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President's memorandum
Proposed additional financing to
Kingdom of Bhutan for the
Commercial Agriculture and Resilient
Livelihoods Enhancement Programme

Project ID: 1100001739

Note to Executive Board representatives

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Abbreviations and acronyms

ASAP	Adaptation for Smallholder Agriculture Programme
CARLEP	Commercial Agriculture and Resilient Livelihoods Enhancement Programme
ESMP	environmental and social management plan
GDP	gross domestic product
HMAP	herbal, medicinal and aromatic plant
KIL	Koufuku International Limited
IFAD10	Tenth Replenishment of IFAD's Resources
OPM	office of the programme management
PBAS	performance-based allocation system
RAMCO	Regional Agricultural Marketing and Cooperatives
RIMS	IFAD's Results and Impact Management System
SECAP	Social, Environmental and Climate Assessment Procedures

Financing summary

Initiating institution:	IFAD
Borrower/recipient:	Kingdom of Bhutan
Executing agency:	Ministry of Agriculture and Forests
Total programme cost:	US\$35.565 million
Amount of original IFAD financing:	US\$14.36 million
Terms of original IFAD financing:	Loan (blend terms), IFAD grant, Adaptation for Smallholder Agriculture Programme grant
Amount of additional IFAD financing:	US\$11.281 million
Highly concessional loan:	US\$10.281 million
IFAD Debt Sustainability Framework grant:	US\$1 million
Financing for scaling up:	US\$5.281 million
Amount of financing gap:	US\$6 million
Contribution of borrower/recipient:	US\$766,000 (taxes and duties)
Contribution of beneficiaries:	US\$2.324 million
Contribution of private sector:	US\$407,000
Appraising institution:	IFAD
Cooperating institution:	Directly supervised by IFAD

Recommendation for approval

The Executive Board is invited to approve the recommendation for the proposed additional financing contained in paragraph 62.

I. Background and programme description

A. Background

1. The Commercial Agriculture and Resilient Livelihoods Enhancement Programme (CARLEP) in Bhutan was originally considered by IFAD's Executive Board in September 2015 (document EB 2015/LOT/P.16). The Executive Board approved US\$14.36 million in financing through the Tenth Replenishment of IFAD's Resources (IFAD10) performance-based allocation system (PBAS) cycle, including an IFAD loan of US\$8.27 million equivalent on blend terms, an IFAD grant of US\$1.06 million equivalent and an Adaptation for Smallholder Agriculture Programme (ASAP) grant of US\$5.02 million equivalent. The Executive Board acknowledged that there was a financing gap of US\$6 million, which was expected to be allocated to Bhutan through the IFAD11 PBAS cycle.
2. The IFAD11 PBAS allocation for Bhutan was confirmed at US\$11,281,031 – US\$5,281,031 more than the foreseen amount of US\$6 million. The Government has requested that the full IFAD11 PBAS amount be allocated to scale up CARLEP.
3. The present financing for Executive Board approval refers to this US\$11,281,031 IFAD11 allocation, which will enable: (i) the original financing gap to be covered; (ii) outreach to be scaled up; and (iii) outputs to be increased.

B. Original programme description

Goal and development objective

4. The goal of CARLEP is to sustainably increase smallholder producers' incomes and reduce poverty by commercializing household production. Its objective is increased returns to smallholder farmers through climate-resilient crops and livestock production in nationally organized value chains and marketing systems.
 - (i) Component 1: Market-led sustainable agricultural production. The expected outcome of component 1 is increased volume and value of production, and more climate-resilient production systems.
 - (ii) Component 2: Value chain development and marketing. The expected outcome of this component is improved performance and organization of the selected value chains for increased smallholder production and productivity.
 - (iii) Component 3: Institutional support and policy development. The expected outcome is that the programme is effectively and efficiently implemented, with enhanced transparency, monitoring and evaluation, knowledge management and policy engagement.

II. Rationale for additional financing

A. Rationale

5. CARLEP's performance to date was assessed through an analysis of annual progress reports, the December 2018 midterm review and annual outcome surveys, which revealed that:
 - An effective project management mechanism has been established.
 - Households organized in farmer groups are active, with new crops introduced and production clusters established to reach planned volumes.
 - Strengthened technical extension services show promising results.

- The dairy subsector is showing positive results since farmer groups have increased their productivity and incomes while improving animal breeds, husbandry and feeding.
 - Irrigation development has improved agricultural productivity, with positive effects on household food security nutrition, and incomes.
 - Upgrading domestic water-supply schemes is enabling women to sustain homestead vegetable production, with nutrition and gender benefits.
6. The body of evidence highlights the difficulties to be resolved in order to achieve the project's developmental objectives:
 - A key constraint is fostering solid business relationships and links between farmer groups and remunerative markets.
 - Suboptimal technical advice is an important technical constraint.
 - There is a lack of organized links between farmers and financial institutions.
 7. CARLEP became effective in December 2015. With a completion date of December 2022, 48 per cent of the implementation period has elapsed. Disbursement of resources has accelerated significantly. As of 30 September 2019, disbursement amounted to: 62 per cent of the IFAD loan; 74 per cent of the IFAD grant; and 45 per cent of the ASAP grant. The programme's goal, objectives and components, including implementation and financial arrangements, remain unchanged.
 8. The Government released its 12th Five Year Plan 2018-2023 for the renewable natural resources sector. Key changes include a policy and strategic outlook focused on market-driven agriculture, high-value commodities and upgrading service delivery while ensuring sustainable management of the natural resource base. This is an opportunity for the Government and IFAD to align CARLEP with the new Five Year Plan and contribute budgetary resources to meet its financial requirements.
 9. The Government has also requested that CARLEP integrate new elements for closer strategic alignment. IFAD has agreed to: (i) cover the financing gap of US\$6 million; (ii) provide an additional loan of US\$4.28 million; and (iii) provide an additional grant of US\$1 million. The total amount of IFAD financing for CARLEP will increase from US\$14.36 million to US\$25.64 million, while the project completion date will be extended by three years from December 2022 to December 2025.
 10. It is expected that the additional financing will consolidate and deepen programme engagement, results and impact for the targeted 28,975 households. This phase has three strategic directions: (i) increasing nutritious production for food security and markets using climate-resilient infrastructure and business services; (ii) providing linkages between farmer groups and financial institutions to access investment credit and working capital; and (iii) increasing household incomes by investing in commodities that have a comparative advantage, market demand and growth potential. At the macro level, increased economic returns from agriculture will increase the sector's contribution to GDP, while at the micro level, increased incomes will help rural households to close the food security and nutrition gaps in Bhutan through market access.
 11. Constraints to CARLEP's implementation will be addressed by fostering business relationships between farmer groups and markets, upgrading service delivery, improving production-related infrastructure, linking farmers with formal financial institutions and developing production clusters to overcome the high cost of service delivery and output marketing.

- Special aspects relating to IFAD's corporate mainstreaming priorities
12. Nutrition. The prevalence of chronic malnutrition (stunting) and anaemia are still significant in Bhutan. The Government has initiated several programmes to deal with nutrition issues, including a rice fortification programme, dietary diversification and school feeding.
 13. Gender. Women constitute nearly 48 per cent of the country's population and have the same life expectancy as men. Women's development is an integral part of the country's development agenda and most rural women are involved in some type of agriculture. Women typically acquire land ownership through inheritance, offering economic opportunities and relatively equal status with men. However, gender disparities remain in many rural households because of lower-paid jobs for women and social issues such as alcohol abuse. In addition, rural women lag behind in tertiary education, the formal economy, politics and public decision-making.
 14. Youth. The 2017 census reported that 46 per cent of the population is below 24 years and 66 per cent is below 34 years. In rural areas, most youth have dropped out of school and many are engaged in casual unskilled labour. Youth form the bulk of those who migrate from rural to urban areas. The national youth unemployment rate is 13.7 per cent. Early marriage and motherhood take a toll on young girls' health, affecting the health of their children and their economic participation. The Government has initiated several programmes to encourage youth employment and entrepreneurship in rural areas by enabling access to land, financing through land-lease arrangements and associated services.
 15. Climate change. With a varied topography and diverse agroecological systems, Bhutan's major climatic threats range from prolonged droughts and warmer temperatures to more extreme weather. These pose major challenges since Bhutan is reliant on rainfed agriculture. IFAD's Social, Environmental and Climate Assessment Procedures (SECAP) assessment for Bhutan highlighted several influencing factors including: the accelerated retreat of glaciers and critical water levels in glacier lakes; flash floods; increasing intensity of rainfall; and landslides. The Government's response to climate change is coordinated by the National Environment Commission.

B. Description of geographical area and target groups

16. Bhutan's environment is characterized by steep and high mountains, and most of its rural areas are isolated. Its total land area is 38,394km², with a population of 727,145 (National Statistics Bureau, 2018). Its arable land area is estimated at 7.8 per cent and its steep slopes impact on cultivation, access and maintenance, putting increased pressure on agricultural land.
17. CARLEP will continue to work with its 28,975 target¹ households to expand the programme's impacts by targeting entire villages and then clustering communities by commodities produced. This will: ensure inclusion, greater adoption and enhance knowledge; enable production on a sufficient scale to attract buyers; increase access to markets; and promote greater climate sustainability.

C. Components, outcomes and activities

18. The programme, including all proposed financing sources, will have the following characteristics:
 Component 1: Market-led sustainable agricultural production
19. Coverage. In order to increase resilience, diversification and innovation, CARLEP will promote integrated agricultural production and management in an additional 1,055 villages, bringing the total of targeted villages to 1,760 as well as increasing the programme's inclusiveness.

¹ During the midterm review, targeting figures were reviewed, noting that the initial target was over-ambitious.

20. Awareness. Through an awareness campaign, knowledge-sharing will be promoted along with new technologies and production packages.
21. Agriculture investment plans. These plans will identify returns and benefits along with changes in practices that need to take place.
22. The majority of outputs will remain largely unchanged while new outputs are introduced:
 - Fruit production will be intensified and expanded based on value chain analysis and market-entry studies.
 - Herbal, medicinal and aromatic plant (HMAP) collection and cultivation will be sustainably intensified and expanded. CARLEP will assist the Ministry of Agriculture and Forests in preparing guidelines for beneficiaries' engagement in the collection of non-forest timber products.
 - Aquaculture production introduced. The programme will support the establishment of a trout hatchery within the implementation area.
 - Commercial agriculture for youth. The Government has introduced a land use certificate scheme to attract rural youth. CARLEP is providing support to some of these youth and will scale up this activity with the additional financing to all groups in the east benefitting from this scheme.
 - Off-farm youth enterprises. The project will expand its support to off-farm enterprises, especially for youth.

Component 2: Value chain development and marketing

23. Programme partner Regional Agricultural Marketing and Cooperatives (RAMCO) Mongar will continue its outreach through service providers and technical assistance institutions. A dedicated app will be deployed to provide all value chain actors with real-time prices and link buyers and sellers.
24. The programme's focus on vegetable commercialization and support to entrepreneurs' outputs remains unchanged.
25. Fruit commercialization. Completed value chain analyses and market entry studies will inform the selection of fruit crops to be promoted and markets. Production will be organized in village clusters for scaling up.
26. Sustainable commercialization of HMAP (collected and cultivated). Collectors will be identified, trained and certified and organized into farmer groups. These groups will also be trained and supported in setting up nurseries and basic processing facilities.
27. Aquaculture commercialization. RAMCO Mongar will support interested entrepreneurs in conducting feasibility studies for trout production, preparing bankable business plans, technical training and advisory services.
28. New approach to value chain financing. Support to the Government's expansion of rural finance services will employ a matching grant mechanism for cottage and small industries. CARLEP will coordinate this activity with financial institutions that provide debt financing to cottage and small industries, and with the Jab-Chor platform for young entrepreneurs for larger investments.

Component 3: Institutional support and policy development

29. Capacity strengthening. Capacity development for managing implementation and ensuring sustainability will continue to be a priority along with knowledge management, monitoring and evaluation.
30. Technical assistance. Investments in technical assistance will be increased in order to strengthen knowledge and capacities, particularly in relation to the new outputs, which require enhanced skills.

31. Structured policy dialogue. CARLEP will provide evidence-based experiences and knowledge for structured policy dialogue. Important topics include: (i) the regulatory environment governing the use of fallow land; (ii) removal of critical bottlenecks in selected commodity value chains; and (iii) formulation of policies, rules and guidelines for the sustainable collection of non-timber forest products. These processes will support the Government during its development of the Renewable Natural Resources Research Policy of Bhutan.

D. Benefits, costs and financing

Costs

32. The estimated amount of additional financing is US\$14.778 million. These funds comprise: a US\$10.281 million IFAD loan on highly concessional terms; a US\$1 million Debt Sustainability Framework grant; domestic financing totalling US\$407,000 equivalent by Koufuku International Limited (KIL); a US\$2.324 million beneficiary contribution and a government contribution of US\$766,000. Programme costs by financier for the original cost estimates and additional financing are provided in table 2 below. Programme costs for the additional financing by component and financier are provided in table 3.

Summary of benefits and economic analysis

33. CARLEP will continue to target 28,975 households as originally planned (65 per cent of all households in the project area). This additional financing will enable greater results and impact for these households while revitalizing the agriculture sector. Households will benefit from multiple programme activities simultaneously. The estimated internal rate of return at the time of the mission for determining additional financing was 24 per cent with a net present value of 1,505 Bhutanese ngultrums. A switching value analysis further confirmed that the programme would be beneficial even if overall benefits declined by 25 per cent and costs increased by 33 per cent.

Sensitivity analysis

34. Sensitivity analysis demonstrates the sensitivity of project's profitability indicators to the risks identified during programme design. In the table below, net present values and economic internal rates of return are colour coded. Table 1 shows the sensitivity analysis used to identify critical values for implementation monitoring (values in red).

Table 1
CARLEP sensitivity analysis

F)				
SENSITIVITY ANALYSIS				
	%	Link with the risk matrix	Internal rate of return	Net present value
Base case scenario			24%	1 505
Programme benefits	-10%		19%	904
Programme costs	10%		19%	455
Programme benefits	-10%			
Two-year lag in benefits			16%	824
Programme benefits	-20%	Climate risks, frost, drought, floods, etc.	13%	305
Input prices	10%	Lack of policy commitment	19%	1 054

Note: Net present value is denominated in millions of Bhutanese ngultrum, discounted at 10 per cent.

Table 2
Original and additional financing summary
 (Thousands of United States dollars)

	<i>Original financing*</i>	<i>Additional financing</i>	<i>Total</i>
IFAD loan	8 273	10 281	18 554
IFAD grant	1 060	1 000	2 060
ASAP grant	5 022	-	5 022
Other cofinanciers	4 802	-	4 802
Private sector	-	407	407
Beneficiaries	659	2 324	2 983
Borrower/recipient	5 773	766	6 539
Total	25 589	14 778	40 367

*See tables 1 and 2 in document EB 2015/LOT/P.16 for a detailed breakdown.

Table 3
Additional financing: Programme costs by component and financier
 (Thousands of United States dollars)

<i>Component</i>	<i>IFAD loan</i>		<i>IFAD grant</i>		<i>Private sector</i>		<i>Beneficiaries</i>			<i>Borrower/recipient</i>			<i>Total</i>	
	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Cash</i>	<i>In-kind</i>	<i>%</i>	<i>Cash</i>	<i>In-kind</i>	<i>%</i>	<i>Amount</i>	<i>%</i>
1. Market-led sustainable agricultural production	9 161	76.1	-	-	-	-	-	2 281	18.9	602	-	5.0	12 044	81.5
2. Value chain development and marketing	1 120	67.8	-	-	407	24.6	-	43	2.6	83	-	5.0	1 653	11.2
3. Institutional support and policy development	-	-	1 000	92.5	-	-	-	-	-	81	-	7.5	1 081	7.3
Total	10 281	69.6	1 000	6.8	407	2.8	-	2 324	15.7	766	-	5.2	14 778	100

Note: Cofinancing from the Government, KIL and beneficiaries is in cash.

Table 4
Additional financing: Programme costs by expenditure category and financier
 (Thousands of United States dollars)

<i>Expenditure category</i>	<i>IFAD loan</i>		<i>IFAD grant</i>		<i>Private sector</i>		<i>Beneficiaries</i>			<i>Borrower/recipient</i>			<i>Total</i>		
	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Cash</i>	<i>In-kind</i>	<i>%</i>	<i>Cash</i>	<i>In-kind</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	
A. Works	9 180	75.6	35	0.3	-	-	-	2 324	-	19.1	606	-	5.0	12 145	82.18
B. Equipment and materials	950	63.7	60	4.0	407	27.3	-	-	-	74	-	5.0	1 491	10.09	
C. Vehicles	-	-	-	0.0	-	-	-	-	-	5	-	100.0	5	0.03	
D. Goods, services and inputs	151	24.3	464	74.4	-	-	-	-	-	8	-	1.3	623	4.22	
E. Consultancies	-	-	74	65.5	-	-	-	-	-	39	-	34.5	113	0.76	
F. Workshops	-	-	339	100.0	-	-	-	-	-	-	-	0.0	339	2.29	
G. Training	-	-	28	45.2	-	-	-	-	-	34	-	54.8	62	0.42	
Total	10 281	69.6	1 000	6.8	407	2.8	2324	-	15.7	766	-	5.2	14 778	100.0	

Note: Cofinancing from the Government, KIL and beneficiaries is in cash

Table 5
Programme costs by component and programme year (PY)
 (Thousands of United States dollars)

<i>Component</i>	<i>PY1</i>		<i>PY2</i>		<i>PY3</i>		<i>PY4</i>		<i>PY5</i>		<i>PY6</i>		<i>Total</i>	
	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>
1. Market-led sustainable agricultural production	1 303	10.9	3 275	27.3	3 452	28.8	3 040	25.4	907	7.6	-	-	11 977	81.04
2. Value chain development and marketing	1 500	90.8	75	4.5	78	4.7	-	-	-	-	-	-	1 652	11.18
3. Institutional support and policy development	340	29.5	274	23.8	229	19.9	154	13.4	154	13.4	-	-	1 151	7.79
Total	3 143	21.3	3 624	24.5	3 759	25.4	3 194	21.6	1 061	7.2	-	-	14 780	100

Financing and cofinancing strategy and plan

35. The original programme cost of US\$31.6 million (including a financing gap of US\$6 million) was to be financed by IFAD and domestic resources as outlined in table 2 above.
36. IFAD proposes to cover the US\$6 million financing gap and contribute additional financing of US\$5.281 million as a loan and grant for scaling up programme activities. This additional financing will be complemented by an additional government contribution of US\$766,000, a contribution from KIL of US\$407,000 and beneficiary equity totalling US\$2.324 million. An adjustment will be made for the withdrawal of the Food Corporation of Bhutan Limited from the programme. The aggregate project funding available, including the additional funding, amounts to US\$30.4 million, of which US\$25.6 million is IFAD resources.
37. During implementation, investment partners will be identified for high-value commodities and will contribute to costs for environmental and social management plans (ESMPs), production, value addition and other activities.

Disbursement

38. IFAD financing will be disbursed against duly certified withdrawal applications in accordance with the IFAD disbursement procedures for: (i) advance withdrawal; (ii) direct payment; and (iii) reimbursement. Yearly disbursement ratios have been adjusted in line with programme expenditure patterns and government policies.²
39. The authorized allocation of the designated account for IFAD will be outlined in the letter to the borrower/recipient and financing will be utilized and replenished following imprest account arrangements.
40. The borrower/recipient will open a separate designated account denominated in United States dollars for each of the programme's financing sources. Funds will not be mingled.

Exit strategy and sustainability

41. Producers will be formalized at the village level and equipped with skills to meet food safety requirements, increase household nutrition and quantity of production, and improve the quality of outputs. The exit strategy will involve the development of multidisciplinary cooperatives for sustainable business. Private sector partners will be identified to provide markets for all value chains. Where private sector processors do not exist, the programme will promote small-scale value addition in strategic locations.
42. The programme will also ensure that farmer groups can access rural financial services on a sustainable basis. All productive investments through the programme will be resilient to changing climate. CARLEP will offer access to improved production technologies, business and financial services, and market linkages to reduce market volatility and ensure higher financial returns.
43. The programme aims to create synergies among producers, agribusinesses and markets, enabling sustained income growth and employment creation. Through policy engagement, CARLEP will contribute to keeping the focus of agricultural development on rural poor people.

² In the original programme design, the disbursement plan was 5 per cent, 12 per cent, 16 per cent, 18 per cent, 20 per cent, 16 per cent and 10 per cent over seven years. For the additional financing, it is 25 per cent, 24 per cent, 24 per cent, 17 per cent and 9 per cent for the last two years of the remaining six years of the programme.

III. Risk management

A. Risks and mitigation measures

<i>Risks</i>	<i>Risk rating</i>	<i>Mitigation measures</i>
Political/governance. Bhutan's political environment has been stable and economic conditions have improved in recent years.	Low	The programme will increasingly work with the private sector to strengthen value chains.
Macroeconomic. Market dynamics of selected value chains may change.	Medium	This risk will be mitigated by: (i) careful selection of value chains; (ii) improved technologies to increase productivity; and (iii) the alignment of value chain selection with market evolution.
Sector strategies and policies. Strategies and policies require updating.	High	Policy dialogue will provide an evidence base for policy reform, capacity-building and support to develop a new sector strategy.
Institutional capacity. Low capacity of implementing institutions hinders promotion of new knowledge and technological innovations.	Medium	Support will include: (i) technical assistance and contracting of service providers; (ii) promotion of the public-private partnership approach; (iii) promotion of advisory services; (iv) use of information and communications technology; (v) skills development of value chain actors; and (vi) rigorous business planning.
Portfolio	Low	Continue providing technical support and guidance, building on IFAD's good relationship with the Government, the other Rome-based agencies and agricultural partners.
Fiduciary: Financial management	Medium	Guidance on terms of reference for audits will be provided; the Financial Management Services Division will discuss a support mission with the Royal Audit Authority.
Procurement	Medium	Training will be provided at the district level and a procurement specialist recruited within the office of the programme management (OPM).
Environment and Social. Environment and social risks may impact performance.	Low	These risks will be mitigated by the: (i) promotion of climate-smart technologies; (ii) collection of animal urine and manure for biogas and the use of slurry mixed with biomass collected from the forest as high-quality soil additives; (iii) implementation of required ESMPs; and (iv) equitable and transparent targeting mechanisms.
Climate. Erratic and excessive rainfall patterns can lead to extreme events like landslides and flash floods.	High	This risk will be mitigated by: (i) the promotion of climate-smart technologies; (ii) increasing the number of climate-smart villages; (iii) constant monitoring of climate conditions; and (iv) multi-purpose water sources and water harvesting.
Overall	Medium	Regular follow-up on the mitigation measures is needed.

44. Institutional capacity for implementation and sustainability risks are considered to be moderate.

B. Environment and social category

45. There have been no changes in the programme's environmental and social category, which is rated as category B. The SECAP assessment has taken into account: (i) the new activities and any potential adverse impacts; (ii) assessments of performance in relation to environmental and social risk management of the existing programme; (iii) vulnerability to climate-related risks; and (iv) whether scaling up of activities is envisaged. Whenever significant risks are identified, social and environmental risk management plans will be developed and tailored to that value chain or subproject.

C. Climate risk classification

46. The climate risk of CARLEP is rated as high. Climate change-related impacts such as increased rainfall, prolonged droughts and warming temperatures may impact specific agricultural value chains supported by the programme (especially those for

HMAP and other high-value niche crops). Both biophysical and socioeconomic variables will be mapped for selected commodities. Irrigation investments will be complemented with climate risk assessments and appropriate climate-proofing measures.

47. Since CARLEP is a high climate-risk programme, the SECAP assessment included an in-depth analysis of the main climate change impacts and mitigation actions to contain the risk. Additional analysis will be undertaken when required to mitigate any climate-induced impacts. The programme is rated as category B for environment and an ESMP is integrated into the SECAP (see appendix II), providing detailed guidance for meeting environmental and social due diligence requirements during implementation. An environment and social management framework will also be developed as an additional safeguard.

IV. Implementation

A. Compliance with IFAD policies

48. The programme is aligned with IFAD11 priorities and policies. It addresses cross-cutting issues related to gender, youth, nutrition and climate change in support of the IFAD11 mainstreaming agenda; nutrition and climate change will be focus areas of reporting. The additional financing phase is designed with a relatively front-loaded disbursement profile.

B. Organizational framework

Management and coordination

49. The governance and management arrangements of the original programme design will continue to be applied during the additional financing phase since they have proven effective. However, the approach will be somewhat broadened to be completely inclusive at the village level. These changes are outlined in the updated programme implementation manual, which includes the new outputs and the revised gender mainstreaming and social inclusion strategy.

Financial management, procurement and governance

50. The financial management assessment concluded that arrangements with the Ministry of Agriculture and Forests are adequate. During the additional financing phase, the programme will continue to use national financial management systems as long as they remain consistent with IFAD guidelines and procedures. Annual budget planning will be undertaken by the OPM in line with the Government's budget framework and calendar as part of its regular budget submission. Programme implementation will adhere to the Government's finance manual and financial reporting will be in accordance with IFAD's Handbook for Financial Reporting and Auditing of IFAD-financed Projects.
51. Subsidiary agreements between the OPM and organizations receiving project funds will be extended for the duration of the additional financing. The provisions of each existing subsidiary agreement will remain the same. Details are included in the programme implementation manual along with draft terms of reference and contracts for service providers.
52. Governance and transparency framework. IFAD applies a zero-tolerance approach in cases where an investigation determines that fraudulent, corrupt, collusive or coercive actions have occurred in projects financed through its loans and grants. The Corruption Perceptions Index published by Transparency International in 2018 rated Bhutan as the 25th least corrupt country in the world. The programme design includes several measures to promote transparency. Communities will be involved in decision-making, planning, implementation and monitoring.

Procurement

53. An assessment of national procurement systems has been undertaken for the additional financing phase. In line with the IFAD General Conditions for Agricultural Development Financing, the procurement of goods, works and services financed by IFAD loans and grants will be carried out in accordance with the provisions of the Government's 2019 Procurement Rules and Regulations to the extent that they are consistent with IFAD's procurement guidelines. The thresholds for procurement of all goods, works and services defined in the Procurement Rules and Regulations will be followed in the selection of procurement methods and formation of tender committees.
54. To ensure effective implementation of procurement activities in line with national regulations, the Government will ensure that an effective procurement system is in place, including a dedicated full-time procurement officer. This will enable the programme to ensure compliance with government and IFAD procurement guidelines.
55. Procurement of works by dzongkhags (subdistricts), gewogs (village clusters), regional offices and implementing partners will be carried out by their own engineers. Procurement for infrastructure or other high-value transactions will be carried out centrally from the OPM by the procurement officer.

C. Monitoring and evaluation, learning, knowledge management and strategic communication

56. The annual workplan and budget, and procurement plan represent the outcome of a participatory planning process. They integrate management priorities for implementation; forecast procurement needs; and facilitate the mobilization of staff and financial resources. The OPM is responsible for preparing these documents in consultation with implementing partners, stakeholders and participating communities.
57. The monitoring and evaluation system for CARLEP provides comprehensive, frequent and reliable data and information for sound results-based management and decision-making. This system is based on the programme's logical framework and will inform reporting on government and IFAD indicators. All data will be disaggregated by age, gender and demographic profile as well as by vulnerable group status (e.g. persons with disabilities).
58. Participatory monitoring and evaluation, including qualitative surveys and annual outcome surveys, is undertaken on a regular basis. The programme will continue to apply the planner management information system to inform the annual workplan and budget, and progress reporting. The data managed by this system relate to: (i) financial expenditures by activity, financing source, category of expenditure and timing; (ii) procurement; (iii) reporting in line with IFAD's Results and Impact Management System; and (iv) the status of procurement and contract execution. CARLEP has a website that promotes knowledge management and shares lessons learned, videos and a range of easily accessible documentation. This includes lessons from implementation and related adjustments.

IV. Legal instruments and authority

59. A financing agreement between the Kingdom of Bhutan and IFAD will constitute the legal instrument for extending the proposed financing to the borrower/recipient.
60. The Kingdom of Bhutan is empowered under its laws to receive financing from IFAD.
61. I am satisfied that the proposed additional financing will comply with the Agreement Establishing IFAD and the Policies and Criteria for IFAD Financing.

V. Recommendation

62. I recommend that the Executive Board approve the proposed additional financing in terms of the following resolution:

RESOLVED: that the Fund shall provide a loan under highly concessional terms to the Kingdom of Bhutan in an amount of ten million two hundred and eighty-one thousand and thirty-one United States Dollars (US\$ 10,281,031) upon such terms and conditions as shall be substantially in accordance with the terms and conditions presented herein.

FURTHER RESOLVED: that the Fund shall provide a grant to the Kingdom of Bhutan in an amount of one million United States Dollars (US\$1 million) upon such terms and conditions as shall be substantially in accordance with the terms and conditions presented herein.

Gilbert F. Hougbo
President

Updated logical framework incorporating additional financing

Results Hierarchy	Indicators				Means of Verification		
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility
Outreach	1.b Estimated corresponding total number of households members				RIMS	Annual	
	Household members - Number of people	141562	28975	99068			
	1.a Corresponding number of households reached				RIMS	Annual	
	Women-headed households - Number		2254	14486			
	Non-women-headed households – Number		3382	14489			
	Households – Number			28975			
	1 Persons receiving services promoted or supported by the project						
	Females – Number		11088	55053			
	Males – Number						
	Young – Number		200	2000			
Non-Indigenous people – Number		21417	110105				
Project Goal Sustainably increase smallholder producers' incomes and reduce poverty through commercialization of production within programme households	5 000 direct beneficiary HH in vegetable and dairy value chains report at least 25% increase in HH asset and income, as compared to baseline (disaggregated by HHS-head gender)				IFAD's Results and Impact Management System (RIMS) and baseline surveys		
	% of increase in HH asset and income - Percentage (%)		12	25			
	15% reduction in the prevalence of child malnutrition, as compared to baseline				Programme M&E		
% reduction child malnutrition - Percentage (%)	31.37		16.7				
Development Objective Increased returns to smallholder farmers through climate resilient production of crops and livestock in nationally organized value chains and marketing systems	30% increase in production of vegetables and dairy products				Baseline survey - Sector studies - Technical agencies' reports and studies Research and academic studies Programme M&E		
	% increase in production - Percentage (%)		25	30			
	20,000 HH in vulnerable areas with increased water availability for agriculture production				Baseline survey - Sector studies - Technical agencies' reports and studies Research and academic studies Programme M&E		
Households – Number		2276	20000				
Outcome Community-based Resilient Agricultural Production has sustainably increased	6 000 HH adopt sustainable agricultural practices				Programme M&E reports - Contracted studies - RIMS and benchmark - Scientific and conference papers		
	Households – Number		5636	6000			
Output Increased Production Resilience, Diversification and Innovation	23 000 (of which 50% are women) smallholder HH supported in coping with the effects of climate change with sustainable land management practices				Base line studies Programme progress report Line agencies' reports		
	Females – Number		1486	11500			
	Households – Number		3665	23000			

Output Vegetable Production Intensified and Expanded	300 new vegetable farmer groups (4 500 HH) established and functional; minimum 60% female members				Base line studies Programme progress report Line agencies' reports		
	No. of groups formed – Number		34	300			
Output Dairy Production Intensified and Expanded	150 Smallholder Dairy Farmer Groups (450 HH) established and functional, with minimum 50% female members				Base line studies Programme progress report Line agencies' reports		
	No. of groups formed – Number		21	150			
Outcome Increased smallholder income from Crop and Livestock Value Chains	70% of the agricultural enterprises established have a positive outlook on their profitability and sustainability				Programme M&E reports - RIMS and benchmark -Line agencies' reports - Sector studies and reports - Farmer satisfaction surveys		
	% of positive outlook on profitability - Percentage (%)		20	70			
Output Resilient Vegetable and Dairy Value Chains developed	65 geogs have developed climate resilient vegetable and dairy production, marketing, and infrastructure management plans				Programme progress report Sector reports and studies		
	No. of geogs – Number		30	65			
Output Agricultural Commercialization and Enterprise Development strengthened	200 agriculture enterprises (including cooperatives) established and strengthened as part of value chain development				Programme progress report - Sector reports and studies		
	No. of enterprises – Number		34	200			
Output Community-driven Strategic Market Infrastructure developed	Vegetable and dairy value chain processing and marketing infrastructure designed and constructed in 10 dzongkhags				Programme progress report - Sector reports and studies		
	No. of value chain processing and market infrastructure – Number		53				
Outcome Strengthened Agricultural Institutions and Policies for Improved and Resilient Agricultural and Marketing Practices	70% of VC stakeholders report the use of market information in investment decision-making 60% of VC stakeholders report satisfaction with the policy and regulatory framework as providing a fair distribution of incentives, costs, benefits, and risks				Programme M&E reports - Line agencies' - Department of Agriculture Marketing and Cooperatives (DAMC), FCBL and Business Opportunity and Information Centre (BOiC) reports - Sector studies and reports - Programme survey		
	% of stakeholders reporting use of market information - Percentage (%)	15	30	70			
Output Strengthened value chain and marketing knowledge and communication	Market Information System MoAF/DAMC providing relevant (real-time) information to farmers				Programme M&E reports Line agencies', DAMC, FCBL and BOiC reports Sector studies and reports		
	No of market information system – Number			1			
Output Climate change resilience and value chain development lessons mainstreamed in agricultural policies and sector strategies	Enhanced engineering norms for building climate resilient irrigation systems				Programme M&E reports Line agencies' reports Sector studies and reports Policy documents Regulatory framework document for private sector and PPP		
	No. of norms – Number			1			
	Vegetable and dairy development policies enhanced based on multi-stakeholder consultation processes and programme lessons (resilience, value chain and marketing)				Programme M&E reports Line agencies' reports Sector studies and reports Policy documents Regulatory framework document for private sector and PPP		
	No. of policies - Number			3			
Regulatory framework for private sector development and PPP in agriculture sector developed				Programme M&E reports Line agencies' reports Sector studies and reports Policy documents Regulatory framework document for private sector and PPP			
No. of framework – Number			1				

Updated summary of the economic and financial analysis incorporating additional financing

Table A
Financial cash flow models

Summarizes the most representative financial models including the cash flow for 10 years (in local currency) and profitability indicators (IRR, NPV, B/C).

A)		Net incremental benefits of Farm and Activity subproject models (amount in 000 BTN)							
FINANCIAL ANALYSIS		Cereals	Vegetables	Livestock					
	PY1	0	419	-27494.8	0	0	0	0	0
	PY2	58,670	- 23,292	- 55,566	-	-	-	-	-
	PY3	1,17,454	35,228	-23,233	0	0	0	0	0
	PY4	1,76,125	1,04,602	9,100	-	-	-	-	-
	PY5	2,26,823	1,80,598	41,433	0	0	0	0	0
	PY6	2,26,823	2,70,640	1,28,210	0	0	0	0	0
	PY7	2,26,823	2,67,172	1,31,263	0	0	0	0	0
	PY8	2,26,823	2,69,264	1,31,263	0	0	0	0	0
	PY9	2,26,823	2,69,264	1,06,963	0	0	0	0	0
	PY10	2,26,823	2,77,940	85,363	0	0	0	0	0
	PY11	2,26,823	2,57,213	97,279	0	0	0	0	0
	PY12	2,26,823	2,42,651	97,279	0	0	0	0	0
	PY13	2,26,823	2,26,111	1,21,579	0	0	0	0	0
	PY14	2,26,823	2,42,848	1,21,579	0	0	0	0	0
	PY15	2,26,823	2,70,475	1,31,263	0	0	0	0	0
	PY16	2,26,823	2,67,172	1,02,463	0	0	0	0	0
	PY17	2,26,823	2,69,264	1,02,463	0	0	0	0	0
	PY18	2,26,823	2,69,264	1,02,463	0	0	0	0	0
	PY19	2,26,823	2,69,264	1,02,463	0	0	0	0	0
PY20	2,26,823	2,69,264	1,02,463	0	0	0	0	0	
NPV (BTN, 000)	12,47,606	11,93,283	3,84,448	0	0	0	0	0	
NPV (USD 000)	17,822.9	17,046.9	5,492.1	0.0	0.0	0.0	0.0	0.0	
FIRR	#DIV/0!	279%	44%	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	

Table B

Programme costs and logframe targets

Provides information on total project costs (broken down by component) and beneficiaries (broken down by category). This table also includes logframe targets as per the EFA.

PROJECT COSTS AND INDICATORS FOR LOGFRAME						
TOTAL PROJECT COSTS (in million USD)		27.38	Base costs	25.38	PMU	1.92
Number of Beneficiaries	24,900 Households	Clusters	Lead farms	WUA	Coops	AI centres
		565	60	30	1,055	45
Cost per beneficiary (IFAD resources=16.54 million)	664 USD/ household		Outreach	24,900	Adoption rates	100%
Components	Cost USD M	Outcomes		Indicators		
Market-led agricultural production	18.97	# of producer groups linked to market		Increased access to market		
Value-chain development	5.55	# of producers participating in value-chain		Increased margins for producers		
Institutional support	0.94	significant policy proposals identified		Farmer-friendly policies proposed		
Project management	1.916	All project staff in place		Efficient management of the project		
<i>Total</i>	27.38					

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Table C

Main assumptions and shadow prices

Shows the basic assumptions on yields and process for the main inputs and outputs. The economic section shows shadow prices used in the conversion.

c)		MAIN ASSUMPTIONS & SHADOW PRICES ¹			
FINANCIAL	Output, production	Incremental value (%)	Price (in BTN)	Input prices	Price (NPR)
	Cereals	30%	Paddy 37/kg	Fertilizer, average, per kg	13/kg
	Maize	20%	Maize 25/kg	Pesticides, average, per lit	700/lit
	Vefetables	25%	Vegetables 25/kg	organic /manure	1/kg
	Potato	25%	Potato 21/kg	Rural wage rate, pers_ day	350/day
	Onion	20%	Milk 30/litre	Bullock pair	400/day
	Cabbage	25%	Quinoa 100/kg	Chicken	200/each
ECONOMIC	Official Exchange rate, Dec 2018	70		Discount rate (opportunity cost of capital)	10.0%
	Shadow Exchange rate	70		Long term bond rate in Bhutan	10.0%
	Standard Conversion Factor	1.00		Output conversion factor a/	0.85
	Labour Conversion factor	0.8		Input Conversion factor a/	0.83

¹ All prices expressed in BTN Currency.

a/ estimated from data generated using farmod

Table D
Beneficiary adoption rates and phasing

Shows the total number of project beneficiaries, subdivided into activities and phased following the inclusion pattern envisaged by the project and reflected in the EFA and COSTAB.

BENEFICIARIES, PHASING BY INTERVENTION AND ADOPTION RATES									Adoption rates
Project year	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	Total	
Interventions	<i>Project implementation period</i>								
# of Food crops households (adopting hh)	0	900	1,800	2,700	2,900	2,900	2,900	2,900	100%
# of Dryland agriculture households (adopting hh)	0	200	300	500	600	600	600	600	100%
# of Vegetable crops households (adopting hh)	100	600	1,600	3,100	3,600	3,600	3,600	3,600	100%
# of Cattle dairy households (adopting hh)	200	300	400	400	400	400	400	400	100%
# of Mushroom growing households (adopting hh)	0	1,000	2,000	3,000	4,000	4,000	4,000	4,000	100%
# of poultry households (adopting hh)	0	100	200	200	300	400	400	400	100%
# of Milk chilling plants (adopting hh, 100 hh/unit)	0	0	0	54	72	72	72	72	100%
# of Apiary households (adopting hh)	0	200	400	600	800	800	800	800	100%
# Electric fencing households (adopting hh)	0	1,250	2,500	3,750	5,000	5,000	5,000	5,000	100%
Total # of participating households	<u>300</u>	<u>4,550</u>	<u>9,200</u>	<u>19,650</u>	<u>24,800</u>	<u>24,900</u>	<u>24,900</u>	<u>24,900</u>	
Total # of adopting households	<u>300</u>	<u>4,550</u>	<u>9,200</u>	<u>19,650</u>	<u>24,800</u>	<u>24,900</u>	<u>24,900</u>	<u>24,900</u>	

100% adoption rate is deliberately kept as data on other interventions were incomplete

Table E Economic cash flow

Presents the overall project aggregation. Include the net incremental benefits of each financial model in economic terms, converted using shadow prices (table C) and multiplied by the number of beneficiaries (table D). Net incremental costs are to present all additional project costs. Last column indicates net cash flow to be used to calculate project profitability indicators such as NPV and economic IRR (EIRR).

E	NET INCREMENTAL BENEFITS (BTN million)								NET INCREMENTAL COSTS (BTN million)			Cash Flow (million BTN)	
	Project year	Cereal crops & oilseeds	Vegetables & mushrooms	Livestock dairy, poultry, apiary	Proxy labour				Total Incremental benefits a/	Economic investment Costs	Economic recurrent Costs		Total Incremental Costs
1	0.00	0.57	5.7	0.0	0.0	0.0	0.0	6.3	323.5	27.9	351.4	-345.1	
2	47.95	25.66	128.9	0.0	0.0	0.0	0.0	202.5	420.3	218.9	639.2	-436.7	
3	96.01	81.96	253.4	0.0	0.0	0.0	0.0	431.3	393.1	328.2	721.3	-289.9	
4	143.96	147.65	377.8	0.0	0.0	0.0	0.0	669.4	269.8	438.2	707.9	-38.5	
5	184.87	216.13	502.3	0.0	0.0	0.0	0.0	903.3	123.3	544.6	668.0	235.3	
6	184.87	252.76	506.7	0.0	0.0	0.0	0.0	944.3	14.3	444.1	458.5	485.8	
7	184.87	259.04	508.6	0.0	0.0	0.0	0.0	952.6	0.0	452.7	452.7	499.8	
8	184.87	260.72	508.6	0.0	0.0	0.0	0.0	954.2	0.0	452.7	452.7	501.5	
9	184.87	260.72	508.6	0.0	0.0	0.0	0.0	954.2	0.0	472.1	472.1	482.1	
10	184.87	251.70	508.6	0.0	0.0	0.0	0.0	945.2	0.0	480.7	480.7	464.6	
11	184.87	240.68	508.6	0.0	0.0	0.0	0.0	934.2	0.0	480.6	480.6	453.6	
12	184.87	228.07	508.6	0.0	0.0	0.0	0.0	921.6		481.3	481.3	440.3	
13	184.87	240.21	508.6	0.0	0.0	0.0	0.0	933.7		462.6	462.6	471.1	
14	184.87	252.76	508.6	0.0	0.0	0.0	0.0	946.3		461.2	461.2	485.1	
15	184.87	259.04	508.6	0.0	0.0	0.0	0.0	952.6		443.8	443.8	508.8	
16	184.87	260.72	508.6	0.0	0.0	0.0	0.0	954.2		475.7	475.7	478.5	
17	184.87	260.72	508.6	0.0	0.0	0.0	0.0	954.2		475.7	475.7	478.5	
18	184.87	260.72	508.6	0.0	0.0	0.0	0.0	954.2		475.7	475.7	478.5	
19	184.87	260.72	508.6	0.0	0.0	0.0	0.0	954.2		475.7	475.7	478.5	
20	184.87	260.72	508.6	0.0	0.0	0.0	0.0	954.2		475.7	475.7	478.5	
		NPV at 10% ('million)		1,495		Long term Bond rate applied as Discount rate							
		BCR		1.33				5,986				4,491	
		EIRR		24%									

Table F **Sensitivity analysis**

Demonstrates the sensitivity of project's profitability indicators to the risks identified in the project design document. For ease of reading, NPVs and EIRRs are colour coded. Sensitivity analysis should be used to identify critical values to be monitored during implementation (values in red).

F)				
SENSITIVITY ANALYSIS (SA)				
	Δ%	Link with the risk matrix	IRR	NPV 1/
Basecase scenario			24%	1,505
Project benefits	-10%		19%	904
Project costs	10%		19%	455
Project benefits	-10%		19%	455
2 years lag in benefits			16%	824
Project benefits	-20%	climate risks, frost, drought, floods, l etc	13%	305
Input prices	10%	lack of policy commitment	19%	1,054
1/ NPV is in million BTN discounted at 10%				