-Component 2.2: Services**

51. The responsibility for implementing financing activities related to this sub-component will be vested with the PMU Rural Finance specialist, in close collaboration with the PIOs Rural Finance specialists. The PMU and PIOs Rural Finance specialists will be supported by short-term experts contracted by the PMU.

- **Contract farming promotion.** The PMU will contract an international Agri-Business/Finance expert to provide technical assistance and guidance to: (a) PMU and PIOs Rural Finance specialists; (b) PIOs Manager (at the same time Agri-business specialist), (c) KC managers, and (d) staff of participating financial institutions. The Terms of Reference will be drafted by the PMU Rural Finance specialist and both PIOs managers.
- **Facilitation of contract farming arrangements.** A local NGO will be selected by the PMU to train, assist and provide guidance to KC managers. They will also provide advisory services and guidance to farmers to finalize an arrangement (contract farming or outgrower scheme) with a processor. At project inception, the PMU will also contract a local legal advisor to draft legal contract templates to be used by communities for contract farming/outgrower scheme arrangements. The local NGO will also build the capacity of producers' group with regards to joint-liability.
- **Implementation and management of the project guarantee mechanism.** This mechanism will consist in a cash deposit in specific current accounts opened in the name of the project in each participating commercial bank. The implementation and management of the project guarantee mechanism will be as follows:

- a. Selection and contracting an local audit firm. The local audit firm affiliated to an international network will be responsible for: (i) due diligence exercise of financial institutions with a view to participate in the guarantee scheme, and (ii) management of the project guarantee mechanism. A contract will be signed between the PMU and the selected audit firm for the due diligence exercise and a performance-based contract will be signed for the management of the project guarantee mechanism (performance indicators will consist in the timeliness and comprehensiveness of financial and activity reports, as well as the accuracy of financial decisions). Selection of the audit firm will be carried out through a call for proposals which will be reviewed by a banker and the PMU Manager and RF specialist. The banker will be directly contracted by the PMU and could be a member of the banks' association in Myanmar or a member of the Office of the General Auditor.
  - b. Selection and contracting participating financial institutions. This will be done through a due diligence exercise (see above). Considering the financial resources and capacity of existing financial institutions, mainly commercial banks will participate in the financing of ESAP-supported farmers and agri-businesses. A guarantee contract will be signed between the PMU and each participating commercial bank detailing the modalities, terms and conditions of using the project guarantee mechanism. The selection of the commercial banks to be assessed through the diligence exercise will be carried out through a call for proposals reviewed by the PMU and PIOs RF specialists.
  - c. Selection of international financial expert. This expert will be responsible for: (i) drafting the manual of procedures of the project guarantee mechanism; (ii) train its users (commercial banks' staff, PMU and PIOs RF specialists, project guarantee manager), and (iii) building the capacity of banks' staff with regards to the financing of agricultural activities (risk and profitability assessment). The international expert will be contracted by the PMU through an international call for proposals procedure.
  - d. Capitalization of the project guarantee deposits. In each participating commercial bank, a specific bank account will be opened in the name of the project. Two signatories will be authorized: (i) the project guarantee manager, and (b) the PMU Financial Manager. Initial deposit will amount to 15% of the estimated loan portfolio extended by the commercial bank with ESAP-supported beneficiaries (farmers outside contract farming arrangements). The project guarantee manager will monitor the loan portfolio guaranteed and when the leverage has reached a 3:1 ratio (the amount of the deposit guaranteeing a loan portfolio of 3 times its value), the project guarantee manager will request the PMU Manager to ensure that additional resources are deposited in the account. The amount of these additional resources would be determined on a case-by-case basis and would depend on the estimated volume of loans to be extended and the return to a leverage of max. 2:1. The maximum amount to be deposited in one single account is USD 1,5 million, which represents with a leverage of 3:1 an outstanding guaranteed loan portfolio of around USD 5.6 million.
- **Implementation of the Agri-Business Fund (ABF).** The ABF will grant finance eligible agri-businesses. It will be managed by the PMU RF specialist. The international financial expert (see above) will: (a) draft the manual of procedures of the ABF; (b) train the PMU and PIOs RF specialists accordingly, and (c) support the PMU RF specialist during the first year of the ABF implementation.
- a. Calls for proposals. Twice a year, the PMU RF specialist will issue a call for proposals for the submission of projects within the ESAP-supported commodity chains. Proposals should include both a technical and financial parts.
  - b. Selection of proposals. The selection of proposals to be grant financed will be based on the following criteria: (i) number of ESAP-supported smallholders benefiting from the investment; (ii) number of ESAP-supported smallholders benefiting from a contractual arrangement (contract farming, outgrower scheme); (iii) projected incremental volume to be

supplied by ESAP-supported smallholders; (iv) increase in purchase price of smallholders' production; (v) financial return for the company and for ESAP-supported smallholders; (vi) number of incremental jobs created and number of jobs potentially available for landless households in project area, and (vii) willingness and capacity to ensure the provision of technical assistance and advisory services by the company to contracted ESAP-supported smallholders. Proposals will be assessed against defined criteria by project management and an auditor, reviewed by an independent ABF Committee, and cleared by IFAD. The ABF Committee will be independent and will decide on which proposals meet the criteria set out; this may include ranking proposals if necessary. Committee members will not be involved in any other aspect of the project, nor will have any conflict of interest, nor will stand to gain from their decisions. The Committee will have representation from civil society, the private sector and Government, and members will have the technical skills to make informed decisions. Committee membership will be defined at project start up.

- c. ***Matching grant financing.*** The matching grant extended by the project will amount to 30% of the global investment but will be limited to USD 160,000 per investment. A company can benefit from a maximum of 3 grants provided that activities financed are completely different (incremental capacity to process current products supplied by ESAP-supported smallholders, new distribution channels, and new processing unit for a new product supplied by ESAP and non-ESAP-supported smallholders). The matching grant will be disbursed when the financial mechanism for the total investment has been finalized.
- d. ***Financial Inclusion:*** Financial inclusion will be promoted by fostering the establishment of Savings and Credit Groups (SCGs) and by providing financial literacy training to rural households in the project area.

52. The project will assist rural communities to establish their own SCGs (one per KC). For that purpose, the PMU will contract the Myanmar Microfinance Association (MMA - regrouping 222 member MFIs working across Myanmar) to assist communities to establish and register their own SCGs and to provide adapted technical assistance and support: (a) awareness campaign within communities with a specific focus on women and youth; (ii) assistance to the creation of the SCG; (iii) assistance for the election of its bureau (maximum 3 members: one president, one secretary and one accountant – the bureau is also responsible for the approval of loans); (iv) assistance for the registration of the SCG with the local authorities; (v) implementation of the manual of procedures and training of bureau's members (training will focus on: risk assessment, savings products and mobilization, bookkeeping, reporting, role and responsibilities of bureau's members, legal and financial environment, determination of an interest rate, recovery procedures, management by performance indicators), and (vi) monitoring and control of activities and financial statements. In addition, MMA and its working group (see below) will be responsible for developing a manual of procedures for the SCGs and an exit strategy consisting in the incorporation of these SCGs in one or several microfinance institutions' network. The contract will be performance-based for one year renewable upon satisfactory assessment of MMA work by communities as well as meeting targets.

53. Beforehand, the PMU will direct contract an international MFI such as Caisse Desjardins operating in Vietnam to build up the capacity of MMA and its working group consisting of MFIs operating in Kayin and/or Shan States, in close coordination with UNCDF. This international MFI will assist MMA and its working group to fine-tune the establishment and support methodology for SCGs as well as the methodology to gradually incorporate these new SCGs in their network.

54. SCGs activities will primarily focus on savings mobilization and provision of micro-credits for households consumption. It is not expected that such institutions finance agriculture.

55. ***Partnerships.*** The Myanmar country programme seeks to develop *structured cofinancing partnerships, private sector partnerships, technical partnerships, and advocacy partnerships*. In that respect, ESAP will contribute to the establishment of these different partnerships through:

- Private sector partnerships will consist of business partnerships with agribusinesses (national or multinational) for vertical value chain integration based on contractual agreements with smallholder organizations, and financial partnerships with relevant private sector firms (national or multinational) under the corporate social responsibility agenda;
- Relations will be developed with national organizations such as key departments of MoALI, MoLFRD, MoECAF, MoC, MoBA as well as with State-level research institutes and agricultural institutes. Partnerships will be created with institutions including policy advisors such as UNESCAP and IFPRI; technology providers such as IRRI, ICRAF, Mekong Institute, producers' associations; operational service providers such as UNOPS; and microfinance advisors such as UNCDF, and GIZ. Technical partners will be selected based on the results they can create for the target groups;
- ESAP through its PMU will seek for membership of several working groups created as a discussion platforms between donors, projects, the private sector and the public sector such as the agriculture and rural development working group or the microfinance working group.



## **Appendix 6: Planning, M&E and learning and knowledge management**

### **Planning**

1. Annual work plans and budgets (AWPBs) and activity calendars, based on the design report and informed by operational experiences and supervision missions, will form the basis for project planning. The AWPBs will consolidate plans and budgets elaborated through a participatory approach by partners, stakeholders and beneficiaries. Participatory processes will involve communities and KCs.

- Firstly, yearly AWPBs will be finalized by each PIO by early December for the next fiscal year (April to March) and then submitted to the relevant SPCC for approval in December.
- Concomitantly, the PMU will prepare its AWPB for activities carried out at its level.
- Once approved by each SPCC, State AWPBs will be submitted to the PMU for consolidation (of both state-level AWPBs as well as ESAP relevant PMU AWPB) by early January and discussed with implementing partners for arbitrage, financial evaluation and finalization. Each executing agency in each state will also elaborate a procurement plan (PP) for submission to, and consolidation by, the PIO and then consolidation at PMU level.
- The PMU AWPB will be submitted to the NPSC for approval while the consolidated AWPBs will be submitted to NPSC for endorsement by mid-January, and subsequently to IFAD for concurrence by end-January.

2. The timing for preparation of AWPBs and PPs also comply with the national budget calendar, ensuring incorporation of the project budget into the national budget.

3. The project's logical framework and design report will be discussed at project start up workshop at both central and state levels with the relevant partners and stakeholders (one national workshop completed with one workshop in each State). A six-year roadmap including activities, costs, and expected outputs for each activity will be elaborated by workshop's participants in each state and then consolidated at national level during the project national workshop. The elaboration of the roadmap will serve as a basis for annual project planning, and will strengthen state- and central level project ownership.

### **Monitoring and evaluation**

4. The project's M&E system will be designed to offer comprehensive and reliable information to improve planning and decision-making for results-based management. It will also be compliant with the RIMS framework. Considering the extent to which impact depends on access to financial and non-financial services, and on building sustainable linkages with value chain integrators, the system will be participatory and decentralized, actively involving target groups and service providers at state-level. The logical framework will constitute the basis for results-based M&E. The M&E system will have a three-tier structure: (i) output monitoring with focus on physical and financial inputs, activities and outputs; (ii) outcome monitoring for the use of outputs and the measurement of benefits at beneficiary and village tract levels; and (iii) impact assessment evaluating project impact for the target groups in comparison with objectives. All M&E data, analysis, and reporting will be gender disaggregated.

5. Responsibility for M&E activities will be vested with the PMU level M&E and KM specialist together with each state-level PIO's M&E and KM assistant. They will establish a data collection, analysis and reporting system to track physical and financial progress, performance and emerging impact. The system will be consolidated at project and state levels and articulated at township, village tract and village levels. It will be discussed with implementing partners to ensure they can provide the necessary data and information. The main sources of data will include farming households, KCs, implementing partners and NGOs as well as the private sector (particularly agribusinesses engaged in

contractual agreements with the target groups). Experience from FARM project in designing and elaborating its M&E procedures will also be included in the ESAP M&E design.

6. The logical framework will be reviewed and M&E indicators fine-tuned at the start-up workshops organized at national level as well as at the level of each state. At the beginning of implementation, a comprehensive baseline survey will be organized by each PIO in selected village tracts to assess the physical and socio-economic status of households and to define the benchmark situation against which project performance will eventually be compared. It will be executed by a PMU-contracted service provider. State-level project progress reports will be produced quarterly, semi-annually and annually for each irrigated area, uplands and agro-forestry sites and then consolidated at national level for the global project area.

7. *Multidimensional poverty assessment.* As part of the measurement of the project's impacts on poverty reduction among target beneficiaries, a multidimensional poverty assessment (MPA) will be adopted as an additional instrument to track progress and provide valuable information. The MPA facilitates results-based management and broadens the income/asset-based definition of poverty to cover additional dimensions such as food and nutrition security, women's empowerment, hygiene status, and vulnerability to shocks. As in the case of the FARM project, the MPA module will be introduced during the design of the project's M&E system, adopting manuals and best practices developed by MPA pilot initiatives under implementation in IFAD-financed operations in China and India. Experience from the FARM project will also be integrated in the design of project's manuals and best practices. The MPA survey at state-level may be performed together with the RIMS survey, by the same service provider, at baseline, mid-term and completion, and using the same sampling methodology. It should be noted that the MPA instrument can also be used as an advocacy tool to help service providers, Government agencies and development partners to better understand potential synergies and common impacts.

8. The project will use locally adapted RIMS surveys at baseline, mid-term and completion as the main quantitative survey tools. Ad hoc surveys, qualitative case studies and thematic reviews will be outsourced to independent institutions to verify results and draw lessons on themes such as food security, cropping patterns, climate resilience, micro-businesses sustainability, WUG effectiveness and sustainability, rural finance outreach, and impact on target groups households' incomes.

9. An external independent third party will be engaged by the PMU to assess project impact on periodic basis, and report to the SPCC, NPSC and financiers accordingly.

### **Learning and knowledge management**

10. Project operations are expected to create valuable knowledge on key development themes of relevance for Myanmar's upland areas and border states, in particular on commercialized smallholder agriculture, culturally sensitive approaches to ethnic groups and forest communities, and state level rural economic growth as a pillar for sustained peace. The PIOs and PMU, through their M&E and KM specialist, will document the emerging experiences, lessons and best practices and share them widely with public entities and development partners. The availability of verified quantitative and qualitative information as well as lessons learned on the project's results will pave the way for scaling up the model to other border states of Myanmar.

11. The PIOs M&E and KM specialist, as well as state-level service providers, will capture data and information on the elements outlined above, and to share knowledge with the PMU. PIOs and the PMU will be supported with technical assistance in managing knowledge and producing knowledge products. It will partner with organizations advocating for ethnic groups, and will organize a series of workshops on relevant themes jointly with partners. The PIOs and PMU will also share knowledge and experiences with the wider community of development practitioners in Asia through the IFADAsia knowledge management portal, and eventually through the global IFADconnect platform.



## Appendix 7: Financial management and disbursement arrangements

1. *Project fiduciary risk.* Project financial management arrangements will ensure that: (i) funds are used for intended purposes in an efficient and cost effective manner; (ii) disbursement of project funds facilitates rapid implementation of activities; (iii) funds are well managed and flow smoothly; (iv) accurate financial reports are issued on timely basis; (v) reliable information is available to facilitate accountability, transparency and disclosure; and (vi) project resources and assets are safeguarded. Fiduciary risk assessment is drawn from the review of Myanmar's PFM system by the World Bank, which rates the inherent country fiduciary risk as "High".

2. In view of high country fiduciary risk, the project will apply a ring-fenced approach in its financial management arrangements, inclusive of: (i) use of a similar professional accounting software as the one used under FARM (if performances are assessed positively), and procurement of the associated capacity building; (ii) hiring of competent key financial management staff with solid experience and qualifications; (iii) based on FARM's manual, preparation of a financial management manual integrating controls closely linked to the project's operational dimensions; (iv) establishment of two state-level PIOs with delegated authority to plan, manage, and disburse project resources and confirmation of PMU's delegated authority for similar activities; (v) technical assistance and oversight by external financial management specialists; (vi) establishment of a control framework integrating periodic internal audits, independent external audits, and social safeguards, and (vii) adoption of a good governance and *mutual accountability framework* to strengthen accountability and transparency in line with international best practices.

3. *Budgeting and counterpart funds.* The PMU and each PIO will be responsible for preparation of the budget as part of the AWPB exercise, supported by a narrative of proposed activities aligned with the logical framework indicators. Each PIO will submit its budget and AWPB that will be consolidated at the level of the PMU (including its own budget and AWPB). Government will ensure that counterpart funds are contained in the national allocations for MoALI's, and that these resources are released to the project accounts at central and state levels on a timely basis. Timely transfers of financial resources from MoALI central budget to MoALI State-level budgets will be mentioned in the *Financing Agreement* to ensure that activities will not be blocked at State-level due to lack of sufficient funds.

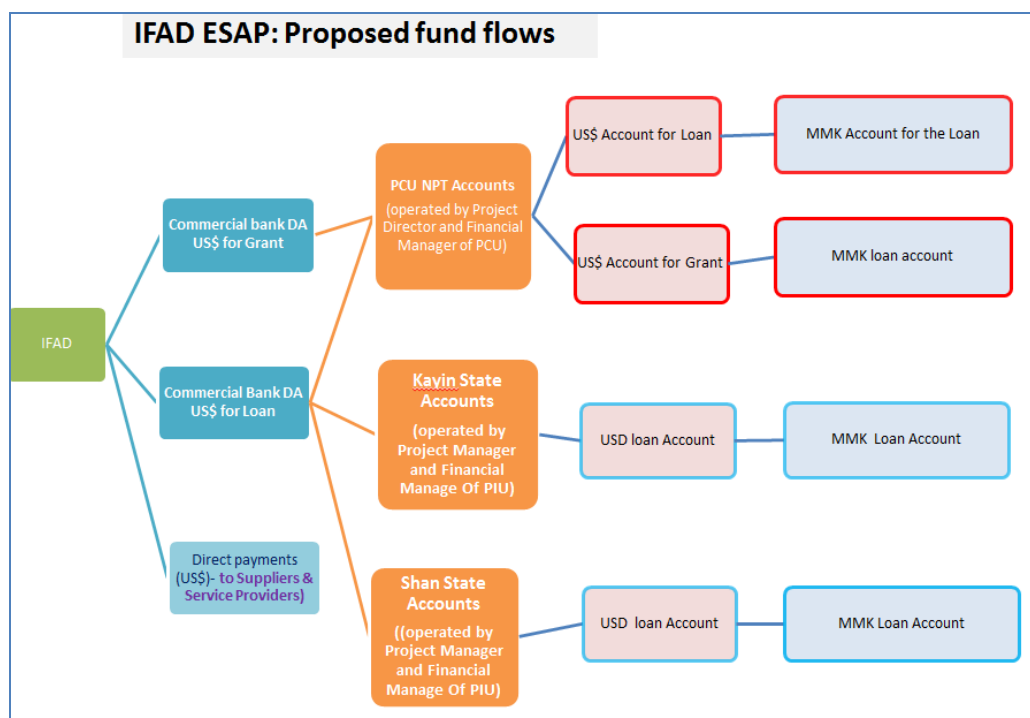
4. *Financial management responsibilities.* The PMU will be accountable to the NPSC as part of the mutual accountability framework, and will maintain a full set of accounts in accordance with the international public sector accounting standards (IPSAS) on cash basis. This delegation of authority requested by the MoALI and approved by MoF will be established as a disbursement condition. Each PIO will be accountable to the SPCC and will maintain a full set of accounts in accordance with the same IPSAS on cash basis. The same delegation of authority for the PIOs as for the PMU will be established as a disbursement condition.

5. *Flow of funds and disbursement arrangements.* Decentralization of fund flows from MoALI national budget to the two States MOALI budget has been agreed by the GoM, which will strengthen governance structures while maintaining transparency of activities and controls at central level. The financial systems of the two States have been assessed and a due diligence of the commercial bank (MEB) proposed for flow of funds has been undertaken. The bank account signatory powers for state level expenditures will be at sufficiently senior level. Control of expenditures at state level will be maintained by retaining centralisation of WA preparation (by the PMU) and approval, access to state level accounting data by the PMU, and consolidation of AWPB and reporting for the two states.

6. The project will use the imprest fund method for operating the Designated Account (DA), the modalities for which will be detailed in the Letter to the Borrower. Advances to the DA, receiving advances from IFAD loan and from IFAD grant, will be transferred to an account held in USD in the Central Bank of Myanmar (CBM) or another bank acceptable to IFAD.

7. The PMU will be authorized to open separate operational accounts in USD and in MMK for IFAD loan and grant resources respectively in the Myanmar Economic Bank or any other commercial bank acceptable to IFAD. Each PIO will be authorized to open separate operational accounts for IFAD resources (in USD and MMK) in the Myanmar Economic Bank or any other commercial bank acceptable to IFAD. On the basis of the approved AWPB and procurement plan, the PMU and each PIO will request quarterly advances for implementation from DAs to the respective operational USD accounts. On the justification of 75% of the previous advance and 100% of any preceding advances, the next advance will be provided. The SoE thresholds will be defined in the Letter to the Borrower.

8. The PMU and PIOs will maintain separate Project Accounts in local currency for the counterpart funds at commercial bank, for Project implementation.



9. Investments will be financed through several adapted financial instruments provided by different financial institutions and entities: (i) a competitive grant facility managed by the PMU (Agri-Business Fund - ABF) to encourage existing enterprises to expand their activity with project-supported producers and to encourage entrepreneurs to create new processing and/or post-harvest activities within project-supported value chains and commodities. The grant will finance 40% of total amount of the investment limited to USD 160,000. The ABF will be managed by the PMU, and (ii) a guarantee facility that will cover 70% of the uncollateralized portion of loans extended by financial institutions to farmers outside of contract farming. The guarantee facility will be managed by a project guarantee manager namely the partner of a local audit company affiliated to an international network.

10. The PMU and each PIO will disburse quarterly/semi-annually advances according to the SLA/approved AWPB to the relevant Financial Institutions from the respective operational accounts. For the competitive matching grants, on the justification of 75% of the previous advance and 100% of any preceding advances, the next advance will be provided. For the guarantee mechanism, a first instalment will be disbursed based on the AWPB. Additional resources will be transferred based on leverage and incremental demand for credit from eligible beneficiaries.

11. *Retroactive Financing.* As an exception to Section 4.08 of the General Conditions and as provided in Schedule 2 to the Agreement, eligible Project expenditures from the Loan may be incurred after the date of the Project approved by the Executive Board and before the entry into force of the Agreement, up to a maximum amount of SDR 100,000, for expenditures related to: (i) training and capacity building workshops for Project beneficiaries and staff of the various PMU and PIOs, (ii)

consulting services related to the studies and field surveys including hydrological, geological and topographical surveys and socio-economic studies, and (iii) recruitment of consultant services incurred as from such expenditures may be considered Eligible Expenditures for all purposes of Financing Agreement.

12. Retroactive expenditures are pre-financed by the prospective Borrower at its own risk. If the financing is not approved by the EB, or does not enter into force, expenditures will not be reimbursed. The Loan Disbursement Handbook provides that such expenditures should be claimed in a separate Application so as to simplify monitoring thereof by IFAD (as regards limits specified in the FA).

13. *Start-up costs.* If the Borrower/Recipient is not able to pre-finance the retroactive expenditures, the Borrower/Recipient may request an advance withdrawal up to USD 300,000 equivalent to incur Project start-up expenditures before the satisfaction of the additional general and specific conditions precedent to withdrawal, in accordance with Section 4.02(b) of the General Conditions [and Schedule 2 to the Agreement] for eligible expenditures related to: (i) training and capacity building workshops for Project beneficiaries and staff of the various PMU and PIOs, (ii) consulting services related to the studies and field surveys including hydrological, geological and topographical surveys and socio-economic studies; (iii) recruitment of consultant services; (iv) salaries of key staff in PMU and PIOs, and (v) rental expenditures for the PMU and PIOs incurred as from such expenditures may be considered Eligible Expenditures. Any unused balance of the start-up advance will be considered as part of the initial advance under the authorized allocation.

14. *Additional Condition for Withdrawal.* The following are designated as additional general conditions precedent to withdrawal:

- a. The PMU shall have been duly established and the respective key Project staff (Project Director or Financial Manager shall have been selected;
- b. The Borrower, through the Lead Project Agency, shall have submitted, and the Fund shall have received, an official document confirming the availability of adequate counterpart funds for the first Project Year;
- c. The authorized signatories shall have been submitted to the Fund;
- d. A draft PIM shall have been prepared and is acceptable to the Fund.

15. The following are designated as additional specific conditions precedent to withdrawal: No withdrawal shall be made in respect of expenditures under the guarantee line until a draft Guarantee Agreement to be signed between the project and the participating financial institutions is approved by IFAD and before the manual of procedures of the project guarantee mechanism has been approved by IFAD.

16. *FM responsibilities.* The PMU will be responsible for overall project FM and accountable to the NPSC, and will maintain a full set of accounts in accordance with the international public sector accounting standards (IPSAS). Each state PIO will be responsible for state level FM and accountable to the respective SPCC, and will maintain a full set of state level accounts in accordance with IPSAS.

17. *Internal controls.* The project's internal controls will be set up to ensure operational efficiency, reliability of reporting and compliance with requirements. Roles and responsibilities will be aligned to project objectives. This will include elements such as the control environment, risk assessment, communication and monitoring to ensure coherence with good governance and the mutual accountability framework. The project implementation manual and the financial management manual will detail the control framework based on best practices. These manuals should be endorsed by the NPSC as well as by each SPCC prior to the first disbursement.

18. *Accounting system.* The FM capabilities of the state level MOALI will be strengthened through the provision of computers, accounting software and training. The accounting system being installed for MoALI under FARM Project by UNOPS (under an IFAD grant) will also be installed under ESAP for the state level MoALI (if its performance is assessed as satisfactory. The assessment will be carried out by an IFAD expert at ESAP inception). The PIOs and MOALI's accounting and finance staff will be

trained in using the software. The accounting software and chart of accounts will be set up to ensure separate project accounts to monitor implementation progress, identify works, goods and services, and disclose their use in the project. The accounting software will enable PMU Accountant to consolidate financial statements and accounts from both PIOs, and to monitor their accounts separately. The accounting software and documents will be configured so as to easily identify the PIOs/PMU expenditures (cost accounting). The PIO's and MoALI's accounting and finance personnel will be trained in using the accounting software by the service provider as well as by the PMU's staff. The service provider will also commit to providing periodic off-site and on-site support and training as part of the capacity building initiative at least for the first two years.

19. *Financial accounting and reporting.* Financial statements will be prepared as per IPSAS cash basis for each fiscal year. Each PIO will submit quarterly financial reports to the PMU for consolidation into project financial reports, which will be shared with concerned national institutions as well as IFAD. They will be disaggregated by source of funds and will include reports as the minimum contents detailed in the IFAD Audit Guidelines as follows:

- (a) Yearly and prior-year statements of sources and application of funds separately disclosing IFAD's funds, counterpart funds (government), other donors' funds and beneficiaries' funds;
- (b) Report which disclose bank and cash balances consistent with the statement of sources and application of funds, fixed assets register report
- (c) Withdrawal application schedule - SoEs (annual/cumulative);
- (d) DAs' statement and its reconciliation;
- (e) Cumulative status of funds by category (preferably in special drawing rights)
- (f) Notes to the financial statements.

20. *Internal Audit.* As another mitigation measure in view of the inherent country risk, in addition to the annual external audit, the PMU and PIOs' procedures will be assessed every six months through internal audit. The project will establish retainer contracts with local audit companies that are accredited and internationally affiliated to assist in the review of project operations, internal controls and compliance measures. The ToRs of internal auditors will include the review of accounting and internal controls including proper segregation of duties, financial operations through bank controls, safeguard of cash, and tracking of assets and inventory. Internal audit will be supported by auditors from the Office of the Auditor General as part of efforts to enhance knowledge networking, learning and skill development.

21. *Procurement.* Procurement will be executed in compliance with IFAD's procurement guidelines (published on its website). The Project Implementation Manual (PIM) will detail procurement procedures, processes and management arrangements. The procurement methods, the prior review arrangements, the estimated cost and time frame, and risk mitigation measures will be defined in the Letter to the Borrower and reflected in the approved procurement plan. Each PIO will be responsible and accountable for its procurement. The PMU will centralize, consolidate and be accountable for all project procurements.

22. Based on the procurement capacity assessment undertaken in preparation of the FARM project and the inherent country fiduciary risk, the overall procurement risk is maintained as "high" due to: the lack of a legal framework for public procurement; stipulated procedures and processes; the weak governance environment; limited experience and capacities, and a redress mechanism. The risk is amplified by the decentralization process of procurement at state-level where capacity for such operations is extremely limited and requires strong technical assistance and capacity building.

23. *Audit.* An external auditor will be selected by the PMU based on a prequalified list of local audit companies accredited and internationally affiliated with an international auditor (as international audit firms currently do not hold licenses to operate in Myanmar). The OAG will participate in the annual audit lead by the external auditor as part of the project's commitment to develop local capacities. As

part of audit deliverables, the auditor will examine the documentation related to SoE expenditures. As per IFAD requirements, external auditors will provide separate opinions on the consolidated financial statements, the DA operations, and the SOE facility. External auditors will submit audited financial statements along with the related opinions and management letter no later than six months after the end of each fiscal year. The management letter will include audit observations with opinion on internal control systems and recommendations for improvement. IFAD will provide its feedback on the quality of the audit report and will ensure follow up on audit observations through supervision missions.

24. *Governance and transparency framework.* IFAD's applies a zero-tolerance approach in cases where investigation determines that fraudulent, corrupt, collusive, or coercive actions have occurred in projects financed through its loans and grants; a range of sanctions in line with IFAD regulations will be enforced. Zero tolerance means that IFAD will pursue all allegations, and appropriate sanctions will be applied should they be substantiated.

25. While the documented methodological justification for considering Transparency International's *corruption perception index* is absent, both internal and external review processes use this index. It is reported that Myanmar ranks 157th out of 177 countries rated in 2013 (down from 172th in 2012).

26. Project design includes several measures to promote transparency: (i) autonomous central PMU and state PIOs operating on the basis of good governance; (ii) mechanisms for regular internal audit at PMU and PIO levels; (iii) annual independent audit; (iv) verification of fiduciary compliance during supervision; (v) independent impact assessments; (vi) a grievance redress mechanism at state and central levels, consistent with the ESAP approach. Finally, communities will be involved in decision-making, planning, implementation and monitoring, as documented in this report.



## Appendix 8: Procurement

### Introduction

1. The Government of Myanmar, is progressively undertaking a major political and economic reform program embarking on a range of political and economic reforms aimed at attaining national reconciliation, good governance, and economic development. To date key economic reforms undertaken include adoption of a more liberal exchange rate policy, relaxation of trade restrictions, rationalization of tax rates, and fiscal decentralization. In this note, procurement was recently decentralized from a central control environment by the Ministry of Commerce and delegated to spending bodies giving them authority to increase the use of open competitive tender. Each spending body was left to develop its own detailed procedures and systems. Given the lack of reforms in the public procurement system which encompasses an integrated procurement law supported by regulations and procedures, the decentralization of procurement currently does not ensure that spending bodies observe at least a minimum level of controls. In many cases, the minimum requirements are either not defined or not clear or outdated.

2. The Office of the Auditor General (OAG) has not produced reports on compliances of any of these minimum requirements (even where they are defined), given the variations in the effectiveness of the procedures and control regime implemented by individual spending bodies. There is also a lack of statistical information such as the value of procurement processed through different procurement method to be used in the mission analysis. This is also supported by the unavailability of internal audit, in many spending bodies to provide adequate assurances that the financial systems and procurement processes (not just individual transactions) are being conducted effectively, efficiently and economically and if the rules, regulations procedures are being adequately complied or enforced. The Office of the Auditor General (OAG) acknowledges significant problems in procurement at all levels due to the lack of assurances, which exposes the control system to risks and unevenness of application. The challenge remains of achieving an appropriate level of assurance without undermining the beneficial aspects of delegation systems which shares the similar common principle such as value for money, fair treatment, non-discrimination, integrity, transparency and competition and social and economic development as subscribed by the IFAD Procurement Guidelines.

3. Based on a broad rule of law assessment produced in June 2012 by the Perseus Strategies and New Perimeter, in partnership with the Jacob Blaustein Institute for the Advancement of Human Rights, and the World Bank Public Financial Management Performance Report, the current PFM system is stated to be practice-based and operates without benefit of foundational laws (such as an organic budget law, procurement law, or public information law) or up to date regulations. These practices can be traced back to colonial documents (when Burma was a part of India), which contain guidelines for many but not all of the practices observed, however with one over-arching document: the Constitution of 2008. While there has been considerable decentralization of fiscal authority to ministries, states/regions, and state economic enterprises, this is however without all the controls and standards that would not allow the top down approach to reinforce the bottom up approach in a positive way. Ministries hold significant powers, which enable them to determine their own procurement systems, but are not always subject to clear laws and procedures for implementing their budgets and reporting on the results of their spending. Myanmar current ranking with regards perceived corruption based on 2014 TI index, is 156 over 174 countries with a perceived level of public sector corruption score of 21 which has been marginally improved from 15 (on a scale of 0 (highly corrupt) to 100 (very clean)).

4. As part of its reform agenda, Myanmar's parliament approved an anticorruption law in June 2013, one year after the bill was first proposed and reviewed by legislature. The law was enacted by the Union Assembly parliament in August 7, 2013 and took effect on September 17, 2013. Myanmar has also signed UN anti-corruption framework on 20 December 2012 by ratifying the UNCAC. While this is said, it has still to establish an independent anti-corruption agency and judiciary.

5. On 08 January 2014, the Government of Myanmar issued a Directive on execution of works by contract (No.31/252-contract/ah-pha-ya(2014), as a measure to introduce a minimal form of standards for tenders of civil work. The work on this directive was coordinated and spearheaded by the Ministry of Construction. This directive is not a comprehensive procurement law but rather an attempt to introduce some minimal standards for procurement of civil and the execution of the contract.
6. The Public Financial Management Performance Report produced by the World Bank summarizes the inherent country fiduciary risk as “high” which includes an overall “high” procurement risk due to the lack of: (i) legal framework for public procurement; (ii) procedures and processes (iii) weak governance environment; (iv) limited experience and capacity and (v) redress mechanism.
7. The current assessment of the procurement capacity of the Ministry of Agriculture and Irrigation (MoALI), the Lead Agency and the Provincial Agriculture and Irrigation Department of Kayin State and Shan State for carrying out procurement under ESAP is described under Annex 1. Annex 2 summarizes the WB Analysis against the 6 PEFA dimensions.
8. During the course of the mission, the mission was able to establish that currently the State Department of Agriculture and Department of Irrigation, in both Shan and Kayin State have either fairly limited exposure or in most cases no exposure to procurement standards other than purchases for small items through shopping or direct quotations. Large procurement is undertaken by the Union Ministries of MOIA with limited delegated authorities to the State Departments.
9. The current level of delegated authorities provide the State Departments and units between USD 5,000 and USD 40 in delegated authority to procure and award. Due to size and the transaction limit, purchases and invoice are split into smaller units to avoid seeking approvals from the Union Ministry which can take between 2 week to 4 months to obtain.
10. All State Level Procurement that are undertaken are reviewed against the established standard approved price of goods based on a survey of which is done yearly to establish the standard price list for major commodities and goods by each State. The mission was unable to validate adherence nor compliance to the established process given the lack of supporting documentation made available to the mission.

#### **Arrangements for Procurement under ESAP**

11. Procurement of goods, works and services financed from resources provided or administered by IFAD will be undertaken in accordance with IFAD’s Procurement Guidelines and Handbook (dated September 2010, or as amended from time to time as an exception to the provisions of the General Conditions.
12. ESAP aims to decentralized procurement to the State Departments through the PIO and centrally supported, monitored and managed by the PCO. The Procurement Manual would establish minimal standard while the Project Implementation Manual would establish delegation of authorities for the commitment of resources which include procurement approval threshold. The procurement of goods, works and services will be handled by the state level PIO; however, they may request PMU support for consolidated or international purchases. Substantial technical assistance will be provided to develop state level and PIO procurement capacities.
13. As a risk mitigation measure, the State PIO would include one procurement and contract management specialist, who would be supported by the PCO Procurement Officer. Resources have also been allocated to ensure adequate capacity building of these specialist and also to provide training and support to the Departments during the course of the Project Implementation.
14. International Competitive Bidding (ICB) shall be undertaken in accordance with the rules and regulation for ICB as established by the World Bank in line with the provisions of the IFAD Procurement Guidelines.
15. National Competitive Bidding, Shopping and Direct Contracting. Goods and Civil works and goods procured using NCB, Shopping and Direct Contracting will follow the procedures and



processes defined in the Project Procurement Manual and the Project Implementation Manual approved by Project Steering Committee and the IFAD. The procedures would be adapted and adopted in accordance with the provisions of IFAD Procurement Guidelines and the Procurement Handbook with the following emphasis to mitigate risk ensuring compliance to the provisions of the Procurement Guidelines.

(a) **Registration of Bidders.** It is general agreement that Registration of Bidders as a condition for bidding is not a good practice and the World Bank does not accept it for ICB. However, it is a very common practice in Countries to have registration previous to bidding as a due diligence process for screening bidders legal and fiscal capacity. It is also usual (in some countries) to use registration as a means for prequalification, especially for civil works which would be introduced in ESAP.

(b) **Open Bid - National Competitive Bidding.** Procedural rules play an important role particularly when it comes to open competitive bidding. The Project will impose through the Project Implementation Manual (PIM) the use of well-formulated bidding documents which will result in bid submissions that are free from qualifications. The PIM would expand and articulate the following rules and procedures defined for the implementation of ESAP:

(i) **Effective Advertisement:** Advertisement should be broad enough (using the appropriate media), giving enough time to bidders for preparing their bid. To the extent possible, bidding opportunities should also be advertised electronically. The minimum requirement should be: (i) Mandatory publication in one local newspaper in addition to the official gazette (if existent); (ii) Web-page: if the borrower (or the Country) has a web-page, all bidding opportunities should be advertised; (iii) advertisement in United Nations Development Business or other electronic means.

(ii) **Eligibility:** Eligibility criteria and procedures should not deny bidders access to a bidding process or an award for reasons which are not related to their qualification to carry out the contract. Consequently the procedures should: (i) Be based on the ability of bidders to carry out the contract and should not include additional restrictions (not related to such ability); (ii) No restrictions to foreign bidders; (iii) Local blacklisting for fraud and corruption carried out with due process and with rights for accused firms to defend themselves could be assessed by IFAD and accepted.

(iii) **Qualification of Bidders:** The procedures should define post qualification as the preferred rule. Prequalification should be restricted to civil works specially for large or complex contracts or for special cases with due justification. The review of bidders qualification should be conducted by examining whether the bidder does or does not meet qualification criteria and not by using a point system reflecting the bidders' qualification. Conducting a pre-selection instead of a pre-qualification should not be accepted, i.e., pre-qualification means that all candidates who have been determined to be qualified should be invited to bid whereas pre-selection means that the government agency is free to invite any of those candidates but does not have to invite all of them. No bidder should be disqualified due to bureaucratic or non-substantial reasons.

(iv) **Standard Bidding Documents & Standard Contract:** Standard Bidding Documents are of paramount importance for transparency, speed of the process, increase competition and creation of capacity (standardization of procedures). The SBD to be used in all local open bidding processes would be described in the PIM and it should include: (i). Time to submit bid: minimum 30 days; (ii). Bids may be submitted by post or by hand; (iii) Budget: could be disclosed (if local legislation so requires); (iv). Clear instructions on how to buy bidding documents indicating address and price to buy the bidding documents. However, bidders who decide to submit a bid without having bought the bidding documents should not be disqualified, submitting their bids under their own risk; (v) Clarifications to bidding documents should be in writing only; (vi) Amendments to bidding documents should be advertised with the same procedure used for advertisement of bidding documents; (vii) Bid Forms should be similar to

those used for ICB, however, with the flexibility required; (viii) Number of Envelopes: use the same procedure for ICB (one envelope); (ix) Evaluation Criteria: the bid evaluation criteria should be non-discriminatory. It should be disclosed and rigorously quantified in monetary terms to define the “lowest evaluated bidder”. This allows to indisputably identify the lowest evaluated responsive bid. Quantifying bid evaluation criteria in monetary terms is the only method that leads to transparent evaluation and that allows bidders to submit an effective protest to the awarding authority.

(v) **Language (bidding documents and contract)**: the language of commercial use in the country along with English translations.

(vi) **Bid Prices (and Payments)**: the PIM defines for the bidding documents, the price (and payments) conditions: (i) the currency to be used (local or any internationally used); (ii) for countries with high inflation price adjustment for contracts; (iii) for countries with stable currency, price adjustment for contracts longer than 12 months; (iv) the method of payment; (v) the currency of payment (similar as for the bid prices); (vi) automatic payment of interest in case of late payments, and (vii) no price adjustment formulas used in the bid evaluation.

(vii) **Bid & Performance security**: the PIM would prescribe the generally accepted practice used in the local market (securities issued by banks or by sureties). Alternative methods (like automatic penalty to bidders failing to honor a bid) in lieu of bid securities could be accepted. Retention of payment could also be used instead of performance security.

(viii) **Liquidated damages**: should be similar to the ICB document.

(ix) **Complaints & Settlement of disputes**: Modern procurement regulations attempt to provide to losing bidders an effective way to submit protests pertaining to contract award. More generally, the private partner in a government contract must be proactive in implementing competitive mechanisms and, in fact, should be a guardian of those mechanisms exactly in the same manner as government agencies. The goal in the protest handling system is:

- Complaints should be accepted at any time. Those received before bids are submitted should be addressed before bid opening. All others should be taken into account but the response should be announced only after award is recommended.
- The PIM and the Procurement Manual would outline an administrative process for dealing with complaints including an independent reviewer for the answers provided by the procuring entity
- The protests should be submitted to an independent entity and not simply to the contracting agency’s supervisor. Specifically, tender committees can only carry administrative reviews. Their membership does not allow for arbitration or quasi-arbitration of the dispute and therefore an independent protest mechanism should be provided in order to review award disputes before the contract award is final;
- When protests are submitted before award they may lead to revisit the award of the contract; when protests are submitted after the award, their only consequence should be the bidder’s entitlement to compensatory damages for the cost of bid preparation.
- Contracts should include a system for Settlement of Disputes. The use of a Dispute Resolution Board is encouraged before disputes be submitted to arbitration or to courts.

(c) **Bid Opening**: Public bid opening of all bids, and recording of the opening in minutes signed by all bidders in attendance is required. In addition: (i) late bids should be rejected; (ii) procedures for bid opening should be the same as those used for ICB; (iii) minutes should follow the same procedure as for ICB, and (iv) safeguard of price envelope (when two envelopes are used).

(d) **Confidentiality**: After bid opening and until contract award, all information about bids and their evaluation should be confidential. For transparency reasons, the evaluation report and

all non-proprietary information could be made available to the public after an award recommendation has been published.

(e) **Evaluation of Bids:** Bids should be evaluated by an independent evaluation committee defined in the PIM at the level of each PIO and the PMU depending on the type of procurement, taking special consideration for: (i) Clarification of bids: should follow the same procedures used for ICB; (ii) Responsiveness: should follow the same procedures used for ICB; (iii) Qualification of the bidder should be conducted separately from the evaluation of its bid; (iv) Lowest evaluated cost criteria: The award should be made to the bidder having submitted the lowest evaluated responsive bid; (v) Use of a point system to evaluate bids: scoring is an indirect way to express the outcome of post-qualification or of the technical analysis of the bid a point system should not be accepted. We recognize that a point system may be better suited for complex systems, however, it would be extremely exceptional that such procurement would not follow ICB, and (vi) Rejection of all bids: borrower may reject all bids if: a/ all bids are not responsive; b/ the price offered by the lowest bidder is substantially higher than the confirmed good estimate for the contract, or c/ the process was not competitive, i.e., only few bids (less than 3) were offered although several bidders could be interested in bidding.

(f) **Domestic preference:** IFAD could accept domestic preference in national bidding, provided it is defined by law and following quantified conditions on how to take it into consideration in bid evaluation. IFAD would not accept the use of non-quantified bid evaluation criteria, such as the scope of the lots or the value of the products to be domestically subcontracted, as those criteria would affect the predictability of the evaluation, or use of any other form of non-quantified preference.

(g) **Award Criteria:** The award should be made to the bidder having submitted the lowest evaluated responsive bid. Award of contract should be without negotiations to avoid bidders not submitting their best bid at the time of bid submission and would affect the perception of transparency, one of the main benefits deriving from public bidding.

16. **Reserved Invitations – Private Bidding or “shopping”:** Procurement procedures other than open competitive bidding must be restricted and contained within appropriate limits. Restricted bidding is appropriate for small value contracts, and situations in which there is only a very small number of potential candidates. Consequently, very specific thresholds should be defined below which this method of procurement could be applied. In addition the following minimum requirements should apply:

- (a) Number of invitees & criteria for choosing:
  - (i) Minimum of 3 proposals received. However, the process should be open to whoever wants to bid, even if not invited.
  - (ii) Invited firms should not be repeated, if possible. Except if other firms do not exist
- (b) Standard request for bids. Simplified document asking proposals by letter, by fax or using electronic means.
- (c) Evaluation.
  - (i) Minimum price or
  - (ii) Combination of price and delivery time, in which case delivery time would be evaluated in monetary terms added to price. Minimum overall evaluated price would result in award.

17. **Direct Contracting:** This should be used only in exceptional cases with due justification to be kept on records. Conditions justifying the use of direct contracting are elaborated in the PIM and the Procurement Manual.

18. **Local Consultants Selection Process:** The PIM shall elaborate the provision as prescribed in the Procurement Handbook in term of selection of consultants in line with the Provisions of IFAD Procurement Guidelines. However, for assignments below a certain threshold and for contracts where enough capacity exists in the country compatible with the complexity of the assignment, the short-list may comprise entirely national consultants. In this case this minimum requirements should prevail:

- (a) **Registration:** The same conditions described for bidder for goods and works above should be complied with.
- (b) **Advertising:** Borrowers should advertise the assignment for expression of interest by firms. The advertisement should include:
  - (i) Mandatory publication in one local newspaper in addition to official gazette (if existent).
  - (ii) Web-page: if the borrower (or the Country) has a web-page the bidding opportunities should be advertised including UN Development Business or other electronic means.
- (c) **Short-List:** Borrowers should use a short-list of 3 to 6 firms to request proposals. This short-list may result from comparing qualifications and experience among firms that have expressed interest. Borrowers could use a prequalification process for preparation of the short-list if:
  - (i) the local law so requires
  - (ii) the prequalification exercise is used for the preparation of a short list, i.e., the process is not for open competition.
- (d) **Standard RFP & Standard Contract:** The standard RFP would be described and included in the PIM similar to that used for Selection of consultants by the World Bank.
- (e) **Language (RFP and Contract): the language of commercial use in the country.**
- (f) **Selection Process: Short-list; QCBS (other methods when justified) elaborated in the PIM.**
- (g) **Award criteria:** highest combined score (preferably using the following range between 70% to 90% for the technical score and 30% to 10% for the price).

19. All procurement for goods, works and services financed from resources funded or administered by IFAD require bidding documents and the contracts to include a provision requiring suppliers, contractors and consultants ensure compliance with IFAD zero tolerance anticorruption policy and to permit IFAD to inspect their accounts, records and other documents relating to the bid submission and contract performance, and to have them audited by IFAD-appointed auditors.

20. As provided in appendix I, paragraph 1 of IFAD's Procurement Guidelines, IFAD review of and no objection to the Recipient's procurement plans is compulsory and the 18-month procurement plans submitted by the Recipient must include as a minimum:

- (a) A brief description of each procurement activity to be undertaken during the period and name of the implementing agency responsible for the procurement.
- (b) The estimate value of each procurement activity;
- (c) The method of procurement to be adopted for each procurement activity and;
- (d) The method of review IFAD will undertake for each procurement activity indicating either post review or prior review.

21. Any changes/amendments to the procurement plan are subject to IFAD's No Objection.

### **Procurement Methods Thresholds**

22. International Competitive Bidding (ICB) is the default procurement method for:
- (a) Goods estimated to cost above USD 200,000
  - (b) Civil works estimated to cost above USD 1,000,000
  - (c) Services estimated to cost above USD 100,000

### **Procurement of Goods and Works.**

23. Method of procurement should be established as per the following thresholds:
- (a) Goods
    - (i) National Competitive Bidding (NCB) for contract values greater than USD 25,000 and less USD 200 000.
    - (ii) National shopping for contracts less than USD 25,000 up to USD 1,000,
    - (iii) Direct contracting for contracts below USD 1,000
  - (b) Works
    - (i) National Competitive Bidding (NCB) for contract values greater than USD 50,000 and less USD 1,000 000.
    - (ii) National shopping for contracts less than USD 50,000
24. The Irrigation Department shall be contracted to undertake design services and the implementation of land consolidation works, the construction irrigation system and structures which include farm roads with the oversight and support of an independent design quality and supervision intermediary. The detail of the implementation would be elaborated in the PIM.

25. **Consultancy and Services.** Consulting services will include project management TA, implementation support TA for different components, conducting studies, mobilization/establishment of community groups, technical training and strengthening of community groups, and M&E. Services would be provided by consulting firms and individual consultants.

- (a) Each contract for the selection of consultancy services estimated to cost USD 50,000 equivalent or above, shall be selected in accordance with the IFAD Procurement Guidelines following any one of the selection methods listed below:
  - (i) Quality and Cost Based Selection
  - (ii) Fixed Budget Selection
  - (iii) Least Cost Selection
- (b) Each contract for the selection of consultancy services estimated to cost below USD50,000 equivalent, shall be selected in accordance with the IFAD Procurement Guidelines following any one of the selection methods listed below:
  - (i) Quality and Cost Based Selection
  - (ii) Fixed Budget Selection
  - (iii) Least Cost Selection
  - (iv) Selection Based on Consultants Qualification

26. Selection of individual consultants. Individual consultants are selected on the basis of their qualifications for the assignment. They shall be selected through comparison of qualifications of at least three candidates among those who have expressed interest in the assignment or have been

approached directly by the Borrower. Individuals employed by Borrowers shall meet all relevant qualifications and shall be fully capable of carrying out the assignment. Capability is judged on the basis of academic background, experience and, as appropriate, knowledge of the local conditions, such as local language, culture, administrative system, and government organization.

27. Consultancy Services and Individuals consultants may be selected on a sole-source basis with due justification in exceptional cases such as: (a) tasks that are a continuation of previous work carried out by the consultant for which he/she was selected competitively; (b) assignments lasting less than six months; (c) emergency situations resulting from natural disasters; and (d) when the individual consultant or consulting firm is the only consultant qualified for the assignment.

### Review of Procurement Decisions by IFAD

28. IFAD will undertake to review the provisions for the procurement of good, works and services to ensure that the procurement process is carried out in conformity with its Procurement Guidelines. For the purposes of IFAD's Procurement Guidelines, the following procurement decisions shall be subject to prior review by the Fund for the award of any contract for goods, equipment, materials, works, consultancy and services under ESAP.

- (a) Procurement of goods, materials and works
  - (i) Prequalification documents and shortlist when prequalification is undertaken;
  - (ii) Bid Documents for goods, materials and works;
  - (iii) Evaluation Report and Recommendation for Award;
  - (iv) Contract and amendments.
- (b) Procurement of consultancy services and services
  - (i) Prequalification documents and shortlist when prequalification is undertaken;
  - (ii) Request for Proposal;
  - (iii) Technical Evaluation Report;
  - (iv) Combined (technical and financial) Evaluation Report and Recommendation for Award
  - (v) Contract and amendments.

29. All contracts to be issued to the Irrigation Department for the design services and the implementation of land consolidation works, the construction irrigation system and structures which include farm roads with the oversight and support of an independent design quality and supervision intermediary. IFAD prior review process ensures the process and reviews have been undertaken by the intermediary and free and prior informed consents have been obtained from the farmers.

30. **Prior or Post Review.** Except as IFAD may otherwise agree, the prior or post which applies to various procurement of good, works and consultant recruitments shall be defined as follows:

Procurement Method	Prior or Post	Comments
<b>Procurement of Goods and Works</b>		
ICB Works and Goods	Prior	All Contracts
Civil Works by Irrigation Department	Prior	All Contracts
NCB Works and Goods	Prior	Except procurement valued below USD 25,000
Shopping for works (quotations)	Post	
Shopping for goods (quotations)	Post	
Direct Works	Prior	All Contracts
Direct Goods	Prior	Except procurement valued below USD 1,000
<b>Recruitment of Consulting Firms</b>		
Quality and Cost-Based Selection (QCBS)	Prior	Except procurement valued below USD 25,000

Fixed Budget Selection (FBS)	Prior	Except procurement valued below USD 25,000
Least Cost Selection (LCS)	Prior	Except procurement valued below USD 25,000
Selection Based of Consultants Qualification	Prior	Except procurement valued below USD 25,000
Sole Source Selection (SSS)	Prior	All contracts
<b>Recruitment of Individual Consultants</b>		
Individual Consultants	Prior	Except procurement valued below USD 10,000

### **GOVERNANCE AND ANTI-CORRUPTION (GAC)**

Anticorruption measures will include: (a) necessary measures undertaken to create and sustain a corruption-free environment for activities under the Project; (b) institute, maintain and ensure compliance with internal procedures and controls for activities under the Project, following international best practice standards for the purpose of preventing corruption, money laundering activities, and the financing of terrorists, and shall require all relevant ministries and agencies to refrain from engaging in any such activities; (c) compliance with requirements of IFAD's Policy on Preventing Fraud and Corruption in Its Activities and Operations (2005, as amended to date); (d) ensure that the Good Governance Framework is implemented in a timely manner. is actively engaged to allow potential Project beneficiaries and other stakeholders to channel and address any complaints they may have on the implementation of the Project.





**ANNEX 1.**

**UNION MINISTRY OF AGRICULTURE AND IRRIGATION AND STATE DEPARTMENT OF IRRIGATION AND AGRICULTURE**

**CAPACITY ASSESSMENT**

<b>Part A. General Agency Resource Assessment</b>	<b>Response</b>
A.1. Is there a procurement department?	<p>There are no organizational units with direct responsibility for establishing procurement standards. The Ministry of Commerce had this responsibility in the past, which was superseded by the Presidential Order issued by the President's Office on 2nd June, 2011. The MOIA has no specific procurement department but rather this function is undertaken by the Administration Unit of specific Departments within MOIA. There is a Procurement Review Committee at the level of the Ministry, chaired by the Minister or the Vice Minister.</p> <p>Similarly in the State department of Agriculture and Irrigation, there no procurement departments nor are units responsible for procurement. All major procurement is primarily undertaken by the Union Ministry with limited delegation of authority for the granted to the State Departments.</p> <p>On 08 January 2014, the Government of Myanmar issued a Directive on execution of works by contract (No.31/252-contract/ah-pha-ya(2014), as a measure to introduce a minimal form of standards for tenders of civil work. The work on this directive was coordinated and spearheaded by the Ministry of Construction. This directive is not a comprehensive procurement law but rather an attempt to introduce some minimal standards for procurement of civil and the execution of the contract.</p>
A.2. What procurement does it undertake?	<p>The Ministry undertakes all kinds of public procurement related to goods, works and services. However reliable information not is available on the total percentage volumes. No statistics are available at the Union Ministry and the State Departments.</p>
A.3. Are the staff provided with written job descriptions?	<p>Administrative Unit staff do not specific job descriptions which define role and responsibilities on procurement. There is no specific procurement unit with MOALI for the Departments of Irrigation and Agriculture. This is also representative of the State Departments of Agriculture and Irrigation.</p>
A.4. How many years' experience does the head of the procurement unit have in a direct procurement role?	<p>N/A - No specific individual appointed as head of procurement unit. Administrative Unit head acts as head of procurement unit but role not specifically defined.</p>
A.5. How many staff in the procurement department are:	<p>N/A As there no dedicated units or section in the Union Ministry nor in the State Departments.</p>
i. Full Time?	N/A
ii. Part Time?	N/A
iii. Seconded?	N/A-
A.7. Does the staff that will be involved with the procurement have sufficient English language skills	<p>Yes most officers within departments have sufficient proficiency in English. It may be mentioned here that the whole procurement document in terms of bidding document, specification, public procurement law and</p>

	<p>rules are currently non-existent. Most communication and internal documents are in Myanmar language.</p> <p>On 08 January 2014, the Government of Myanmar issued a Directive on execution of works by contract (No.31/252-contract/ah-pha-ya(2014), as a measure to introduce a minimal form of standards for tenders of civil work. The work on this directive was coordinated and spearheaded by the Ministry of Construction. This directive is not a comprehensive procurement law but rather an attempt to introduce some minimal standards for procurement of civil and the execution of the contract.</p>
A.8. Is the number and qualifications of the staff sufficient to undertake the additional procurement that will be required under the proposed project?	<p>Currently staffing is nonexistent. The Project would be undertaking a ring fenced approach which ensures separation of functions, roles and responsibilities and it would have central procurement officer in the PCO selected from the open competitive market and two procurement and contract management specialist in the State PIOs also selected from the open competitive market.</p>
A.9. Does the unit have adequate facilities such as PCs, internet connections, photocopy facilities, printers etc. to undertake the expected procurement?	<p>No. The procurement under the proposed project will be undertaken by the Project Management Office (PMO). The PCO and PIO will be equipped with adequate facilities such as PCs, Internet Connections, photocopy facilities, printers etc. for smooth implementation of procurement.</p>
A.10. Is there a procurement training program?	<p>Currently none. However the Project and Ministry would benefit from WB initiatives in this regard. The Project will be supported by a TA and IFAD periodically to build capacities of the Departments within MOALI.</p> <p>The Procurement and Contract Management Specialist would be also receive CIPS certification training to enhance their capacities in procurement and procurement management.</p>
<b>Part B. Agency Procurement Processes, Goods and Works</b>	
B1. Are there individual procurement plans prepared for each department and consolidated by the Ministry	<p>No, there are no consolidated procurement plans prepared. No evidence presented on individual procurement plans for Department of Agriculture or Department of Irrigation. Most closed tenders or purchases are done through state enterprises.</p>
B.2. If the above is yes, what where the major challenges?	<p>Please refer to PEFA and analysis ratings listed below.</p>
B.3. Is there a procurement process manual for goods and works?	<p>No comprehensive manual exists. On 08 January 2014, the Government of Myanmar issued a Directive on execution of works by contract (No.31/252-contract/ah-pha-ya(2014), as a measure to introduce a minimal form of standards for tenders of civil work. The work on this directive was coordinated and spearheaded by the Ministry of Construction. This directive is not a comprehensive procurement law but rather an attempt to introduce some minimal standards for procurement of civil and the execution of the contract.</p>
B.4. If there is a manual is it up to date and does it cover foreign assisted procurement?	<p>No. The Manual for civil works and materials are for government financed projects.</p>

B.5. Is there a systematic process to identify procurement requirements (1 year or more)	No
B.6. Who drafts the specifications?	N/A. Possibly the Technical Units with the Ministry
B.7. Who approves the specification?	N/A. Heads of Departments
B.8. Are there standard bidding documents in use and have they been approved for use on IFAD funded projects?	No. Specific standard bidding documents would be developed and included in the Project Implementation Manual. The Directive on execution of works by contract (No.31/252-contract/ah-pha-ya(2014), as a measure to introduce a minimal form of standards for tenders of civil work does not include standard bidding documents.
B.9. Who drafts the bidding documents?	N/A
B.10. Who manages the sale of the document?	N/A
B.11. Are all queries from bidders replied to in writing?	N/A.
B.12. Is there a minimum period for preparation of bids and if yes how long?	N/A
B.13. Does the bidding document state the date and time of opening and how close is it to the deadline for submission?	N/A
B.14. Is the opening public?	N/A
B.15. Can late bids be accepted?	N/A
B.16. Can bids be rejected at bid opening?	N/A
B.17. Are minutes taken?	N/A
B.18. Who may have a copy of the minutes?	N/A
B.19. Are the minutes free of charge?	N/A
B.20. Who undertakes the evaluation (individual(s), permanent committee, ad-hoc committee)?	N/A
B.21. What are the qualifications of the evaluators in respect to procurement and the goods and works under evaluation?	N/A
B.22. Is the decision of the evaluators final or is the evaluation subject to additional approvals?	N/A
B.23. Using at least three real examples how long between the issue of the invitation for bids and contact effectiveness?	N/A
B.24. Are there processes in place for the collection and clearance of cargo through ports of entry?	N/A.
B.25. Are there established goods receiving procedures?	N/A
B.26. Are all goods received recorded as assets or inventory in a register or similar?	N/A
B.27. Is the agency/ procurement department familiar with letters of credit?	N/A

B.28. Does the procurement department register and track warranty and latent defects liability periods?	N/A
<b>Part C. Agency Procurement Processes, Consulting Services</b>	
C.1. Has the agency undertaken foreign assisted procurement of consulting services recently (last 12 months, or last 36 months)?	No. There were consulting service procured under a technical assistance grant funded by JICA and Korean Government but these services were procured by JICA and Korean Government directly. The consultants provided technical assistance to MOALI in the procurement of agricultural equipment also funded by JICA and the Korean Government under tied financing. The procurement was advertised undertaken in Japan and Korea in accordance with the procurement guidelines as applicable to JICA and Korean financing.
C.2. If the above is yes what where the major challenges?	N/A
C.3. Is there a procurement process manual for consulting services procurement?	N/A
C.4. Is the manual up to date and does it cover foreign assisted projects?	N/A
C.5. Who identifies the need for consulting services requirements?	N/A
C.6. Who drafts the ToR?	N/A
C.7. Do the ToR followed a standard format such as background, tasks, inputs, objectives and outputs?	N/A
C.8. Who prepares the request for proposals?	N/A
C.9. Are assignments advertised and expressions of interest called for?	N/A
C.10. Is a consultants' selection committee formed with appropriate individuals in terms of	N/A
C.11. What criteria is used to evaluate EOIs?	N/A
C.13. Do firms have to pay for the proposal document?	N/A
C.14. Does the evaluative criteria follow a pre-determined structure and is it detailed in the RFP?	N/A
C.15. Are pre-proposal visits and meetings arranged?	N/A
C.16. Are minutes prepared and circulated after pre-proposal meetings?	N/A
C.17. To who are minutes distributed?	N/A
C.18. Are all queries from consultants answered to in writing?	N/A
C.19. Are the financial and technical proposals in separate envelopes?	N/A
C.20. Are proposal securities required?	N/A
C.21. Are technical proposals opened in public?	N/A
C.22. Do the financial proposals remain sealed until technical evaluation is completed?	N/A

C.23. Are minutes of technical opening distributed?	N/A
C.24. Who determines the final technical ranking and how?	N/A
C.25. Are the technical scores published and sent to all firms?	N/A
C.26. Is the financial proposal opening public?	N/A
C.27. Are there minutes taken and distributed of financial proposal opening?	N/A
C.28. How is the financial evaluation completed?	N/A
C.29. Are face to face contract negotiations held?	N/A
C.30. How long after financial evaluation is the selected firm to negotiate?	N/A
C.31. What is the usual basis for negotiation?	N/A
C.32. Are minutes of negotiation taken and signed?	N/A
C.33. How long after negotiations until the contract is signed?	N/A
C.34. Are advance payments made?	N/A
C.35. Is there an evaluation system for measuring the outputs of consultants?	N/A
<b>Part D. Process Oversight and Control</b>	
D.1. Is there a standard statement of ethics and are those involved in procurement required to formally commit to it?	N/A
D.2. Are those involved with procurement required to declare any potential conflict of interest and remove themselves from the procurement process?	N/A
D.3. Is the commencement of procurement dependent on external approvals (formal or de-facto) outside of the budgeting process?	N/A
D.4. Who approves procurement transactions and do they have procurement experience and qualifications?	N/A
D.5. Which of the following actions require approval outside of the procurement unit or a permanent evaluation committee and who grants the approval?	N/A
a) Bidding document, invitation to pre-qualify or request for proposal	N/A
b) Advertisement of an invitation for bids, pre-qualification or call for expressions of interest	N/A
c) Evaluation reports	N/A
d) Notice of award	N/A
e) Invitation to consultants to negotiate	N/A
f) Contracts	N/A
D.6. Is contractual performance	N/A

systematically monitored and reported upon?	
D.7. Does the agency monitor and track its contractual payment obligations?	N/A
D.8. On average how long is it between receiving a firm's invoice and making payment?	N/A
D.9. What is the standard period for payment included in contracts?	N/A
D.10. When payment is made late are the beneficiaries paid interest?	N/A
D.11. Are payments authorized by the same individuals empowered to approve invitation documents, evaluations and contracts?	N/A
D.12. Is there a written auditable trail of procurement decisions attributable to individuals and committees?	N/A
D.13. Are procurement decisions and disputes supported by written narratives such as minutes of evaluation, minutes of negotiation, notices of default/withheld payment?	N/A
D.14. Is there a formal non-judicial mechanism for dealing with complaints?	N/A
D.15. Is a complaints resolution mechanism described in national procurement documents?	N/A
<b>Part E. Records Keeping</b>	
E.1. Is there a referencing system for procurement files?	N/A
E.2. Are original contracts secured in a fire and theft proof location?	N/A
E.3. Are copies of bids or proposals retained with the evaluation?	N/A
E.4. Are copies of the original advertisements retained with the pre-contract papers?	N/A
E.5. Is there a single contract file with a copy of the contract and all subsequent contractual correspondence?	N/A
E.6. Are copies of invoices included with contract papers?	N/A
E.7. For what period are records kept?	N/A

N/A = Not Available for review or not provided for review or not applicable.  
 Details of the procedures and processes would be outlined in the PIM in reference to this evaluation.

**Annex 2.**

**PEFA – Procurement Analysis Summary**

<b>Dimension</b>	<b>Analysis</b>	<b>Indicated Score</b>	<b>Framework Definition</b>	<b>Evidence Used</b>
(i) Transparency, comprehensiveness and competition in the legal and regulatory framework	There is no centralized framework. Each ministry has delegated powers to make its own arrangements within a general requirement to exercise open competitive tendering as the default method.	D	The legal framework meets one or none of the requirements listed in the PEFA framework.	The Order issued by the President's Office on 2nd June, 2011.  Discussion with MFR and four line ministries
(ii) Use of competitive procurement methods	There is no central collection of data about the different procurement methods used and spending bodies do not keep records in this form.	D	Reliable data is not available.	
(iii) Public access to complete, reliable and timely procurement information	Some information is given and some tenders are advertised, but there is no framework for ensuring systematic supply of information and transparency.	D	The Government lacks a system to generate substantial and reliable coverage of key procurement information and does not make key procurement information available to the public.	Discussion with MFR and four line ministries
(iv) Existence of an independent administrative procurement complaints system	There is no independent procurement complaints review body.	D	There is no independent procurement complaints review body.	
Overall Score		D		





Republic of the Union of Myanmar  
 Eastern States Agribusiness Project  
 Detailed design report  
 Appendix 8: Procurement

Myanmar

Eastern States Agribusiness Project (ESAP)

Procurement Plan 18 months

**Detailed Costs**

	Procurement Method	Classification	Implementation Agency	Base Cost Amount Loan	Total	Prior or Post Review
Pipe Irrigation Pilot	Direct Contract per block	Civil Works	ID-Kayin	550	550	Prior
Rehabilitation/provision of energy to pumping station Hpa An	Direct Contract per block	Civil Works	ID-Kayin	400	400	Prior
Hydro-metrological study Shan and Kayin	QCBS	Consulting Services	PCO	175	175	Prior
NGO assisting in participatory planning Shan and Kayin	QCS	Consulting Services	PCO	97.5	97.5	Prior
Drinking water supply	Direct Contract per block	Civil Works	ID-Kayin	25	25	Post
Micro-hydro power	Direct Contract per block	Civil Works	ID-Kayin	10	10	Post
Access roads	Direct Contract per block	Civil Works	ID-Kayin	100	100	Prior
Terracing degraded mountain slopes - contour design and building	Direct Contract per block	Civil Works	ID-Shan	583.8	583.8	Prior
Terracing degraded mountain slopes - planting materials	Local Shopping	Goods	ID-Shan	46.2	46.2	Prior
Tube wells for irrigation	Direct Contract per block	Civil Works	ID-Shan	80	80	Prior
Drinking water supply	Direct Contract per block	Civil Works	ID-Shan	100	100	Prior
Solar-panelled pumps	NCB	Goods	ID-Shan	100	100	Prior
Harnessed streams	Direct Contract per block	Civil Works	ID-Shan	10	10	Post
Access roads	Direct Contract per block	Civil Works	ID-Shan	50	50	Prior
Establishment of KC's - Technical Assistance	SSS	Consulting Services	PCO	10	10	Post
Construction of KC's	NCB	Civil Works	AD-Shan	200	200	Prior
Construction of KC's	NCB	Civil Works	AD-Kayin	200	200	Prior
Supervision of construction of KC, terracing of degraded mountain slopes	Direct Contract UN Agency	Consulting Services	PCO	152	152	Prior
Furniture and houseware for KC's	Local Shopping	Goods	AD-Shan	11.6	11.6	Post
Furniture and houseware for KC's	Local Shopping	Goods	AD-Kayin	16.8	16.8	Post
Motorcycles for KCs managers	NCB	Goods	PCO	41.3	41.3	Prior
Mobiles phones	Local Shopping	Goods	AD-Shan	1.7	1.7	Post
Mobiles phones	Local Shopping	Goods	AD-Kayin	2.4	2.4	Post
Technical and IT equipment	NCB	Goods	AD-Shan	27.5	27.5	Post
Technical and IT equipment	NCB	Goods	AD-Kayin	40	40	Post
Support to KC Manager's, Farming households and State Agriculture Institutions	QCBS	Consulting Services	PCO	1657.1	1657.1	Prior
Agribusiness Development and Financing and Financial Inclusion	QCBS	Consulting Services	PCO	12637.9	12637.9	Prior
Rehabilitation or Upgrade of Premises	Local Shopping	Goods	AD-Kayin	20	20	Post
Initial Furniture for Project Office	Local Shopping	Goods	AD-Kayin	5	5	Post
Computers & Other Electronic Equipment	Local Shopping	Goods	AD-Kayin	21	21	Post
Rehabilitation or Upgrade of Premises	Local Shopping	Goods	AD-Shan	20	20	Post
Initial Furniture for Project Office	Local Shopping	Goods	AD-Shan	5	5	Post
Computers & Other Electronic Equipment	Local Shopping	Goods	AD-Shan	21	21	Post
Initial Furniture for Project Office	Local Shopping	Goods	PCO	5	5	Post
Computers & Other Electronic Equipment	Local Shopping	Goods	PCO	12	12	Post
Project Vehicles	NCB Limited to official dealerships	NCB	PCO	945	945	Prior
Audit and Financial Management, M&E and MIS and Knowledge Management Support	Direct Contract UN Agency	Consulting Services	PCO	660.5	660.5	Prior
Baseline survey	QCS	Consulting Services	PCO	100	100	Prior
<b>Recruitment of staff and service providers</b>						
PCU Project Manager (Agri-business specialist)	Selection of Individual Consultants	Individual Consultants	PCO	60	60	Prior
PCU Monitoring & Evaluation Specialist	Selection of Individual Consultants	Individual Consultants	PCO	48	48	Prior
PCU Consolidation Accountant	Selection of Individual Consultants	Individual Consultants	PCO	38.4	38.4	Prior
PIO Finance Manager	Selection of Individual Consultants	Individual Consultants	PCO/PIO Kayin	45.6	45.6	Prior
PIO Procurement/Contract Management Specialist	Selection of Individual Consultants	Individual Consultants	PCO/PIO Kayin	40.8	40.8	Prior
PIO Accountant	Selection of Individual Consultants	Individual Consultants	PCO/PIO Kayin	36	36	Prior
PIO Irrigation Specialist	Selection of Individual Consultants	Individual Consultants	PCO/PIO Kayin	45.6	45.6	Prior
PIO Business/value chain advísor	Selection of Individual Consultants	Individual Consultants	PCO/PIO Kayin	45.6	45.6	Prior
PIO Rural Finance Specialist	Selection of Individual Consultants	Individual Consultants	PCO/PIO Kayin	45.6	45.6	Prior
PIO Monitoring & Evaluation Assistant	Selection of Individual Consultants	Individual Consultants	PCO/PIO Kayin	28.8	28.8	Prior
PIO Secretary	Selection of Individual Service Provider	Individual Services Provider	PCO/PIO Kayin	8.4	8.4	Prior
PIO Finance Manager	Selection of Individual Consultants	Individual Consultants	PCO/PIO Shan	45.6	45.6	Prior
PIO Procurement/Contract Management Specialist	Selection of Individual Consultants	Individual Consultants	PCO/PIO Shan	40.8	40.8	Prior
PIO Accountant	Selection of Individual Consultants	Individual Consultants	PCO/PIO Shan	36	36	Prior
PIO Irrigation Specialist	Selection of Individual Consultants	Individual Consultants	PCO/PIO Shan	45.6	45.6	Prior
PIO Business/value chain advísor	Selection of Individual Consultants	Individual Consultants	PCO/PIO Shan	45.6	45.6	Prior
PIO Rural Finance Specialist	Selection of Individual Consultants	Individual Consultants	PCO/PIO Shan	45.6	45.6	Prior
PIO Monitoring & Evaluation Assistant	Selection of Individual Consultants	Individual Consultants	PCO/PIO Shan	28.8	28.8	Prior
PIO Secretary	Selection of Individual Service Provider	Individual Services Provider	PCO/PIO Shan	8.4	8.4	Prior

**Notes**

- Procurement by Implementation Agencies ID-Kayin, ID-Shan, AD-Kayin and AD-Shan would be undertaken by the PIO Offices in Kayin and Shan. The Implementing Agencies will be involved in the procurement but this would be managed and implemented by the PIO with the PCO providing overall supervision, supervision and support
- Vehicles supplied by official dealerships ensuring extension of original warranties and services by manufacturer's in Myanmar based on the respective trade agreements.
- Direct Contract UN Agency to act as intermediary to ensure adequate supervision and fiduciary oversight
- Agribusiness Development and Financing and Financial Inclusion currently reflected as single package however may be split into multiple packages. To be decided once the lead experts are on board



## Appendix 9: Project cost and financing

1. **Project Period.** ESAP will be financed over a six-year period starting from 2015.
2. **Inflation.** A local inflation rate of 5% is assumed throughout the project period. This is in line with the target of the Ministry of planning (4-5%) and shorter term estimates made by OECD, ADB and IMF of around 5 and 6%. The estimate of foreign inflation is based on a smoothed version of the World Bank's Projections for the Manufactured Unit Values (MUV) Index and has been rounded to 2%. The MUV Index has been quite volatile in recent years due to the fluctuating value of the dollar, but Latest MUV index year by year growth forecasts (June 2013) are between 1.7% and 2.1% for the project period. No price contingency is applied to the USD value of the matching Grants.

**Table 1: Domestic/International Inflation (%)**

	Up to projec t start	2015	2016	2017	2018	2019	2020	2021
Domestic Inflation Rate	2.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0
International Inflation Rate	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

3. **Exchange Rate.** The exchange rate was fixed at the average of the exchange rate observed in 2013 and 2014 was about of MMK/USD=975.

**Taxes and Duties.** Base costs are inclusive of identifiable direct taxes and duties. Agricultural commodities themselves are generally exempt from tax but inputs to the sector such as fertilizers and chemicals are taxed. Additionally, a 2% income tax withholding is charged on agricultural exports. Most other goods and services from the private sector, including fertilizers, agrochemicals as well as audit or other professional fees are subject to a 5% commercial tax, which is treated like a VAT. The sales threshold above which firms must be registered for commercial tax is quite low at \$10,000 per annum, so any agro industry developed under the project would be subject to it. However businesses subject to commercial tax can net out any commercial tax charged to them on inputs when making their returns. The main exception to the 5% level, as far as the project is concerned, is fuel for vehicles, which is subject to a 10% commercial tax.

### Project Costs

4. The total investment and incremental recurrent Project costs, including physical and price contingencies, is estimated at about USD 65.2 million (MMK 69.5 billion). Physical and price contingencies make up 6 percent of the Project costs. Taxes make up approximately USD 1.16 million (1.8 percent of the total Project costs). Summary tables and detailed cost tables are presented in the Appendices.

**Table 2: Project Costs by Component**

	(MMK Million)			(US \$ '000)			%	% Total
	Local	Foreign	Total	Local	Foreign	Total	Foreign	Base
							Exchange	Costs
<b>A. Strategic Investment</b>								
1. Paddy Land Rehabilitation	30 861.6	3 429.1	34 290.7	30 861.6	3 429.1	34 290.7	10	56
2. Community Agro-Forestry	4 824.0	536.0	5 360.0	4 824.0	536.0	5 360.0	10	9
<b>Subtotal</b>	<b>35 685.6</b>	<b>3 965.1</b>	<b>39 650.7</b>	<b>35 685.6</b>	<b>3 965.1</b>	<b>39 650.7</b>	<b>10</b>	<b>65</b>
<b>B. Enabling investments</b>								
1. Knowledge and technology	3 842.1	501.0	4 343.1	3 842.1	501.0	4 343.1	12	7
2. Services	4 606.9	6 078.9	10 685.8	4 606.9	6 078.9	10 685.8	57	17
<b>Subtotal</b>	<b>8 449.0</b>	<b>6 579.9</b>	<b>15 028.9</b>	<b>8 449.0</b>	<b>6 579.9</b>	<b>15 028.9</b>	<b>44</b>	<b>25</b>
C. Project Management	5 782.5	748.2	6 530.8	5 782.5	748.2	6 530.8	11	11
<b>Total BASELINE COSTS</b>	<b>49 917.2</b>	<b>11 293.2</b>	<b>61 210.4</b>	<b>49 917.2</b>	<b>11 293.2</b>	<b>61 210.4</b>	<b>18</b>	<b>100</b>
Physical Contingencies	1 024.1	394.5	1 418.6	1 024.1	394.5	1 418.6	28	2
Price Contingencies	6 093.3	727.2	6 820.5	2 259.8	270.3	2 530.1	11	4
<b>Total PROJECT COSTS</b>	<b>57 034.6</b>	<b>12 414.9</b>	<b>69 449.5</b>	<b>53 201.1</b>	<b>11 958.0</b>	<b>65 159.1</b>	<b>18</b>	<b>106</b>

5. **Financiers and Disbursement Accounts.** ESAP financiers are: IFAD; Private Sector, Beneficiaries and Government of Myanmar. Considering that there will be a pooled PIU for ESAP and FARM at central level, in order to facilitate the accounting and the financial reporting ESAP disbursement accounts are based on the ones applied for FARM.

### Financing

6. ESAP is estimated to have an overall cost of about US\$ 65.2 million (total investment and incremental recurrent project costs including physical and price contingencies). USD 56.73 million for ESAP financed by an IFAD loan of USD 27.6 million and IFAD grant of USD 1.5 million; the Government Myanmar contribution is estimated at USD 4.9 million to cover taxes and duties foregone in addition to ESAP provisions for civil works, equipment and material, land acquisition, infrastructure O&M and operating costs. The beneficiary contribution is estimated at USD 2 million. The estimate of taxes and duties has been based on the rates in effect at the time of the Project design. In conformity with the principle that no taxes or duties would be financed out of the proceeds of the IFAD funds, any future changes in the rates and or structures of taxes and duties would apply, thus affecting the amount of foregone revenues.

The tables below provide a summary by Project components and expenditure accounts of the proposed financing arrangement.

**Table 3: Financing Plan by Components**

	(US \$ '000)												
	Government		IFAD Loan		IFAD Grant		Beneficiaries		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
<b>A. Strategic Investment</b>													
1. Paddy Land Rehabilitation	4 257.4	11.6	32 399.2	88.4	-	-	-	-	36 656.6	56.3	3 665.7	32 990.9	-
2. Community Agro-Forestry	65.4	1.1	4 525.7	77.6	-	-	1 243.2	21.3	5 834.3	9.0	583.4	5 116.8	134.2
<b>Subtotal</b>	<b>4 322.8</b>	<b>10.2</b>	<b>36 924.9</b>	<b>86.9</b>	<b>-</b>	<b>-</b>	<b>1 243.2</b>	<b>2.9</b>	<b>42 490.9</b>	<b>65.2</b>	<b>4 249.1</b>	<b>38 107.7</b>	<b>134.2</b>
<b>B. Enabling investments</b>													
1. Knowledge and technology	103.0	2.2	4 079.2	87.8	251.7	5.4	211.9	4.6	4 645.8	7.1	532.1	3 994.8	119.0
2. Services	53.7	0.5	10 352.2	93.5	95.0	0.9	566.4	5.1	11 067.3	17.0	6 372.4	4 581.5	113.4
<b>Subtotal</b>	<b>156.7</b>	<b>1.0</b>	<b>14 431.4</b>	<b>91.8</b>	<b>346.7</b>	<b>2.2</b>	<b>778.3</b>	<b>5.0</b>	<b>15 713.1</b>	<b>24.1</b>	<b>6 904.5</b>	<b>8 576.3</b>	<b>232.4</b>
C. Project Management	424.5	6.1	5 376.1	77.3	1 154.4	16.6	-	-	6 955.0	10.7	804.4	5 374.0	776.6
<b>Total PROJECT COSTS</b>	<b>4 904.0</b>	<b>7.5</b>	<b>56 732.4</b>	<b>87.1</b>	<b>1 501.2</b>	<b>2.3</b>	<b>2 021.5</b>	<b>3.1</b>	<b>65 159.1</b>	<b>100.0</b>	<b>11 958.0</b>	<b>52 057.9</b>	<b>1 143.1</b>

**Table 4: Financing Plan by Expenditure Accounts (USD million)**

	(US \$ '000)												
	Government		IFAD Loan		IFAD Grant		Beneficiaries		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
1. Works	4 329.2	10.8	35 919.1	89.2	-	-	-	-	40 248.3	61.7	4 161.1	36 087.2	-
2. Vehicles	0.0	-	1 009.7	100.0	-	-	-	-	1 009.7	1.5	201.9	90.9	716.9
3. Equipment & Materials	-	-	93.7	100.0	-	-	-	-	93.7	0.1	17.0	69.5	7.1
4. Consultancies	28.9	0.8	2 679.0	75.1	847.1	23.8	11.0	0.3	3 566.1	5.5	871.0	2 666.2	28.9
5. Training	89.3	2.0	3 052.1	66.9	654.1	14.3	767.3	16.8	4 562.8	7.0	578.1	3 786.8	197.9
6. Goods Services & Inputs	132.9	3.9	2 047.9	59.8	-	-	1 243.2	36.3	3 424.0	5.2	380.0	2 872.8	171.2
7. Matching Grants and Associated Investments	-	-	5 155.5	100.0	-	-	-	-	5 155.5	7.9	5 155.5	-	-
8. Credit Guarantee Scheme	-	-	2 978.3	100.0	-	-	-	-	2 978.3	4.6	446.7	2 531.6	-
9. Staff Salaries & Allowances	258.6	6.8	3 562.0	93.2	-	-	-	-	3 820.6	5.9	6.3	3 814.4	-
10. Operating Costs	152.1	39.3	235.1	60.7	-	-	-	-	387.2	0.6	147.6	218.5	21.2
<b>Total PROJECT COSTS</b>	<b>4 991.0</b>	<b>7.6</b>	<b>56 732.4</b>	<b>87.0</b>	<b>1 501.2</b>	<b>2.3</b>	<b>2 021.5</b>	<b>3.1</b>	<b>65 246.1</b>	<b>100.0</b>	<b>11 965.2</b>	<b>52 137.8</b>	<b>1 143.1</b>

**Annexes**  
**Financing plan for Kayin and Shan State**

**Table 1: Financing Plan for Kayin**

Activities	Base Cost (MMK Million)						Total	Base Cost (US \$ '000)						Total	Total (with contingencies)
	15/16	16/17	17/18	18/19	19/20	20/21		15/16	16/17	17/18	18/19	19/20	20/21		
<b>Component 1 - Strategic Investments</b>															
<b>I. Investment Costs</b>															
<b>A. Paddy Land Development</b>															
<b>a. Land Development</b>															
Yae Kyaw Gyi		1 375.0					1 375.0		1 375.0				1 375.0	1 448.6	
Kyauk Ka Lat		1 375.0					1 375.0		1 375.0				1 375.0	1 448.6	
Yae Baud Dam			1 375.0				1 375.0			1 375.0			1 375.0	1 470.3	
Than Hle		962.5					962.5		962.5				962.5	1 014.0	
Kyon Phe			3 162.5				3 162.5			3 162.5			3 162.5	3 381.7	
Tayote Hla				1 375.0			1 375.0				1 375.0		1 375.0	1 492.3	
Bar Kat				1 650.0			1 650.0				1 650.0		1 650.0	1 790.8	
Htone I - Phase 1				247.5			247.5				247.5		247.5	268.6	
Htone I - Phase 2			1 677.5				1 677.5		1 677.5				1 677.5	1 793.7	
Jaing	825.0						825.0	825.0					825.0	856.3	
Zarphatyin				687.5			687.5				687.5		687.5	746.2	
Kan Ni				687.5			687.5				687.5		687.5	746.2	
<b>Subtotal</b>	825.0	3 712.5	6 215.0	4 647.5			15 400.0	825.0	3 712.5	6 215.0	4 647.5		15 400.0	16 457.2	
b. Pipe irrigation pilot							550.0	550.0					550.0	570.9	
c. Indirect costs on land development	82.8	372.6	623.8	466.4			1 545.6	82.8	372.6	623.8	466.4		1 545.6	1 651.7	
d. Rehabilitation/provision of energy to pumping station		400.0					400.0		400.0				400.0	421.4	
e. Design cost	36.4	112.1	170.9	127.8			447.3	36.4	112.1	170.9	127.8		447.3	477.4	
f. Supervision cost	36.4	112.1	170.9	127.8			447.3	36.4	112.1	170.9	127.8		447.3	477.4	
g. Hydro-metrological study	87.5						87.5	87.5					87.5	90.8	
h. NGO assisting in participatory planning	30.0	30.0	22.5				82.5	30.0	30.0	22.5			82.5	86.8	
	1 098.1	4 739.3	7 203.1	5 369.6			18 960.1	1 648.1	4 739.3	7 203.1	5 369.6		18 960.1	20 233.5	
<b>B. Community Agro-forestry</b>															
a. Drinking water supply	25.0	50.0	25.0				100.0	25.0	50.0	25.0			100.0	107.4	
b. Micro-hydro power	10.0	20.0	10.0				40.0	10.0	20.0	10.0			40.0	43.0	
c. Access roads		200.0	400.0				600.0		200.0	400.0			600.0	650.9	
<b>Subtotal</b>	35.0	270.0	435.0				740.0	35.0	270.0	435.0			740.0	801.3	
<b>Total Component 1</b>	<b>1 133.1</b>	<b>5 009.3</b>	<b>7 638.1</b>	<b>5 369.6</b>			<b>19 700.1</b>	<b>1 683.1</b>	<b>5 009.3</b>	<b>7 638.1</b>	<b>5 369.6</b>		<b>19 700.1</b>	<b>21 034.8</b>	





<b>Component 2 - Enabling Investments</b>														
<b>Sub-component 2-1 - Access to Knowledge and Techr</b>														
<b>I. Investment Costs</b>														
<b>A. Establishment of KCs</b>														
Construction	120.0	360.0	330.0				810.0	120.0	360.0	330.0			810.0	856.7
Supervision of construction	6.0	18.0	16.5				40.5	6.0	18.0	16.5			40.5	42.8
Furniture and houseware	4.0	12.0	11.0				27.0	4.0	12.0	11.0			27.0	28.6
Motorcycles for KCs managers	5.0	18.8	13.8				37.5	5.0	18.8	13.8			37.5	39.6
Mobiles phones	0.6	1.8	1.7				4.1	0.6	1.8	1.7			4.1	4.3
Technical and IT equipment	10.0	30.0	27.5				67.5	10.0	30.0	27.5			67.5	71.4
<b>Subtotal</b>	<b>145.6</b>	<b>440.6</b>	<b>400.4</b>				<b>986.6</b>	<b>145.6</b>	<b>440.6</b>	<b>400.4</b>			<b>986.6</b>	<b>1 043.4</b>
<b>B. Support to KC Managers</b>														
Capacity building of MoAI extensionists/KCs managers	37.5	37.5	25.0	12.5	12.5		125.0	37.5	37.5	25.0	12.5	12.5	125.0	132.5
Initial Training for KC managers	1.6	4.8	4.4				10.8	1.6	4.8	4.4			10.8	11.4
Refresher training for KC managers			1.6	4.8	4.4		10.8			1.6	4.8	4.4	10.8	11.8
Support to KC managers (local NGO)	45.0	45.0	45.0	22.5			157.5	45.0	45.0	45.0	22.5		157.5	166.7
Specific support for Water Management		10.0	10.0	10.0	10.0		40.0		10.0	10.0	10.0	10.0	40.0	43.1
On-demand additional support		50.0	25.0	25.0			100.0		50.0	25.0	25.0		100.0	106.5
KCs Award		4.5	4.5	4.5	4.5	4.5	22.5		4.5	4.5	4.5	4.5	22.5	24.4
<b>Subtotal</b>	<b>84.1</b>	<b>151.8</b>	<b>115.5</b>	<b>79.3</b>	<b>31.4</b>	<b>4.5</b>	<b>466.6</b>	<b>84.1</b>	<b>151.8</b>	<b>115.5</b>	<b>79.3</b>	<b>31.4</b>	<b>4.5</b>	<b>466.6</b>
<b>C. Support to Farming Households</b>														
Demonstrations on farmers' land	9.6	38.4	64.8	64.8	55.2	26.4	259.2	9.6	38.4	64.8	64.8	55.2	26.4	259.2
Farmers to Farmers visits	2.4	9.6	16.2	13.8	6.6		48.6	2.4	9.6	16.2	13.8	6.6		48.6
Farmers Field schools		25.0	25.0	25.0			75.0		25.0	25.0	25.0			75.0
<b>Subtotal</b>	<b>12.0</b>	<b>73.0</b>	<b>106.0</b>	<b>103.6</b>	<b>61.8</b>	<b>26.4</b>	<b>382.8</b>	<b>12.0</b>	<b>73.0</b>	<b>106.0</b>	<b>103.6</b>	<b>61.8</b>	<b>26.4</b>	<b>382.8</b>
<b>D. Support to Agriculture Institutions</b>														
Equipment for State Agriculture Institute	20.0						20.0	20.0						20.8
Capacity building for ARI and SAI	20.0	20.0					40.0	20.0	20.0					41.8
Support to State tissues laboratories	20.0						20.0	20.0						20.8
<b>Subtotal</b>	<b>60.0</b>	<b>20.0</b>					<b>80.0</b>	<b>60.0</b>	<b>20.0</b>					<b>83.3</b>
<b>Total Investment Costs</b>	<b>301.7</b>	<b>685.4</b>	<b>621.9</b>	<b>182.9</b>	<b>93.2</b>	<b>30.9</b>	<b>1 916.0</b>	<b>301.7</b>	<b>685.4</b>	<b>621.9</b>	<b>182.9</b>	<b>93.2</b>	<b>30.9</b>	<b>1 916.0</b>
<b>II. Recurrent Costs</b>														
<b>1. Salaries</b>														
Base salary - KC based extensionist/manager	3.4	13.4	22.7	22.7	22.7	22.7	107.5	3.4	13.4	22.7	22.7	22.7	22.7	114.6
Allow ance for KC managers	8.6	34.6	58.3	58.3	58.3	58.3	276.5	8.6	34.6	58.3	58.3	58.3	58.3	309.3
Support service (caretaker)	2.6	10.6	17.8	17.8	17.8	17.8	84.5	2.6	10.6	17.8	17.8	17.8	17.8	90.0
<b>Subtotal</b>	<b>14.6</b>	<b>58.6</b>	<b>98.8</b>	<b>98.8</b>	<b>98.8</b>	<b>98.8</b>	<b>468.5</b>	<b>14.6</b>	<b>58.6</b>	<b>98.8</b>	<b>98.8</b>	<b>98.8</b>	<b>98.8</b>	<b>513.9</b>
<b>2. Operating costs</b>														
Electricity	1.2	4.8	8.1	8.1	8.1	8.1	38.4	1.2	4.8	8.1	8.1	8.1	8.1	41.7
Annual operating costs	5.5	21.9	37.0	37.0	37.0	37.0	175.4	5.5	21.9	37.0	37.0	37.0	37.0	190.6
<b>Subtotal</b>	<b>6.7</b>	<b>26.7</b>	<b>45.1</b>	<b>45.1</b>	<b>45.1</b>	<b>45.1</b>	<b>213.8</b>	<b>6.7</b>	<b>26.7</b>	<b>45.1</b>	<b>45.1</b>	<b>45.1</b>	<b>45.1</b>	<b>232.3</b>
<b>Total Recurrent Costs</b>	<b>21.3</b>	<b>85.3</b>	<b>143.9</b>	<b>143.9</b>	<b>143.9</b>	<b>143.9</b>	<b>682.2</b>	<b>21.3</b>	<b>85.3</b>	<b>143.9</b>	<b>143.9</b>	<b>143.9</b>	<b>143.9</b>	<b>746.2</b>
<b>Total Sub-Component 2.1</b>	<b>323.0</b>	<b>770.6</b>	<b>765.8</b>	<b>326.8</b>	<b>237.1</b>	<b>174.8</b>	<b>2 598.2</b>	<b>323.0</b>	<b>770.6</b>	<b>765.8</b>	<b>326.8</b>	<b>237.1</b>	<b>174.8</b>	<b>2 782.1</b>

<b>Sub-component 2.2 - Agribusiness Development and</b>															
<b>A. Market Linkages</b>															
<b>1. Value Chain analyses</b>															
a. Kayin State	25.0	50.0	75.0	25.0		175.0	25.0	50.0	75.0	25.0		175.0	186.0		
<b>2. Certification</b>															
a. Kayin State		30.0	100.0	60.0		190.0		30.0	100.0	60.0		190.0	203.7		
<b>3. Market promotion</b>															
a. Kayin State		30.0	30.0	30.0	30.0	120.0		30.0	30.0	30.0	30.0	120.0	129.3		
<b>Subtotal</b>	25.0	110.0	205.0	115.0	30.0	485.0	25.0	110.0	205.0	115.0	30.0	485.0	518.9		
<b>B. Financial Instruments</b>															
Capacity building PIOs (financing)	25.0	12.5	12.5			50.0	25.0	12.5	12.5			50.0	50.0		
Capitalization ABF		810.0	820.0	400.0		2 030.0		810.0	820.0	400.0		2 030.0	2 131.5		
Pilot Warehouse Financing		140.0				140.0		140.0				140.0	140.0		
<b>Subtotal</b>	25.0	962.5	832.5	400.0		2 220.0	25.0	962.5	832.5	400.0		2 220.0	2 321.5		
<b>Total Sub-Component 2.2</b>	<b>50.0</b>	<b>1 072.5</b>	<b>1 037.5</b>	<b>515.0</b>	<b>30.0</b>	<b>2 705.0</b>	<b>50.0</b>	<b>1 072.5</b>	<b>1 037.5</b>	<b>515.0</b>	<b>30.0</b>	<b>2 705.0</b>	<b>2 840.4</b>		
<b>Sub-component 2.3 - Financial Inclusion</b>															
Financial literacy	17.5	42.0	42.0	21.0		122.5	17.5	42.0	42.0	21.0		122.5	133.9		
<b>Total Sub-Component 2.3</b>	<b>17.5</b>	<b>42.0</b>	<b>42.0</b>	<b>21.0</b>		<b>122.5</b>	<b>17.5</b>	<b>42.0</b>	<b>42.0</b>	<b>21.0</b>		<b>122.5</b>	<b>133.9</b>		
<b>Total Component 2</b>	<b>390.5</b>	<b>1 885.1</b>	<b>1 845.3</b>	<b>862.8</b>	<b>267.1</b>	<b>174.8</b>	<b>5 425.7</b>	<b>390.5</b>	<b>1 885.1</b>	<b>1 845.3</b>	<b>862.8</b>	<b>267.1</b>	<b>174.8</b>	<b>5 425.7</b>	<b>5 756.5</b>
<b>Component 3 - Project Management</b>															
<b>I. Investment Costs</b>															
<b>A. Upgrade and Establishment of Project Office</b>															
a. Rehe	20.0					20.0	20.0					20.0	20.8		
b. Initial	5.0					5.0	5.0					5.0	5.2		
c. Com	21.0					21.0	21.0					21.0	21.8		
d. Upgr				10.5		10.5				10.5		10.5	11.4		
<b>Subtotal</b>	46.0			10.5		56.5	46.0			10.5		56.5	59.1		
<b>B. Vehicles /j</b>															
a. 4WD Estate Car	157.5					157.5	157.5					157.5	168.3		
b. 4WD Double Cab Pickups	189.0					189.0	189.0					189.0	201.9		
<b>Subtotal</b>	346.5					346.5	346.5					346.5	370.2		
<b>C. Training &amp; Support</b>															
a. Project Expeditor	50.0					50.0	50.0					50.0	52.4		
b. State Start-Up Workshop	10.0					10.0	10.0					10.0	10.5		
c. Final State Workshop					10.0	10.0					10.0	10.0	11.3		
d. Other workshops			6.0	6.0		12.0		6.0		6.0		12.0	13.2		
e. Capacity Building for PCU staff	75.0	50.0	25.0			150.0	75.0	50.0	25.0			150.0	158.8		
f. Exposure Visits and Regional Workshops		15.0	15.0	15.0		45.0		15.0	15.0	15.0		45.0	48.8		
<b>Subtotal</b>	135.0	65.0	46.0	21.0	10.0	277.0	135.0	65.0	46.0	21.0	10.0	277.0	295.0		
<b>Total Investment Costs</b>	<b>527.5</b>	<b>65.0</b>	<b>46.0</b>	<b>10.5</b>	<b>21.0</b>	<b>10.0</b>	<b>680.0</b>	<b>527.5</b>	<b>65.0</b>	<b>46.0</b>	<b>10.5</b>	<b>21.0</b>	<b>10.0</b>	<b>680.0</b>	<b>724.3</b>

Republic of the Union of Myanmar  
 Eastern States Agribusiness Project  
 Detailed design report  
 Appendix 9: Project cost and financing

<b>II. Recurrent Costs</b>															
<b>A. Staff Salaries and Allowances</b>															
a. Project Manager (Agribusiness specialist)	26.4	26.4	26.4	26.4	26.4	26.4	158.4	26.4	26.4	26.4	26.4	26.4	26.4	158.4	167.4
b. Finance Manager	22.8	22.8	22.8	22.8	22.8	22.8	136.8	22.8	22.8	22.8	22.8	22.8	22.8	136.8	144.5
c. Procurement/Contract Management Specialist	20.4	20.4	20.4	20.4	20.4		102.0	20.4	20.4	20.4	20.4	20.4		102.0	107.0
d. Accountant	18.0	18.0	18.0	18.0	18.0	18.0	108.0	18.0	18.0	18.0	18.0	18.0	18.0	108.0	114.1
e. Irrigation Specialist	22.8	22.8	22.8	22.8	22.8		114.0	22.8	22.8	22.8	22.8	22.8		114.0	119.5
f. Business/value chain advisor	22.8	22.8	22.8	22.8	22.8		114.0	22.8	22.8	22.8	22.8	22.8		114.0	119.5
g. Rural Finance Specialist	22.8	22.8	22.8	22.8	22.8	22.8	136.8	22.8	22.8	22.8	22.8	22.8	22.8	136.8	144.5
h. Monitoring & Evaluation Assistant	14.4	14.4	14.4	14.4	14.4	14.4	86.4	14.4	14.4	14.4	14.4	14.4	14.4	86.4	91.3
i. Secretary	4.2	4.2	4.2	4.2	4.2	4.2	25.2	4.2	4.2	4.2	4.2	4.2	4.2	25.2	26.6
j. Project Support Staff Salaries	12.0	12.0	12.0	12.0	12.0	12.0	72.0	12.0	12.0	12.0	12.0	12.0	12.0	72.0	76.1
k. PIO incremental Staff Travel & Accommodation Allowance	2.0	4.0	4.0	4.0	4.0	4.0	22.0	2.0	4.0	4.0	4.0	4.0	4.0	22.0	23.3
<b>Subtotal</b>	<b>188.6</b>	<b>190.6</b>	<b>190.6</b>	<b>190.6</b>	<b>190.6</b>	<b>124.6</b>	<b>1 075.6</b>	<b>188.6</b>	<b>190.6</b>	<b>190.6</b>	<b>190.6</b>	<b>190.6</b>	<b>124.6</b>	<b>1 075.6</b>	<b>1 133.8</b>
<b>B. Other operating Costs</b>															
a. Vehicle Operating Costs	9.6	9.6	9.6	9.6	9.6	9.6	57.6	9.6	9.6	9.6	9.6	9.6	9.6	57.6	62.7
b. PIO Office Costs /dd	2.4	2.4	2.4	2.4	2.4	2.4	14.4	2.4	2.4	2.4	2.4	2.4	2.4	14.4	15.7
c. Office Rent /ee	12.0	12.0	12.0	12.0	12.0	12.0	72.0	12.0	12.0	12.0	12.0	12.0	12.0	72.0	76.1
d. Allowances for State Project Coordination Committee	4.0	4.0	4.0	4.0	4.0	4.0	24.0	4.0	4.0	4.0	4.0	4.0	4.0	24.0	26.1
<b>Subtotal</b>	<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>168.0</b>	<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>168.0</b>	<b>180.5</b>
<b>Total Recurrent Costs</b>	<b>216.6</b>	<b>218.6</b>	<b>218.6</b>	<b>218.6</b>	<b>218.6</b>	<b>152.6</b>	<b>1 243.6</b>	<b>216.6</b>	<b>218.6</b>	<b>218.6</b>	<b>218.6</b>	<b>218.6</b>	<b>152.6</b>	<b>1 243.6</b>	<b>1 314.4</b>
<b>Total Component 3</b>	<b>744.1</b>	<b>283.6</b>	<b>264.6</b>	<b>229.1</b>	<b>239.6</b>	<b>162.6</b>	<b>1 923.6</b>	<b>744.1</b>	<b>283.6</b>	<b>264.6</b>	<b>229.1</b>	<b>239.6</b>	<b>162.6</b>	<b>1 923.6</b>	<b>2 038.7</b>
<b>Total Kayin State</b>	<b>2 267.7</b>	<b>7 178.0</b>	<b>9 748.0</b>	<b>6 461.5</b>	<b>506.7</b>	<b>337.4</b>	<b>27 049.3</b>	<b>2 817.7</b>	<b>7 178.0</b>	<b>9 748.0</b>	<b>6 461.5</b>	<b>506.7</b>	<b>337.4</b>	<b>27 049.3</b>	<b>28 829.9</b>

Table 2: Financing plan for Shan

Activities	Base Cost (MMK Million)						Total	Base Cost (US \$ '000)						Total	Total (with contingencies)
	15/16	16/17	17/18	18/19	19/20	20/21		15/16	16/17	17/18	18/19	19/20	20/21		
<b>Component 1 - Strategic Investments</b>															
<b>I. Investment Costs</b>															
<b>A. Paddy Land Rehabilitation</b>															
a. Lining of main canals with stones	0.25	1 500.0	2 250.0	1 500.0	281.3		5 625.0	93.8	1 500.0	2 250.0	1 500.0	281.3		5 625.0	6 021.3
b. Lining of distributary canals		420.0	315.0				735.0		420.0	315.0				735.0	779.3
c. Farm to market roads		333.5	667.0	500.3	100.1		1 600.8		333.5	667.0	500.3	100.1		1 600.8	1 717.7
d. Heavy long bridge		333.3					333.3		333.3					333.3	351.1
e. Small bridge (5-20ft span)		91.7	183.4	137.6	45.9		458.5		91.7	183.4	137.6	45.9		458.5	492.5
f. Construction/rehabilitation of hydraulic structure	10	250.0	750.0	1 500.0	500.0		3 125.0	125.0	250.0	750.0	1 500.0	500.0		3 125.0	3 373.9
g. Head regulators at main canals	5	250.0	250.0	62.5			625.0	62.5	250.0	250.0	62.5			625.0	663.4
h. Box culverts	5	83.3	125.0	145.8	41.7		416.7	20.8	83.3	125.0	145.8	41.7		416.7	447.3
i. Land development															
Hopong site		275.0					275.0		275.0					275.0	289.7
Hekke site			137.5				137.5			137.5				137.5	147.0
<b>Subtotal</b>		275.0	137.5				412.5		275.0	137.5				412.5	436.7
j. De-silting of Hekke drainage		29.6					29.6		29.6					29.6	31.2
k. Indirect costs on investments		356.6	467.8	347.1	96.9		1 298.6	30.2	356.6	467.8	347.1	96.9		1 298.6	1 390.7
l. Design cost		98.1	128.6	95.5	26.6		357.1	8.3	98.1	128.6	95.5	26.6		357.1	382.5
m. Supervision cost		98.1	128.6	95.5	26.6		357.1	8.3	98.1	128.6	95.5	26.6		357.1	382.5
n. Hydro-metrological study							87.5	87.5						87.5	90.8
o. NGO assisting in participatory planning		7.5	7.5				15.0		7.5	7.5				15.0	15.9
<b>Subtotal</b>		<b>4 126.7</b>	<b>5 410.5</b>	<b>4 384.2</b>	<b>1 119.0</b>		<b>15 476.7</b>	<b>436.4</b>	<b>4 126.7</b>	<b>5 410.5</b>	<b>4 384.2</b>	<b>1 119.0</b>		<b>15 476.7</b>	<b>16 576.8</b>
<b>B. Community Agro-forestry</b>															
<b>a. Terracing degraded mountain slopes</b>															
Contour design and building	1 000	305.8	305.8	305.8	305.8		1 501.2	278.0	305.8	305.8	305.8	305.8		1 501.2	1 638.0
Planting material	1 000	24.2	24.2	24.2	24.2		118.8	22.0	24.2	24.2	24.2	24.2		118.8	129.6
Planting and weeding	4 000	240.0	240.0	240.0	240.0		1 200.0	240.0	240.0	240.0	240.0	240.0		1 200.0	1 308.6
Supervision costs		30.0	30.0	30.0	30.0		150.0	30.0	30.0	30.0	30.0	30.0		150.0	163.6
<b>Subtotal</b>		600.0	600.0	600.0	600.0		2 970.0	570.0	600.0	600.0	600.0	600.0		2 970.0	3 239.8
b. Tube wells for irrigation	5	60.0	80.0	40.0			200.0	20.0	60.0	80.0	40.0			200.0	217.1
c. Drinking water supply	10	150.0	50.0				250.0	50.0	150.0	50.0				250.0	268.5
d. Solar-panelled pumps	5	150.0	200.0	100.0			500.0	50.0	150.0	200.0	100.0			500.0	542.8
e. Harnessed streams		20.0	60.0	20.0			100.0		20.0	60.0	20.0			100.0	109.0
f. Access roads		100.0	300.0	200.0			600.0		100.0	300.0	200.0			600.0	655.8
<b>Subtotal</b>		<b>1 080.0</b>	<b>1 290.0</b>	<b>960.0</b>	<b>600.0</b>		<b>4 620.0</b>	<b>690.0</b>	<b>1 080.0</b>	<b>1 290.0</b>	<b>960.0</b>	<b>600.0</b>		<b>4 620.0</b>	<b>5 033.0</b>
<b>Total Component 1</b>		<b>5 206.7</b>	<b>6 700.5</b>	<b>5 344.2</b>	<b>1 719.0</b>		<b>20 096.7</b>	<b>1 126.4</b>	<b>5 206.7</b>	<b>6 700.5</b>	<b>5 344.2</b>	<b>1 719.0</b>		<b>20 096.7</b>	<b>21 609.9</b>

Component 2 - Enabling Investments													
Sub-component 2-1 - Access to Knowledge and Technology													
I. Investment Costs													
A. Establishment of KCs													
Construction	4	210.0	150.0			480.0	120.0	210.0	150.0			480.0	506.2
Supervision of construction	4	10.5	7.5			24.0	6.0	10.5	7.5			24.0	25.3
Furniture and houseware	4	7.0	5.0			16.0	4.0	7.0	5.0			16.0	16.9
Motorcycles for KCs managers	4	12.5	6.3			23.8	5.0	12.5	6.3			23.8	25.0
Mobiles phones	4	1.1	0.8			2.4	0.6	1.1	0.8			2.4	2.5
Technical and IT equipment	4	17.5	12.5			40.0	10.0	17.5	12.5			40.0	42.2
<b>Subtotal</b>		<b>258.6</b>	<b>182.0</b>			<b>586.2</b>	<b>145.6</b>	<b>258.6</b>	<b>182.0</b>			<b>586.2</b>	<b>618.1</b>
B. Support to KC Managers													
Capacity building of MoAI extensionists/KCs managers	1.5	37.5	25.0	12.5	12.5	125.0	37.5	37.5	25.0	12.5	12.5	125.0	132.5
Initial Training for KC managers	4	2.8	2.0			6.4	1.6	2.8	2.0			6.4	6.7
Refresher training for KC managers			1.6	2.8	2.0	6.4		1.6	2.8	2.0		6.4	7.0
Support to KC managers (local NGO)	12	30.0	30.0	15.0		105.0	30.0	30.0	30.0	15.0		105.0	111.1
Specific support for Water Management		10.0	10.0	10.0	10.0	40.0		10.0	10.0	10.0	10.0	40.0	43.1
On-demand additional support		50.0	25.0	25.0		100.0		50.0	25.0	25.0		100.0	106.5
KCs Award		4.5	4.5	4.5	4.5	22.5		4.5	4.5	4.5	4.5	22.5	24.4
<b>Subtotal</b>		<b>134.8</b>	<b>98.1</b>	<b>69.8</b>	<b>29.0</b>	<b>405.3</b>	<b>69.1</b>	<b>134.8</b>	<b>98.1</b>	<b>69.8</b>	<b>29.0</b>	<b>405.3</b>	<b>431.4</b>
C. Support to Farming Households													
Demonstrations on farmers' land	48	26.4	38.4	38.4	28.8	153.6	9.6	26.4	38.4	38.4	28.8	153.6	165.7
Farmers to Farmers visits	8	6.6	9.6	7.2	3.0	28.8	2.4	6.6	9.6	7.2	3.0	28.8	30.8
Farmers Field schools		20.0	20.0	20.0		60.0		20.0	20.0	20.0		60.0	64.2
<b>Subtotal</b>		<b>53.0</b>	<b>68.0</b>	<b>65.6</b>	<b>31.8</b>	<b>242.4</b>	<b>12.0</b>	<b>53.0</b>	<b>68.0</b>	<b>65.6</b>	<b>31.8</b>	<b>242.4</b>	<b>260.6</b>
D. Support to Agriculture Institutions													
Equipment for State Agriculture Institute						20.0	20.0					20.0	20.8
Capacity building for ARI and SAI		20.0				40.0	20.0	20.0				40.0	41.8
Support to State tissues laboratories						20.0	20.0					20.0	20.8
<b>Subtotal</b>		<b>20.0</b>				<b>80.0</b>	<b>60.0</b>	<b>20.0</b>				<b>80.0</b>	<b>83.3</b>
<b>Total Investment Costs</b>		<b>466.4</b>	<b>348.1</b>	<b>135.4</b>	<b>60.8</b>	<b>1 313.9</b>	<b>286.7</b>	<b>466.4</b>	<b>348.1</b>	<b>135.4</b>	<b>60.8</b>	<b>1 313.9</b>	<b>1 393.5</b>
II. Recurrent Costs													
1. Salaries													
Base salary - KC based extensionist/manager	4	9.2	13.4	13.4	13.4	66.4	3.4	9.2	13.4	13.4	13.4	66.4	70.6
Allowance for KC managers	4	23.8	34.6	34.6	34.6	170.6	8.6	23.8	34.6	34.6	34.6	170.6	190.6
Support service (caretaker)	4	7.3	10.6	10.6	10.6	52.1	2.6	7.3	10.6	10.6	10.6	52.1	55.5
<b>Subtotal</b>		<b>40.3</b>	<b>58.6</b>	<b>58.6</b>	<b>58.6</b>	<b>289.1</b>	<b>14.6</b>	<b>40.3</b>	<b>58.6</b>	<b>58.6</b>	<b>58.6</b>	<b>289.1</b>	<b>316.7</b>
2. Operating costs													
Electricity	4	3.3	4.8	4.8	4.8	23.7	1.2	3.3	4.8	4.8	4.8	23.7	25.7
Annual operating costs	4	15.1	21.9	21.9	21.9	108.2	5.5	15.1	21.9	21.9	21.9	108.2	117.5
<b>Subtotal</b>		<b>18.4</b>	<b>26.7</b>	<b>26.7</b>	<b>26.7</b>	<b>131.9</b>	<b>6.7</b>	<b>18.4</b>	<b>26.7</b>	<b>26.7</b>	<b>26.7</b>	<b>131.9</b>	<b>143.2</b>
<b>Total Recurrent Costs</b>		<b>58.6</b>	<b>85.3</b>	<b>85.3</b>	<b>85.3</b>	<b>421.1</b>	<b>21.3</b>	<b>58.6</b>	<b>85.3</b>	<b>85.3</b>	<b>85.3</b>	<b>421.1</b>	<b>459.9</b>
<b>Total Sub-component 2.1</b>		<b>525.0</b>	<b>433.4</b>	<b>220.7</b>	<b>146.1</b>	<b>1 734.9</b>	<b>308.0</b>	<b>525.0</b>	<b>433.4</b>	<b>220.7</b>	<b>146.1</b>	<b>1 734.9</b>	<b>1 853.3</b>

<b>Sub-component 2.2 - Agribusiness Development and Financing</b>															
<b>I. Investment Costs</b>															
<b>A. Market Linkages</b>															
<b>1. Value Chain analyses</b>															
Shan State	1	75.0	100.0	50.0		250.0	25.0	75.0	100.0	50.0			250.0	266.2	
<b>2. Certification</b>															
Shan State		150.0	250.0	80.0		480.0		150.0	250.0	80.0			480.0	512.2	
<b>3. Market promotion</b>															
Shan State		30.0	30.0	30.0	30.0	120.0		30.0	30.0	30.0	30.0		120.0	129.3	
<b>Subtotal</b>		255.0	380.0	160.0	30.0	850.0	25.0	255.0	380.0	160.0	30.0		850.0	907.6	
<b>B. Financial Instruments</b>															
Capacity building PCU and PIOs	1	12.5	12.5			50.0	25.0	12.5	12.5				50.0	50.0	
<b>Capitalization ABF</b>															
Capitalization ABF - Shan		1 040.0	1 570.0	270.0		2 880.0		1 040.0	1 570.0	270.0			2 880.0	3 024.0	
Pilot Warehouse Financing		140.0				140.0		140.0					140.0	140.0	
<b>Subtotal</b>		1 192.5	1 582.5	270.0		3 070.0	25.0	1 192.5	1 582.5	270.0			3 070.0	3 214.0	
<b>Total Sub-component 2.2</b>		<b>1 447.5</b>	<b>1 962.5</b>	<b>430.0</b>	<b>30.0</b>	<b>3 920.0</b>	<b>50.0</b>	<b>1 447.5</b>	<b>1 962.5</b>	<b>430.0</b>	<b>30.0</b>		<b>3 920.0</b>	<b>4 121.6</b>	
<b>Sub-component 2.3 - Financial Inclusion</b>															
Financial literacy	5	14.0	14.0			45.5	17.5	14.0	14.0				45.5	49.3	
<b>Total Sub-component 2.3</b>		<b>14.0</b>	<b>14.0</b>			<b>45.5</b>	<b>17.5</b>	<b>14.0</b>	<b>14.0</b>				<b>45.5</b>	<b>49.3</b>	
<b>Total Component 2</b>		<b>1 986.5</b>	<b>2 409.9</b>	<b>650.7</b>	<b>176.1</b>	<b>101.8</b>	<b>5 700.4</b>	<b>375.5</b>	<b>1 986.5</b>	<b>2 409.9</b>	<b>650.7</b>	<b>176.1</b>	<b>101.8</b>	<b>5 700.4</b>	<b>6 024.3</b>
<b>Component 3 - Project Management</b>															
<b>I. Investment Costs</b>															
<b>A. Upgrade and Establishment of Project Office</b>															
a. Rehabilitation or Upgrade of Premises	1					20.0	20.0						20.0	20.8	
b. Initial Furniture for Project Office	1					5.0	5.0						5.0	5.2	
c. Computers & Other Electronic Equipment	1					21.0	21.0						21.0	21.8	
d. Upgrade/Replacement of Electronic Equipment	-			10.5		10.5				10.5			10.5	11.4	
<b>Subtotal</b>				10.5		56.5	46.0			10.5			56.5	59.1	
<b>B. Vehicles</b>															
a. 4WD Estate Car	1					157.5	157.5						157.5	168.3	
b. 4WD Double Cab Pickups	2					189.0	189.0						189.0	201.9	
<b>Subtotal</b>						346.5	346.5						346.5	370.2	
<b>C. Training &amp; Support</b>															
a. Project Expeditor	2					50.0	50.0						50.0	52.4	
b. State Start-Up Workshop	1					10.0	10.0						10.0	10.5	
c. Final State Workshop					10.0	10.0						10.0	10.0	11.3	
d. Other workshops			6.0	6.0		12.0		6.0		6.0			12.0	13.2	
e. Capacity Building for PIO staff	3	50.0	25.0			150.0	75.0	50.0	25.0				150.0	158.8	
f. Exposure Visits and Regional Workshops		15.0	15.0	15.0		45.0		15.0	15.0		15.0		45.0	48.8	
<b>Subtotal</b>		65.0	46.0	21.0	10.0	277.0	135.0	65.0	46.0		21.0	10.0	277.0	295.0	
<b>Total Investment Costs</b>		<b>65.0</b>	<b>46.0</b>	<b>10.5</b>	<b>21.0</b>	<b>10.0</b>	<b>680.0</b>	<b>527.5</b>	<b>65.0</b>	<b>46.0</b>	<b>10.5</b>	<b>21.0</b>	<b>10.0</b>	<b>680.0</b>	<b>724.3</b>

Republic of the Union of Myanmar  
 Eastern States Agribusiness Project  
 Detailed design report  
 Appendix 9: Project cost and financing

<b>II. Recurrent Costs</b>															
<b>A. Staff Salaries and Allowances</b>															
a. Project Manager (Agribusiness specialist)	12	26.4	26.4	26.4	26.4	26.4	158.4	26.4	26.4	26.4	26.4	26.4	26.4	158.4	167.4
b. Finance Manager	12	22.8	22.8	22.8	22.8	22.8	136.8	22.8	22.8	22.8	22.8	22.8	22.8	136.8	144.5
c. Procurement/Contract Management Specialist	12	20.4	20.4	20.4	20.4		102.0	20.4	20.4	20.4	20.4	20.4	20.4	102.0	107.0
d. Accountant	12	18.0	18.0	18.0	18.0	18.0	108.0	18.0	18.0	18.0	18.0	18.0	18.0	108.0	114.1
e. Irrigation Specialist	12	22.8	22.8	22.8	22.8		114.0	22.8	22.8	22.8	22.8	22.8		114.0	119.5
f. Business/value chain advisor	12	22.8	22.8	22.8	22.8		114.0	22.8	22.8	22.8	22.8	22.8		114.0	119.5
g. Rural Finance Specialist	12	22.8	22.8	22.8	22.8	22.8	136.8	22.8	22.8	22.8	22.8	22.8	22.8	136.8	144.5
h. Monitoring & Evaluation Assistant	12	14.4	14.4	14.4	14.4	14.4	86.4	14.4	14.4	14.4	14.4	14.4	14.4	86.4	91.3
i. Secretary	12	4.2	4.2	4.2	4.2	4.2	25.2	4.2	4.2	4.2	4.2	4.2	4.2	25.2	26.6
j. Project Support Staff Salaries	12	12.0	12.0	12.0	12.0	12.0	72.0	12.0	12.0	12.0	12.0	12.0	12.0	72.0	76.1
k. PIO incremental Staff Travel & Accommodation Allowances		4.0	4.0	4.0	4.0	4.0	22.0	2.0	4.0	4.0	4.0	4.0	4.0	22.0	23.3
<b>Subtotal</b>		<b>190.6</b>	<b>190.6</b>	<b>190.6</b>	<b>190.6</b>	<b>124.6</b>	<b>1 075.6</b>	<b>188.6</b>	<b>190.6</b>	<b>190.6</b>	<b>190.6</b>	<b>190.6</b>	<b>124.6</b>	<b>1 075.6</b>	<b>1 133.8</b>
<b>B. Other operating Costs</b>															
a. Vehicle Operating Costs	24	9.6	9.6	9.6	9.6	9.6	57.6	9.6	9.6	9.6	9.6	9.6	9.6	57.6	62.7
b. PIO Office Costs	12	2.4	2.4	2.4	2.4	2.4	14.4	2.4	2.4	2.4	2.4	2.4	2.4	14.4	15.7
c. Office Rent	12	12.0	12.0	12.0	12.0	12.0	72.0	12.0	12.0	12.0	12.0	12.0	12.0	72.0	76.1
d. Allowances for State Project Coordination Committee	4	4.0	4.0	4.0	4.0	4.0	24.0	4.0	4.0	4.0	4.0	4.0	4.0	24.0	26.1
<b>Subtotal</b>		<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>168.0</b>	<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>28.0</b>	<b>168.0</b>	<b>180.5</b>
<b>Total Recurrent Costs</b>		<b>218.6</b>	<b>218.6</b>	<b>218.6</b>	<b>218.6</b>	<b>152.6</b>	<b>1 243.6</b>	<b>216.6</b>	<b>218.6</b>	<b>218.6</b>	<b>218.6</b>	<b>218.6</b>	<b>152.6</b>	<b>1 243.6</b>	<b>1 314.4</b>
<b>Total Component 3</b>		<b>283.6</b>	<b>264.6</b>	<b>229.1</b>	<b>239.6</b>	<b>162.6</b>	<b>1 923.6</b>	<b>744.1</b>	<b>283.6</b>	<b>264.6</b>	<b>229.1</b>	<b>239.6</b>	<b>162.6</b>	<b>1 923.6</b>	<b>2 038.7</b>
<b>Total Shan State</b>		<b>7 476.8</b>	<b>9 375.0</b>	<b>6 224.0</b>	<b>2 134.7</b>	<b>264.4</b>	<b>27 720.8</b>	<b>2 246.0</b>	<b>7 476.8</b>	<b>9 375.0</b>	<b>6 224.0</b>	<b>2 134.7</b>	<b>264.4</b>	<b>27 720.8</b>	<b>29 672.8</b>





## Appendix 10: Financial and Economic Analysis

### Beneficiary Household Incomes in the Project Area

1. Households within the project area were recently surveyed as part of the project design process. The survey indicated that some 82% of families could be classified as, moderately poor, poor or very poor. The average household income for this group as a whole was Ks '000 1,381 or the equivalent of USD 0.79 per person day for a family of average size 4.88 persons. 50% of this income was from agriculture, mostly crop sales, 31% from labour and employment 5% from trade and 14% from other sources, probably largely remittances. With this level of income they are on average poor, although clearly the very poor are mainly those with little access to land and derive little income from agricultural production (about 7%), compared with the poor (53%) or the moderately poor (73%). Taking both agricultural income and agricultural labour together, the percentages of total income stemming from agriculture are very poor (47%), poor (67%) and moderately poor (74%).

### Agricultural labour situation

2. The agricultural wage rate in the project area is USD 4 except for processing vegetables where the processing company uses own permanent labour with a salary translating into USD 3/day and maize, garlic and sweet corn the rate is USD 3.5/day. Labour is tight at peak periods, but overall there appears to be a good deal of under employment in agriculture. It is estimated a need for agricultural labour amounting to 3.77 million person days i.e. 12,554 FTE jobs (300 days/FET). These figures suggest that for most of the year, there is a lot of underemployment within the agricultural sector; and unless there is very significant further out-migration there will still be significant under employment with project.

## Project Components and Impact on Beneficiaries

### Investment under the Project

3. The aim of the Project is to raise incomes within the project area through (i) improvement of irrigation, and (ii) support to extension and knowledge transfer, access to inputs and markets including investment in value chains for those products that can be profitably and sustainably produced in the area by the targeted beneficiaries.

## Financial & Economic Impact of the Project

4. **Financial.** The project design is focussed on (i) Land Development, (ii) raising agricultural productivity throughout the project area, (iii) and Value Chain support through. Financial analysis is undertaken using constant 2014 prices.

5. **Strategic Investments:** The likely benefits from land development have been assessed by creating a model measuring the impact from rehabilitation of irrigated land in terms of: 1/ increase productivity; 2/ improved land use intensity; 3/ increased use of appropriate input at the correct rates; 4/ availability of credit; 5/ and opportunity of diversify into more profitable crops.

6. The results from introduction of SALT in Shan have been measured through increased productivity, improved land use intensity, and shift in cropping pattern. Loss of soil erosion and its effect on sedimentation of water ways and Inle Lake cost of removing the silt, amount, and cost of nutrition losses.

7. **Enabling Investments.** The likely overall benefits from increased access to knowledge and credit are assessed by estimating what would be the shift in cropping systems over time as a result of the project, and what impact this would have on farm household incomes. This involved preparing model per acre budgets for each main crop for between one to two different production scenarios - 44

budgets for 22 representative crops<sup>49</sup>. Based on these analysis typical farm budgets were prepare for each project location (Shan Upland, Shan Lowland, Kayin Upland, Kayin Mountain and Kayin Lowland). This allows for calculating how the areas and production technology would shift over time both at the macro level for the whole project and at the farm level to show likely impact on individual households. The adoption rate of improved practices is estimated at 0% Y1, 10% Y2, 20% Y3 40%, Y5 60%, Y6 80% and Y7 100% and has been applied to derive the benefit stream With Project.

8. The value chain support to PPP SMEs has been assessed through six models which have been used as proxies for the total project analysis.

9. To undertake an **economic evaluation** of the project and its components, financial prices have been converted to economic prices, mainly using Economic Conversion Factors (ECF) which are intended to take out the price distorting effects of taxes, duties and underemployment in the rural sector. The ECF calculated for FARM in 2013 was 0.97 and will also be valid for ESAP, however if applied the EIRR will increase and to be conservative in the economic assessment a ECF of 1 has been used. A OCC rate of 13% has been used in calculating the Net Present Value. Labour has generally been valued at the unskilled rural wage rate of USD 4 per day except for processing vegetable where a rate of USD 3/day has been used and USD 3.5/day for maize, sweet corn and garlic. The exchange rate of MMK 1,000 = USD 1 is taken to be a market rate and when converting the USD border price of products into MMKs that is the rate used. The economic evaluation of the agricultural impact of the whole project is made taking account of both the With Project Scenario (WIP) and comparing this with what would be likely to happen Without Project (WOP).

## Expected Results for Primary Agriculture

10. Change in cropping pattern is estimate to happen on 38,780 acres or 16% of total area after project interventions (235,782 acres). The change is represented by 83% of high value crops and the remaining 17% is composed of rice and oilseed/pulses and reduction in maize production for animal feed. Further change of the cropping pattern is anticipated as the mechanization of harvesting operation increases and reduces the time crops are in the field allowing for a second crop on the upland and a third crop for irrigated land. Such changes could generate increased land use intensity in excess of 200%.

11. The yield increase across all crops is conservatively estimated at 43% as a result of improved water management, introduction of new varieties, and increased use of plant nutrition/fertilizer and plant protection agents/IPM (see also WP3).

**Table 1: Land use and Yields Without and With Project and Incremental**

Crops	WoP		WP		Incremental		
	Acres	Yield/acre	Acres	Yield/acre	Acres	Yield/acre	Yield %/acre
Physical Land	187.035						
Monsoon Rice	51.630	1.000	54.760	2.610	3.130	1.610	261
Oilseed/pulses	36.303	615	36.555	785	252	170	128
Maize	33.886	1.300	31.200	1.700	-2.686	400	131
Cardamom	15.525	95	16.525	145	1.000	50	153
Rubber	12.000	400	18.000	675	6.000	275	169
Fresh Vegetable	8.909	3.000	10.600	3.000	1.691	0	100
Tree Crop	7.160	0	7.161	0	0	0	0
Wheat/Up. Rice	5.914	1.010	4.000	1.950	-1.914	940	193
Mango	5.875	1.800	9.375	2.700	3.500	900	150

<sup>49</sup> These are detailed in Working Paper 3 and 5

Groundnuts	4.276	595	7.500	780	3.224	185	131
Garlic	3.980	2.080	8.436	2.450	4.456	370	118
Summer Rice	2.790	1.270	5.500	2.400	2.710	1.440	189
Coffee	2.450	225	2.450	420	0	195	187
Sweet Corn	2.302	5.600	4.000	5.600	1.698	0	100
Processing Vegetable	500	17.000	7.500	17.000	7.000	0	100
Flowers	167	300.000	470	400.000	303	100.000	133
B.Pepper	150	1.150	4.500	450	4.350	-700	39
Summer oil	0	0	6.500	1.400	6.500	1.400	0
Pasion Fruit	0	0	750	4.000	750	4.000	0
Moringa	0	0	0	80	0	80	0
Total	193.817	-	235.782	-	41.965	754	0
Precentage Incremental	-	-	-	-	122	121	143
%Cropping Intensity	104	-	126	-	22	-	-

12. The land use intensity across location is assessed to change according to the table below. The biggest change will occur in Kayin irrigate area, followed by Shan irrigated area, Kayin Mountain, Kayin upland and Shan upland. The reason for expected higher land use intensity in Kayin State is farmer's expressed interest to increase the area of summer crops for rice and oilseed/pulses after rehabilitation of the irrigated land. Farmers in Shan State expressed that there would be too little residual moisture for cultivation of summer crops. However the mission expects that with introduction of mechanized harvesting the possibility for summer crops do exist. The increase in land use intensity in Kayin Mountain will materialize from introduction of additional crops into the existing mixed agroforestry system. Increased land use intensity in Kayin is a result of planting of additional rubber, intercropping black pepper in existing young plantations, plantation of mango/macadamia and it is also envisaged that vegetable will increasingly be cultivated on upland in Kayin to meet demand form processors. The increased land use intensity in Shan upland is a result of SALT and introduction of drip irrigation for vegetables and tree crops production.

13. The total number of HHs benefiting is 45,230 with a total family membership of 224,830. The average land use utilization per HH increased from 4.29 acres to 5.21 acres i.e. 22%.

**Table 2: Total HH and Land Use Intensity Across Location**

Location	# of HH	# of HH Family Members	Physical Land Holding	Acreage Cultivated		% Physical Land Use Intensity		Avg. Acres Cultivated/HH		
				Before	After	Before	After	Before	After	% Incremental
Kayin Irrigated	7.135	35.675	19.400	28.346	39.710	146	205	3,97	5,57	40,09
Shan Irrigated	13.250	66.250	39.000	43.880	64.186	113	165	3,31	4,84	46,28
Kayin Upland	13.865	69.325	63.500	57.425	63.500	90	100	4,14	4,58	10,58
Shan Upland	7.680	38.400	40.000	39.031	40.000	98	100	5,08	5,21	2,48
Kayin Mountain	3.300	15.180	25.135	25.135	28.385	100	113	7,62	8,60	12,93
Total	45.230	224.830	187.035	193.817	235.781	104	126	4,29	5,21	21,65

14. The project interventions in primary agriculture are estimated to generate 12,255 Full Time Equivalent jobs over the project period. These jobs are generated from increased land use intensity, additional labour needed for improved husbandry practices and a general shift to cultivation of high value crops which are labour intensive. However, it can be anticipated that some of the generated

jobs will be lost again when mechanized harvesting of conventional crops become common practice. It is anticipated that the rapid development of industrial zones, particular occupied by garment, food processing facilities and related service SMEs will absorbed the jobs lost in the primary agriculture sector.

**Table 3: Generation of Jobs**

Crops	Employment Person days (Million)			Total FTE Jobs 1/
	Before	After	Incremental	
0,75	0,87	0,13	427	0,75
0,08	0,09	0,01	38	0,08
0,26	0,29	0,03	113	0,26
0,03	0,34	0,30	1.005	0,03
0,62	0,76	0,14	482	0,62
0,09	0,42	0,32	1.071	0,09
1,42	1,97	0,56	1.851	1,42
0,04	0,13	0,09	291	0,04
0,17	0,30	0,13	425	0,17
0,24	0,30	0,05	174	0,24
0,01	0,11	0,10	348	0,01
0,71	0,99	0,28	925	0,71
0	0,19	0,19	625	0
0,00	0,13	0,13	417	0,00
0,14	0,18	0,04	123	0,14
0,50	1,29	0,79	2.632	0,50
0	0	0,05	150	0
0,07	0,38	0,31	1.018	0,07
0,96	1,09	0,13	440	0,96
6,10	9,87	3,77	12.554	6,10

1/ One FTE = 300 days of work/year

15. The above incremental results are based on the expected outcome from activities under the 43 KCs and credit to small holders. It is anticipated that project supported credit to smallholders will peak in year 6 and then begin to decrease as farmer get out of their debt trap and begin to finance a bigger part of their economic activities (see WP 4 for details).

**Table 4: Source of Smallholder Credit**

Type og Credit	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Cumulative loan extended by MADB	0,78	2,23	3,88	4,72	4,72	4,72	4,72
Collateralized bank loan by land titles	8,67	24,89	45,15	56,76	61,14	62,50	58,24
Total	9,45	27,11	49,03	61,48	65,86	67,23	62,97

### Potential Results from SALT

16. It is conservatively estimated that conservation of soil through introduction of SALT can reduced soil loss by 73,000 Mt (52,140 M3) representing 10% of total sedimentation-inflow into Inle Lake per year. The estimated reduced loss of soil nutrition will amount to 225 Mt of N, 62 Mt of P and 15 Mt of K per year. These reductions will contribute to increased productivity and reclamation of land partly depleted from fertility and organic matter rendering them unproductive. To replace the annual nutrition eroded away will cost USD 39,200 for N using the price of urea as the replacement (45% N), USD 62,000 using price of TSP (45% P205) and the cost of K will amount to USD 11,250 using Muriate of

potash (60% K20). Savings of these costs through introduction of SALT has not been included in the financial analysis of the project, but only indicative of the potential benefits.

## Financial and Economic Analysis

17. The average farm budget/HH (not including livestock/fishery) for Kayin lowland show an increased land use intensity of 40%, increased income 161% and contributing 42% in reducing HH poverty. (HH poverty line USD 1,825).

**Table 5: Kayin Average Lowland HH Farm Budget (USD)**

Cropping Pattern	Before	After	Before	After	Before	After	Befor	After	Before	After
	Acre		Production Cost		Revenue		Net Income to HH		% of Poverty Line	
Monsoon rice production	2,58	2,66	514	898	617	1.204	104	306	5,70	16,79
Summer rice production	0,39	0,77	69	247	102	381	33	134	1,81	7,34
Oile Seed/pulses Production	0,59	0,63	64	91	179	243	115	152	6,29	8,33
Sweet corn	0,22	0,35	183	294	335	540	152	245	8,35	13,44
Groundnuts	0,11	0,49	15	105	42	251	27	146	1,49	7,97
Fresh Vegetable Production	0,08	0,10	38	47	71	88	33	41	1,80	2,26
Processing Vegetable	0,00	0,21	0	170	0	275	0	105	0,00	5,77
Summer oil seed	0,00	0,35	0	50	0	135	0	84	0,00	4,63
<b>Total</b>	<b>3,97</b>	<b>5,57</b>	<b>883</b>	<b>1.902</b>	<b>1.347</b>	<b>3.116</b>	<b>464</b>	<b>1.214</b>	<b>25,44</b>	<b>66,52</b>

18. The increase in rice yield, land use intensity, introduction of HVC contributes to the very high IRR at farm level and high return at the project level. The B/C ratios at farm level are acceptable and become attractive at the maturity of the project.

**Table 6: Kayin Lowland Financial and Economic Analysis**

Indicators	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Percentage Build Up	0	10	20	40	60	80	100	100	100	100
Incremental Gross Value	0	10,87	12,13	14,66	17,19	19,71	22,24	22,24	22,24	22,24
Cost of Incremental Input	2,66	3,13	4,06	4,99	5,92	6,86	6,86	6,86	6,86	6,86
Cost of Incremental Labour	0,74	3,07	3,31	3,54	3,77	4,00	4,00	4,00	4,00	4,00
Crop Financing	0,98	1,70	2,07	2,20	2,36	2,49	2,59	2,62	2,62	0,98
Total Production Cost	4,38	7,90	9,44	10,74	12,05	13,35	13,45	13,48	13,48	11,84
<b>Incremental Net Value</b>	<b>-4,38</b>	<b>2,97</b>	<b>2,70</b>	<b>3,93</b>	<b>5,13</b>	<b>6,36</b>	<b>8,79</b>	<b>8,75</b>	<b>8,75</b>	<b>10,40</b>
Cost of Knowledge Centre	0,07	0,14	0,13	0,06	0,04	0,03				
Land Development	0,69	2,98	4,30	3,38	0,39					
Cost of Project Coordination	1,17	0,42	0,50	0,38	0,46	0,33				
Correction for WoP Growth 3% p.a.	0,15	0,18	0,22	0,27	0,31	0,38	0,38	0,38	0,38	0,38
<b>Project Cost</b>	<b>2,08</b>	<b>3,71</b>	<b>5,15</b>	<b>4,08</b>	<b>1,21</b>	<b>0,75</b>				
Total Incremental Project Cost	6,46	11,61	14,59	14,82	13,26	14,10	13,45	13,48	13,48	11,84
Net Benefit Stream	-6,46	-0,74	-2,45	-0,16	3,92	5,61	8,79	8,75	8,75	10,40
<b>Farm Level</b>										
NPV Incremental sales @13%	76									
NPV Incremental costs @13%	55									
Net Present Value @13%	22									
Internal Rate of Return	81,9%									
Benefit/Cost Ratio	1,39	1,38	1,29	1,37	1,43	1,48	1,65	1,65	1,65	1,88
<b>Project Level</b>										
NPV Incremental sales @13%	76									
NPV Incremental costs @13%	67									
Net Present Value @13%	10									
Internal Rate of Return	28,9%									
Benefit/Cost Ratio	1,15	0,94	0,83	0,99	1,30	1,40	1,65	1,65	1,65	1,88

19. The anticipated impact of the project intervention in Shan lowland is 259% increase in HH income contribution to reducing poverty by 58% i.e. from 23% to 81% of the poverty line and land use intensity will rise by an estimated 46%.

**Table 7: Shan Average Lowland HH Farm Budget (USD)**

Cropping Pattern	Before	After	Before	After	Before	After	Before	After	Before	After
	Acre		Production Cost		Revenue		Net Income to HH		% of Poverty Line	
Flooded/irrigated Rice	2,51	2,70	323	909	505	1.219	182	310	9,99	17,00
Garlic Production	0,30	0,64	298	693	362	1.292	65	600	3,54	32,86
Fresh Vegetable	0,30	0,38	146	181	273	340	127	158	6,98	8,67
Processing Vegetable	0,00	0,08	0	305	0	494	0	189	0,00	10,36
Oile Seed/pulses	0,20	0,75	22	108	61	290	39	182	2,14	9,96
Summer Oile Seed/pulses	0,00	0,30	0	46	0	91	0	45	0,00	2,47
Total excl other crops	3,31	4,84	788	2.242	1.202	3.727	413	1.484	22,65	81,33

20. In Shan lowland yields will increase dramatically for rice, garlic and processing vegetable. Land use intensity will also increase by 52% contributing to an acceptable B/C ratio and a very high IRR at farm level and high at the level of high rates of return at the project level.

**Table 8: Shan Lowland Financial and Economic Analysis**

Indicators	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Percentage Build Up	0	10	20	40	60	80	100	100	100	100
Incremental Gross Value	0	22,61	22,61	29,31	36,00	42,69	49,38	49,38	49,38	49,38
Cost of Incremental Input	5,79	12,96	10,75	13,83	16,92	20,00	20,31	20,31	20,31	20,31
Cost of Incremental Labour	5,35	6,29	7,02	7,79	8,56	9,33	9,33	9,33	9,33	9,33
Crop Financing	0,16	0,13	0,10	0,07	0,04	0,04	0,04	0,04	0,04	0,04
Total Production Cost	11,30	19,38	17,87	21,69	25,52	29,37	29,68	29,68	29,68	29,64
<b>Incremental Net Value</b>	-11,30	3,23	4,74	7,61	10,48	13,32	19,70	19,70	19,70	19,70
Cost of Know ledge Centre	0,14	0,29	0,27	0,13	0,09	0,07				
Land Development	1,47	6,36	9,19	7,21	0,84					
Cost of Project Coordination	0,49	0,18	0,21	0,16	0,19	0,14				
Correction for WoP Growth 3% p.a.	0,56	0,52	0,43	0,34	0,26	0,17	0,17	0,17	0,17	0,17
<b>Project Cost</b>	2,67	7,35	10,10	7,84	1,38	0,37	0,17	0,17	0,17	0,17
Total Incremental Project Cost	13,97	26,73	27,97	29,53	26,90	29,75	29,85	29,85	29,85	29,80
Net Benefit Stream	-13,97	-4,11	-5,36	-0,23	9,10	12,94	19,53	19,53	19,53	19,58
<b>Farm Level</b>										
NPV Incremental sales @13%	162									
NPV Incremental costs @13%	121									
Net Present Value @13%	41									
Internal Rate of Return	59,8%									
Benefit/Cost Ratio	1,34	1,17	1,27	1,35	1,41	1,45	1,66	1,66	1,66	1,67
<b>Project Level</b>										
NPV Incremental sales @13%	162									
NPV Incremental costs @13%	121									
Net Present Value @13%	20									
Internal Rate of Return	27,3%									
Benefit/Cost Ratio	1,34	0,85	0,81	0,99	1,34	1,44	1,65	1,65	1,65	1,66

21. The average farm budget for an upland farm in Kayin before and after the project interventions shows a significant improvement in HH income (59%), reduction in poverty (46%) at project maturity in year 7 and slight increase in land use intensity of 6%.

**Table 9: Kayin Average Upland HH Farm Budget (less rubber)**

Cropping Pattern	Before	After	Before	After	Before	After	Before	After	Before	After
	Acre		Production Cost		Revenue		Net Income to HH		% of Poverty Line	
Maize	1,37	1,62	351	509	571	879	220	370	0,12	0,20
Oilseed/pulses	1,71	1,43	185	246	517	548	332	302	0,18	0,17
Mango/Macadamia	0,49	0,69	272	323	442	927	171	604	0,09	0,33
Groundnuts	0,32	0,43	45	59	125	193	80	135	0,04	0,07
Fresh vegetables	0,17	0,20	83	83	156	184	73	101	0,04	0,06
Processing vegetables		0,05		0,0	0	71	0	71	0,00	0,04
Sweet corn	0,07	0,16	58	58	106	249	48	191	0,03	0,10
<b>Total</b>	<b>4,14</b>	<b>4,58</b>	<b>994</b>	<b>1.278</b>	<b>1.916</b>	<b>3.052</b>	<b>923</b>	<b>1.774</b>	<b>0,51</b>	<b>0,97</b>

22. It will be note from that the interventions produces acceptable benefit ratio, but very high IRR at farm level and high at project level. The high IRR is a result of immediate high return to improving crop husbandry from sunk cost of establishing existing rubber and mango/macadamia plantation.

**Table 10: Kayin Upland Financial and Economic Analysis**

Indicators	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Percentage Build Up	0	10	20	40	60	80	100	100,00	100,00	100,00
Incremental Gross Value		27,55	28,71	31,03	33,35	35,67	37,99	37,99	37,99	37,99
Cost of Incremental Input	6,82	7,57	8,33	9,08	9,83	10,21	10,21	10,21	10,21	10,21
Cost of Incremental Labour	9,40	9,87	10,34	10,81	11,28	11,51	11,51	11,51	11,51	11,51
Crop Financing	1,41	2,48	2,84	2,84	2,84	2,84	2,84	2,84	2,84	2,84
Total Production Cost	17,64	19,93	21,51	22,73	23,95	24,56	24,56	24,56	24,56	24,56
<b>Incremental Net Value</b>	<b>-17,64</b>	<b>7,62</b>	<b>7,21</b>	<b>8,31</b>	<b>9,40</b>	<b>11,11</b>	<b>13,43</b>	<b>13,43</b>	<b>13,43</b>	<b>13,43</b>
Cost of Knowledge Centre	0,23	0,46	0,44	0,20	0,14	0,11				
Social/productive Infra. Development	0,04	0,29	0,47							
Cost of Project Coordination	0,84	0,30	0,36	0,27	0,33	0,24				
Correction for WoP Growth 3% p.a.	0,41	0,45	0,49	0,54	0,58	0,64	0,64	0,64	0,64	0,64
<b>Project Cost</b>	<b>1,52</b>	<b>1,51</b>	<b>1,77</b>	<b>1,01</b>	<b>1,06</b>	<b>0,99</b>	<b>0,64</b>	<b>0,64</b>	<b>0,64</b>	<b>0,64</b>
Total Incremental Project Level Cost	19,15	21,44	23,27	23,74	25,00	25,55	25,20	25,20	25,20	25,20
Net Benefit Stream	-19,15	6,11	5,44	7,29	8,35	10,13	12,79	12,79	12,79	12,79
<b>Farm Level</b>										
NPV Incremental sales @13%	170									
NPV Incremental costs @13%	120									
Net Present Value @13%	30									
Internal Rate of Return	48,0%									
Benefit/Cost Ratio	1,41	1,38	1,34	1,37	1,39	1,45	1,55	1,55	1,55	1,55
<b>Project Level</b>										
NPV Incremental sales @13%	170									
NPV Incremental costs @13%	126									
Net Present Value @13%	24									
Internal Rate of Return	38,2%									
Benefit/Cost Ratio	1,34	1,29	1,23	1,31	1,33	1,40	1,51	1,51	1,51	1,51

23. Farm Budget for an average Kayin Mountain HH before and after the project estimates a raise in HH income of 131%, increased land use intensity of 13% and increased income from 56% below the poverty line to 29% above.

**Table 11: Kayin Mountain Agro-forestry Average Farm Budget (USD)**

Cropping Pattern	Before	After	Before	After	Before	After	Before	After	Before	After
	Acre		Production Cost		Revenue		Net Income to HH		% of Poverty Line	
Cardamom	4,70	5,01	1.460	1.858	2.235	3.630	775	1.773	42,5	97,1
Coffee	0,74	0,74	56	195	301	561	244	366	13,4	20,1
Black Pepper	0,00	0,45	0	98		225	0	127	0,0	7,0
Pasion Fruit	0,00	0,23	0	140		227	0	88	0,0	4,8
Tree crops	2,17	2,17	0	0	0	0	0	0	0,0	0,0
Total excl other crops	7,62	8,60	1.516	2.290	2.535	4.644	1.019	2.354	55,9	129,0

24. In Kayin Mountain several highly profitable crops which have a big potential market will be introduced in agreement with the farmers and other stakeholders such as mushrooms, black pepper and passion fruits. The high IRR is a result of anticipated rapid increase in coffee and cardamom yields as a result of improved crop husbandry practises contributing to the high IRR.

**Table 10: Kayin Mountain Financial and Economic Analysis**

Indicators	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Percentage Build Up	0	10	20	40	60	80	100	100	100	100
Incremental Gross Value	0,00	9,20	10,04	11,72	13,39	15,07	16,74	16,74	16,74	16,74
Cost of Incremental Input	4,82	4,83	4,85	4,88	4,90	4,93	4,93	4,93	4,93	4,93
Cost of Incremental Labour	0,00	0,88	1,55	2,23	2,91	3,59	3,59	3,59	3,59	3,59
Crop Financing	1,54	1,09	1,14	1,13	1,02	0,81	0,52	0,52	0,52	0,52
Total Production Cost	6,35	6,79	7,55	8,24	8,83	9,33	9,04	9,04	9,04	9,04
<b>Incremental Net Value</b>	-6,35	2,41	2,49	3,48	4,56	5,73	7,70	7,70	7,70	7,70
Cost of Know ledge Centre	0,09	0,19	0,18	0,08	0,06	0,04				
Sociaal/productive Infrastructure	0,04	0,29	0,47							
Cost of Project Coordination	0,30	0,11	0,13	0,10	0,12	0,09				
Correction for WoP Grow th 3% p.a.	0,13	0,14	0,15	0,17	0,19	0,23	0,23	0,23	0,23	0,23
<b>Project Cost</b>	0,56	0,59	0,78	0,18	0,18	0,13				
Total Incremental Project Cost	6,91	7,38	8,34	8,42	9,01	9,46	9,04	9,04	9,04	9,04
Net Benefit Stream	-6,91	1,82	1,71	3,30	4,38	5,60	7,70	7,70	7,70	7,70
<b>Farm Level</b>										
NPV Incremental sales @13%	60									
NPV Incremental costs @13%	43									
Net Present Value @13%	16									
Internal Rate of Return	54,3%									
Benefit/Cost Ratio	1,38	1,36	1,33	1,42	1,52	1,61	1,85	1,85	1,85	1,85
<b>Project Level</b>										
NPV Incremental sales @13%	60									
NPV Incremental costs @13%	45									
Net Present Value @13%	15									
Internal Rate of Return	45,8%									
Benefit/Cost Ratio	1,32	1,25	1,20	1,39	1,49	1,59	1,85	1,85	1,85	1,85

25. For Shan upland the estimated farm budget at project maturity will increased the HH income by 143% moving the HH above the poverty by 33% and land utilization increased 3%.



### Shan Average Upland Farm Budget

Cropping Pattern	Before	After	Before	After	Before	After	Before	After	Before	After
	Acre		Production Cost		Revenue		Net Income to HH		% of Poverty Line	
Maize	2,46	2,11	629	539	1.023	1.148	394	608	21,59	33,32
Wheat/upland rice	0,77	0,52	114	193	153	325	39	132	2,13	7,22
Fresh Vegetable	0,32	0,39	152	188	284	352	132	164	7,26	8,98
Processing Vegetable	0,07	0,59	53	474	85	767	33	293	1,79	16,08
Oile Seed/pulses Production	1,39	1,15	150	165	417	442	268	277	14,68	15,18
Flowers	0,02	0,06	188	723	294	1.102	106	378	5,80	20,74
Mango	0,07	0,39	34	257	59	527	24	271	1,32	14,82
Moringa	0,00	0,00	0	900	0	1.200	0	300	0,00	16,44
<b>Total</b>	<b>5,08</b>	<b>5,21</b>	<b>1.319</b>	<b>3.439</b>	<b>2.315</b>	<b>5.862</b>	<b>996</b>	<b>2.423</b>	<b>54,57</b>	<b>132,77</b>

26. High value crops already cultivated including cut flowers, mango, garlic and processing vegetables are expected to expand rapidly which contributes to the high rate of returns at both farm and project level with acceptable B/R ratio.

**Table 10: Shan Upland Financial and Economic Analysis**

Indicators	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Percentage Build Up	0	10	20	40	60	80	100	100,00	100,00	100,00
Incremental Gross Value	0	19,84	21,90	26,01	30,13	34,24	38,36	38,36	38,36	38,36
Cost of Incremental Input	6,85	7,49	8,76	10,03	11,30	12,57	12,57	12,57	12,57	12,57
Cost of Incremental Labour	4,29	4,67	5,43	6,19	6,94	7,70	7,70	7,70	7,70	7,70
Crop Financing	0,99	1,72	1,96	1,96	1,96	1,96	1,96	1,96	1,96	1,96
Total Production Cost	12,13	13,87	16,15	18,17	20,20	22,23	22,23	22,23	22,23	22,23
<b>Incremental Net Value</b>	<b>-12,13</b>	<b>5,96</b>	<b>5,75</b>	<b>7,84</b>	<b>9,93</b>	<b>12,02</b>	<b>16,13</b>	<b>16,13</b>	<b>16,13</b>	<b>16,13</b>
Cost of Knowledge Centre	0,14	0,29	0,27	0,13	0,09	0,07				
Land Development	0,73	1,16	1,41	1,06	0,67					
Cost of Project Coordination	0,49	0,18	0,21	0,16	0,19	0,14				
Correction for WoP Growth 3% p.a.	0,33	0,35	0,39	0,44	0,48	0,58	0,58	0,58	0,58	0,58
<b>Project Cost</b>	<b>1,69</b>	<b>1,97</b>	<b>2,28</b>	<b>1,78</b>	<b>1,44</b>	<b>0,79</b>				
Total Incremental Project Cost	13,82	15,85	18,43	19,96	21,64	23,02	22,23	22,23	22,23	22,23
Net Benefit Stream	-13,82	3,99	3,47	6,06	8,49	11,23	16,13	16,13	16,13	16,13
<b>Farm Level</b>										
NPV Incremental sales @13%	134									
NPV Incremental costs @13%	97									
Net Present Value @13%	37									
Internal Rate of Return	62,4%									
Benefit/Cost Ratio	1,38	1,25	1,19	1,30	1,39	1,49	1,73	1,73	1,73	1,73
<b>Project Level</b>										
NPV Incremental sales @13%	134									
NPV Incremental costs @13%	104									
Net Present Value @13%	30									
Internal Rate of Return	46,5%									
Benefit/Cost Ratio	1,29	1,25	1,19	1,30	1,39	1,49	1,73	1,73	1,73	1,73

## Total Agriculture Impact

27. The summary of the project financial and economic analysis for land development and modernisation of crop production is generating an very acceptable IRR of 26.1% with acceptable B/C ratio at farm level.

Indicators	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Percentage Build Up	0	10	20	40	60	80	100	100	100	100
Incremental Gross Value	0,00	90,08	95,40	112,73	130,05	147,38	164,71	164,71	164,71	164,71
Cost of Incremental Input	26,94	35,98	36,75	42,81	48,87	54,56	54,87	54,87	54,87	54,87
Cost of Incremental Labour	19,78	24,78	27,65	30,55	33,46	36,13	36,13	36,13	36,13	36,13
Crop Financing	5,08	7,12	8,12	8,21	8,22	8,15	7,95	7,99	7,99	6,30
Total Production Cost	56,88	75,00	80,63	89,78	98,78	106,99	106,91	106,98	106,98	103,61
<b>Incremental Net Value</b>	-51,80	22,20	22,89	31,16	39,50	48,54	65,75	65,72	65,72	67,36
Cost of Knowledge Centres	0,67	1,37	1,28	0,60	0,42	0,31				
Cost of Land Development	2,93	10,79	15,37	11,65	1,91					
Cost of Project Coordination	2,46	0,89	1,06	0,80	0,97	0,70				
Correction for WoP Growth 3% p.a.	1,58	1,63	1,69	1,75	1,82	2,01	2,01	2,01	2,01	2,01
<b>Project Cost</b>	7,63	14,67	19,40	14,80	5,12	3,02	2,01	2,01	2,01	2,01
Total Incremental Project Cost	64,51	89,67	100,03	104,57	103,89	110,01	108,91	108,99	108,99	105,61
Net Benefit Stream	-64,51	0,41	-4,63	8,15	26,16	37,37	55,79	55,72	55,72	59,09
Farm Level										
NPV Incremental sales @13%	582									
NPV Incremental costs @13%	477									
Net Present Value @13%	146									
Internal Rate of Return	58,3%									
Benefit/Cost Ratio	1,22	1,20	1,18	1,26	1,32	1,38	1,54	1,54	1,54	1,59
Project Level										
NPV Incremental sales @13%	582									
NPV Incremental costs @13%	525									
Net Present Value @13%	58									
Internal Rate of Return	26,1%									
Benefit/Cost Ratio	1,11	1,00	0,95	1,08	1,25	1,34	1,51	1,51	1,51	1,56

## Results from Value Chain Support

28. It is anticipated that the total investments in PPP SMEs will amount to USD 13.95 million of which USD 4.92 million will be co-financed by the ABF. The ABF will finance 40% of investment cost but not exceeding USD 180,000.

**Table 19: Anticipated Numbers of Small and Medium Enterprises**

Type of Investments	# of Investment	Self-Financing	ABF	Total Capital Deployed
Bamboo Toothpick	12	0,20	0,36	0,56
Mango/Tomato	10	4,00	2,46	6,46
Mushroom bags	4	1,60	0,22	1,82
Rubber	85	0,08	0,04	0,12

Rice mill	20	2,66	1,33	3,99
Roasted Groundnuts Snacks	17	0,49	0,52	1,00
Total	148	9,03	4,92	13,95

29. The direct numbers of FTE job created by the SMEs is 2,810 persons and indirect jobs it is estimated at 2,435 persons bring the total number of FTEs to 5,245 persons. Each direct FTE job cost USD 1,750 from project funding and USD 938 if indirect job are also counted. The cost per FTE if base on the total investment cost it will be USD 4,804 and if counting the indirect the cost is USD 2,574. The cost of establishing one FTE is similar to IFAD's project in Vietnam.

**Table 22: Estimated Incremental Jobs Created over the life of the Project**

Type of Investments	# of Investment	Labour	Technician.	Manager	Direct Total	Indirect	Grand Total
Toothpick	12	160	20	20	200	400	600
Mango/Tomato	10	840	144	96	1.080	600	1.680
Mushroom bags	4	80	20	12	112	100	212
Rubber	17	510	85	85	680	595	1.275
Rice mill	20	400	70	30	500	400	900
Snack roasted groundnuts	85	170	34	34	238	340	578
Total	148	2.160	373	277	2.810	2.435	5.245

30. The market developed by above types of SMEs for primary agriculture produce and NWFP amounts to 273,845 Mt of raw material produced on 85,526 acres of land owned/used by 16,328 HH. However as the actual type and numbers of differ SME cannot be known at this time the estimates are only meant to show the potential magnitude of markets developed by above SMEs. The markets developed for the above PPP SMEs will provide a more stable market for the target group.

**Table 23: Estimated for Markets Created by SMEs**

SMEs	Mt	Acres	HH
Fruit and Vegetables	132.000	6.600	4.400
Rice	105.000	57.391	4.799
Snaks	5.355	6.865	4.577
Rubber	9.120	14.710	981
Bamboo	14.400	960	72
Mushroom	7.970	-	1.500
Total	273.845	86.526	16.328

## Financial and Economic Analysis

31. The Financial results from each type of investments and the combined analysis for all investments show that the SMEs are generating healthy FIRR with positive NPV (details in Annex 2).

**Table 21: Summary of SME Financial Indicators (USD million)**

Type of SMEs	# of Invest.	Invest. Value	Y0	Y1	Y2	Y3	Y4	Y5-20	FIRR	NPV @ 13%
			Benefit Stream After Tax, Financing of Equity and Debt							
Fruit and Vegetable Processing and Tissue Propagation	12	0,56	-0,31	0,31	0,34	0,34	0,34	0,50	32,9%	0,89
Grain Handling and Processing	10	6,45	-1,76	1,50	1,34	1,35	1,35	3,14	16,8%	1,48
Mushroom Production Bags Inoculated with Spawn	4	1,82	-0,19	0,77	0,79	0,80	0,80	1,31	32,7%	2,29
Snack Production using Groundnuts	17	0,12	0,02	0,03	0,03	0,06	0,09	0,13	40,5%	0,37
Bamboo Chopstick/ toothpick Production	20	3,99	0,25	-0,06	0,40	0,82	0,47	1,60	32,3%	3,58
Seed and Rubber Processing	85	1,00	-0,10	0,38	0,43	0,44	0,44	0,73	20,6%	9,38
Total Project	148	13,95	-2,08	2,94	3,33	3,82	3,50	7,42	20,6%	7,59

### Economic Analysis of Whole Project

32. The overall IRR of the whole project is estimated at a robust 20.5%. Assumptions used in the economic analysis are (i) an economic life of 20 years; (ii) economic conversion factors of 1; (iii) an opportunity cost of unskilled labour of USD 4/day except in Shan for garlic and processing vegetable as all harvesting is done by the buyer's permanent labours with lower daily rate therefore, labour cost of \$ 3,5/day ; (iv) With Project agricultural growth is offset by an assumed counterfactual 4% real growth without the project (WOP).

33. As indicated earlier, the agricultural impact estimates made here are essentially 'before' and 'after'. To end up with the 'with' and 'without' estimates needed, the assumption has been made that in parallel to the project there would have been 4% agricultural growth in the without situation. This is counted as a negative economic flow in estimating the IRR. After deducting the calculation of the project annual economic benefits has been made.

34. It will be noted from below table that Sensitivity analysis shows that the project is robust in the event of delays in flow of benefits, unforeseen cost overruns. In conclusion, the proposed project, which is likely to have an economic rate of return of about 20.5% is financially and economically robust.

### Cost Benefit Analysis

(USD million)

	PY1	PY2	PY3	PY4	PY5	PY6	PY7	PY8	PY9	PY10-20
<b>Programme Benefits</b>										
Land development	-64,51	0,41	-4,63	8,15	26,16	37,37	55,79	55,72	55,72	59,09
Agribusiness	-13,95	-2,08	2,94	3,33	3,82	3,50	7,42	7,42	7,42	7,42
<b>Programme Net Benefits</b>	<b>-78,46</b>	<b>-1,67</b>	<b>-1,69</b>	<b>11,48</b>	<b>29,98</b>	<b>40,87</b>	<b>63,21</b>	<b>63,14</b>	<b>63,14</b>	<b>66,51</b>
<b>Total Programme Net Benefits</b>	<b>-78,46</b>	<b>-1,67</b>	<b>-1,69</b>	<b>11,48</b>	<b>29,98</b>	<b>40,87</b>	<b>63,21</b>	<b>63,14</b>	<b>63,14</b>	<b>66,51</b>
<b>Programme Costs</b>										
Investment Costs	5,39	15,46	19,56	12,99	3,04	0,52	0,52	0,52	0,52	0,52
Replacement of Equipment			2,4			2,4				
Recurrent Costs	0,58	0,69	0,77	0,77	0,77	0,64	0,15	0,15	0,15	0,15
<b>Total Programme Costs</b>	<b>5,97</b>	<b>16,14</b>	<b>22,74</b>	<b>13,76</b>	<b>3,82</b>	<b>3,56</b>	<b>0,67</b>	<b>0,67</b>	<b>0,67</b>	<b>0,67</b>
Total Project Incremental Net Benefits	-84,4	-17,8	-24,4	-2,3	26,2	37,3	62,5	62,5	62,5	65,8
IRR	20,5%									
NPV @12% (USD 000)	86									

### Sensitivity Analysis on Project IRR

BASE CASE	20,5%	86
COSTS +10%	19,9%	81
COSTS +20%	19,3%	76
BENEFITS +10%	21,1%	99
BENEFITS -10%	19,8%	72
BENEFITS 1 year lag	19,2%	68
BENEFITS 2 year lag	17,1%	44



## Appendix 11: Draft project implementation manual

	Page No.
Introduction	
Purpose of Manual	
Background	
Targeting and Criteria	
A. Targeting	
B. Criteria for selection of Township for Pilot sites	
C. Criteria for selection of Pilot villages	
D. Criteria for target groups and beneficiary households	
E. Project strategies	
Project Components and Costs	
A. Detailed Project Description	
B. Logframe	
C. Project Costs	
D. Work Plan and Budget	
Project Implementation	
A. Implementation arrangements	
B. Implementation agencies and responsibilities	
C. Potential Implementation partners	
Project Management	
A. Institutions and responsibilities	
B. TOR for project staff	
M&E Systems and reporting	
A. Roles and responsibilities	
B. Baseline Studies	
C. Monitoring progress	
D. M&E and the logframe	
E. Financial monitoring and reports	
F. Reports	
G. End of Project Evaluation	
Procurement and Contract Management	
A. Procurement Arrangement	
B. Procurement of Goods, Works and Services	
C. Review of Procurement Decisions by IFAD	
D. Governance and Anti-Corruption (GAC)	
Annex 1: Project Logframe	
Annex 2: Project Work plan and Budget	

## Financial Management Arrangement and Disbursement

- A. Introduction
- B. The Project
- C. Anticorruption policy
- D. Accounting system
- E. Records Management
- F. Internal controls
- G. Bank account management
- H. IFAD Grant Administration and Disbursement Procedures
- I. Financial Reporting
- J. Fixed Asset Management
- K. Audit Arrangements
- L. TORs of the Auditors and the Engagement letter
- M. Grant completion and Closing



## Appendix 12: Compliance with IFAD policies

1. ESAP is compliant with all relevant IFAD policies, strategies and guidelines, and in particular it complies with: (i) Strategic Framework 2011-2015 in terms of market driven-smallholder development and non-farm rural business growth; (ii) its targeting strategy is consistent with the Targeting Policy approach of focusing on economically active poor rural women and men in farming and landless households; (iii) its investments in rural economic growth are compliant with the Rural Finance Policy focus on promoting inclusive financial systems to improve the access of the rural poor to a range of financial services; (iv) its participatory approach to land consolidation is consistent with the Land Tenure Policy's and Engagement with Indigenous Peoples Policy's focus on the principle of free, prior and informed consent and community driven development; (v) in compliance with the Gender Equality and Women's Empowerment Policy the design foresees the development of a gender mainstreaming strategy with the aim of increasing IFAD's impact on gender equality and strengthen women's empowerment in rural areas of Myanmar (vi) its focus on promoting PPPs for rural private sector development and contributing to national policy dialogue is in line with the Partnership Strategy (vii) its environmental impact assessment procedures for infrastructure investments are aligned with the Climate Change Policy on proper adaptation and mitigation measures. Other than that the project design is also compliant with the Policy on Preventing Fraud and Corruption through the establishment of a mutual accountability framework.
2. In addition ESAP directly addresses the three strategic objectives included in the Myanmar COSOP and thus consistent with IFAD's country strategy for Myanmar i.e. (i) SO-1: empower rural women and men to access agriculture resources, technologies, services and markets; (ii) SO-2: create business and employment opportunities for rural women and men, and (iii) SO-3: promote social and economic empowerment of marginalized minorities.



## **Appendix 13: Contents of the project life file**

1. COSOP
2. Aide memoire from Inception Mission
3. Aide Memoire Detailed design report
4. Aide Memoire Final design report
5. Working paper - Poverty, Targeting and Social Inclusion
6. Working Paper - Agribusiness
7. Working Paper – Infrastructure works
8. Working Paper – Economic and Financial Analysis
9. Working Paper- Rural Finance
10. Working Paper – Institutional Analysis
11. Environment and Social Review Note
12. Terms of Reference of detailed design mission
13. Terms of Reference of appraisal mission

## SWOT Analysis of MOALI

Organization	Strengths	Weaknesses	Opportunities/ Threats	Remarks
<b>State Agriculture Departments in Shan and Kayin</b>	Strong field presence through District and Township Offices and over one thousand extension workers in South Shan, and several hundred in Kayin.	Does not use internet/ email (Kayin), and little use of it in South Shan; No experience with planning or project implementation (Kayin + South Shan); Limited research and testing capacity as both Offices have no laboratory; Insufficient, unqualified, underpaid and immobile extension workers (Kayin + South Shan)	Strong top-down hierarchy and no information sharing culture could be burdensome for cooperation (Kayin); Programming could be well-managed and still fail if the extension worker situation is not solved. On the other hand, if resources and capacity are increased, and PM methodology applied, the outreach opportunity would be considerably increased.	Senior staff in Kayin show no ambition to work with computers. Chief Officer in Shan is eager to improve his Office, e.g. to get trained on new technology, to build-up a lab in order to e.g. test pesticides and fertilizer independently from Lab in Yangon, to computerize and to change to email communication.
<b>State Irrigation Departments in Shan and Kayin</b>	Expressed commitment to bottom-up approach;  Some experience in proposal writing;  Started computer-aided design (CAD) in South Shan	Hardly any experience in building irrigation systems as they do only maintenance (Kayin and South Shan); Both Offices and Township Offices are lacking surveying instruments and leveling measurement equipment. Not enough Engineers employed (Kayin and South Shan) No experience in PM and analytical reporting.	Offices could establish good communication/ feedback channels with beneficiaries. The complete lack of Project and Knowledge Management experience could be burdensome for cooperation. The lack of actual constructions experience could cause poor activity implementation. An institutionalized false sense of achievement could lead to euphemistic reporting/ non-compliance to IFAD's transparency standards.	The Department for Irrigation has a poor reputation due to cases of corruption and poor construction work. Low salaries and lack of construction projects is making the Department increasingly unattractive to the current generation of Engineering graduates.
<b>State Agricultural Mechanization Departments in Shan and Kayin</b>	Close proximity to beneficiary through high number of Operators that live with the Villagers.	Complete lack of internet connection. Few existing computer are used as typewriters (Kayin and South Shan);	The purchase of a planned 2000 new tractors (with a loan from India) could boost the Department's profile. Farmers search for support from other	Offices have been vastly inactive since the 80s. There are no annual work plans and their only remaining target is

Organization	Strengths	Weaknesses	Opportunities/ Threats	Remarks
		<p>Insufficient number of tractor stations and machinery.</p> <p>Outdated mandate/ business model.</p> <p>No experience in PM and analytical reporting</p>	<p>organizations or turn to the private sector. Unless reformed, both Offices are drifting into insignificance.</p>	<p>to fix, sell or rent out their old machinery.</p> <p>Interviewees tried hard to be convincing about the importance of their work but were also strikingly unwilling to provide information.</p>
<b>State Land Settlement and Land Records Department in Shan and Kayin</b>	<p>Organized structure and work processes;</p> <p>Collects large amount of valuable data;</p> <p>Develops own work plans and targets.</p> <p>Started to use computer-based geographic information system (South Shan);</p> <p>Has close contact to beneficiaries due to large amount of Village Tract Workers.</p>	<p>Lack of GPS and satellite images forces staff to work “by foot” and to draw maps by hand. (Kayin)</p> <p>Does not systematically and sufficiently archive and share their data internally and with other departments (Kayin +South Shan);</p> <p>Work is slow because Village Tract Workers are underpaid and immobile (Kayin +South Shan);</p> <p>Despite the importance of their data’s accuracy, there is no independent evaluation of their work.</p> <p>No experience in PM and analytical reporting</p>	<p>Introducing effective KM combined with up-to-date technology could turn the Department’s offices in vital information centers.</p> <p>Being less used to receiving and following orders, LSRD State Offices could become project partners that need comparatively less guidance.</p> <p>LSRD Offices could abuse their advantage of having agricultural land use data by not sharing it.</p> <p>The scope of work has not much changed in a hundred years which could be an obstacle in changing office and work culture.</p> <p>Financial Management does not comply with UN financial rules, e.g. the Chief Officer is the only signatory which could make a project vulnerable to fraud.</p>	<p>Attention on the LSRD delivery is high as tax collection depends on their work.</p> <p>The State Office in Shan is much more functional than Kayin as it has received IT equipment and GeoMedia application, and thereby tripled its output within less than a year.</p> <p>There was a sense of excitement in the office about the application of technology and future development.</p>
<b>State Water Resources Utilization Office in Shan and Kayin</b>	<p>Experienced in tube well drilling in rocky underground terrains, small scale natural spring and water gravity construction (South Shan);</p> <p>Works with communities</p>	<p>Complete lack of institutional documents (manuals, ToR, work programme, plans, organizational chart etc.) (Kayin)</p> <p>Over-staffed and under-worked (Kayin);</p> <p>Acts very little in the function of a</p>	<p>The District Office in South Shan has had hands-on experience in small-scale community water resource utilization and could replicate these constructions elsewhere.</p> <p>Lack of work experience in the Kayin Office could mean that it is unsuitable/</p>	<p>The District Office has no work plan and acts upon request of the State Government. 7 Projects started in 2000 in Kayin and were completed by 2004/5. After that only one new project has been initiated in 2013. Staff interviewed claimed to have no capacity</p>

Organization	Strengths	Weaknesses	Opportunities/ Threats	Remarks
	(Kayin and South Shan).	<p>government entity and mainly serves as Service Supplier for a private investor (South Shan);</p> <p>Financial Management and Procurement are intransparent. (Kayin + South Shan);</p> <p>Offices do not use computers and internet (Kayin +South Shan).</p> <p>No experience in PM and analytical reporting</p>	<p>unqualified as implementation partner.</p> <p>Intransparent financial arrangements and hesitation to share reports could put a project partnership at risk of mismanagement or fraud.</p> <p>Instruction from NPT to prioritize work for KBZ could lead the Office to neglect other partnership obligations.</p> <p>Lack of computer skills and email accounts could make communication with the District Offices difficult.</p>	<p>building needs.</p> <p>The equally underworked South Shan Office has been tasked by NPT in early 2014 to focus on service supply to KBZ Bank who is financing drilling efforts in Bawsaing. KBZ is not paying for the Office's support but covers equipment costs and food for laborers.</p> <p>Interviewed staff seemed motivated and excited about the Office's achievements in recent times.</p>
<b>Department of Agriculture Planning in Shan and Kayin</b>	<p>New, motivated DG with academic (= non-military) background who aspires post of Permanent Secretary and wants to reform and modernize the Department</p> <p>Department has</p> <p>The Department takes care of bilateral and multilateral partnerships and keeps an overview of all ongoing projects.</p>	<p>No systematic staff development and staff performance review;</p> <p>Collects data, but does not plan;</p> <p>Processes are too bureaucratic and exaggerated detail to format diverts from quality of contents.</p> <p>No experience in PM.</p>	<p>If the Department starts to plan strategically it could become an influential and valuable partner to IFAD.</p> <p>Liaising with all international partners and reviewing projects' progress, the Department could play a strong coordination role.</p> <p>Cumbersome processes and lengthy approval procedures cause work backlog that could slow down project implementation.</p> <p>Participation in training is used as rewards which could mean that not the right s/m attend IFAD training.</p>	<p>The DAP could be a good partner for IFAD. Staffing, governance and priorities could change if the Government is not re-elected in 2015.</p> <p>Streamlining processes and computerization would require HR restructuring, regardless of the election.</p>

<b>Capacity Building Plan for MOALI</b>											
Agenda Red = very necessary Orange = moderately necessary Green = not necessary	State Agriculture Department- Shan	State Agriculture Department- Kayin	State Irrigation Department Shan	State Irrigation Department Kayin	State Agricultural Mechanization Depart. Shan	State Agricultural Mechanization Depart. Kayin	State LSR Department Shan	State LSR Department, Kayin	Water Resource utilization Department Shan	Water Resource utilization Department Kayin	Department of Agriculture Planning
Project Management training (project cycle, strategic planning, Logframe, TOC, M&E)											
Sub-project for hands-on PM and M&E application											
Financial Management and Procurement											
Assistance in improving/ developing admin processes and SOPs											
Language and communication classes (English, presenting, report writing, official communication)											
ICT training (hardware, windows applications)											
Computerized information system or ERP (tailoring, formats for data entry, user training, evaluate its use)											
Gender equity and Human Rights training											
HR training (entitlements, staff development and performance evaluation)											
Material* (diesel generator set, lab equipment, GPS, software) *Needs further assessment/ verification and user training.	Genset, Lab equipment	Genset	Genset, GPS, AutoCAD	Genset, GPS, AutoCAD	Genset, basic ICT	Genset, basic ICT			Basic ICT, Internet connection	Basic ICT	
Financial Support to extension workers (wages, daily allowance, transport)											
HR support (long-term coaches, workshop facilitators, consultants for specialized training)											

