GEF-8 REQUEST FOR CEO ENDORSEMENT/APPROVAL

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General Project Information

Project Title Climate Resilience Enhancement for Building Adaptive Capacity in Agri-Value Chains in Cambodia (CREA)	
Region Cambodia	GEF Project ID 11051
Country(ies) Cambodia	Type of Project FSP
GEF Agency(ies): IFAD	GEF Agency Project ID 2000004367
Project Executing Entity(s) Ministry of Agriculture, Forestry and Fisheries (MAFF)	Project Executing Type Government
GEF Focal Area (s) Climate Change	Submission Date 12/1/2023
Type of Trust Fund LDCF	Project Duration (Months) 48
GEF Project Grant: (a) 4,860,000.00	GEF Project Non-Grant: (b) 0.00
Agency Fee(s) Grant: (c) 437,000.00	Agency Fee(s) Non-Grant (d) 0.00
Total GEF Financing: (a+b+c+d) 5,297,000.00	Total Co-financing 11,560,000.00
PPG Amount: (e) 150,000.00	PPG Agency Fee(s): (f) 14,250.00
Total GEF Resources: (a+b+c+d+e+f) 5,461,250.00	
Project Tags CBIT: No NGI: No SGP: No Innovation: No	
Project Sector (CCM Only) Climate Change Adaptation Sector	

Taxonomy

Focal Areas, Climate Change, Climate Change Mitigation, Technology Transfer, Renewable Energy, Climate Change Adaptation, Livelihoods, Private sector, Innovation, Climate finance, Adaptation Tech Transfer, Climate resilience, Influencing models, Strengthen institutional capacity and decision-making, Deploy innovative financial instruments, Demonstrate innovative approache, Stakeholders, Communications, Awareness Raising, Public Campaigns, Type of Engagement, Partnership, Private Sector, SMEs, Beneficiaries, Local Communities, Civil Society, Academia, Gender Equality, Gender results areas, Access to benefits and services, Gender Mainstreaming, Sex-disaggregated indicators, Capacity, Knowledge and Research, Targeted Research, Learning, Knowledge Generation, Knowledge Exchange

Rio Markers

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
Significant Objective 1	Significant Objective 1	No Contribution 0	No Contribution 0

Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. (max. 250 words, approximately 1/2 page)

The objective of the *Climate Resilience Enhancement for Building Adaptive Capacity in Agri-Value Chains in Cambodia (CREA)* project is to scale up climate resilient technologies (CRTs) and innovative finance solutions build the adaptive capacity of targeted agriculture value chains to withstand climate shocks (heatwaves, droughts and floods), improve farmers' livelihood, and food security in rural Cambodia. CREA builds on the achievements and learnings of the *Building Adaptive Capacity through the Scaling-Up of Renewable Energy Technologies in Rural Cambodia (S-RET),* financed by the Special Climate Change Fund for Technology Transfer (SCCF-B), and aims to leverage the momentum that has increased the market space for renewable energy (RE) and other CRTs. Climate change not only brings challenges to farm production but also exacerbates problems around processing and post-harvest activities i.e., drying, cooling, storage, freezing. By using suitable sets of CRT and services (CRT packages), including RE technologies, farmers can significantly build their adaptive capacity to with stand climate shocks, while improving their competitiveness, diversifying farm and food processing revenues, removing dependence on fossil fuels and reduce greenhouse gas (GHG) emissions, while at the same time building their adaptive capacity to withstand climate shocks. The project plans to engage more systematically smallholder farmers, agricultural cooperatives (ACs), producer organizations (POs), business clusters, CRT suppliers, extension services and partner financial institutions (PFIs); and support priority agricultural sub-sectors most vulnerable to climate change impacts in five provinces, namely: Battambang, Kampong Chhnang, Kampong Thom, Prey Veng and Takeo. The project is innovative as it will validate, for the first time in Cambodia, the potential of CRT packages in different local contexts, and deploy a set of complementary activities to support their roll-out and enhance climate resilience of farming systems: blended finance solutions in collaboration with PFIs, identification of new collective business models including digital components and targeted interventions to strengthen the enabling environment (policy dialogue, human resource development and frameworks of climate adaptation in Cambodia). The project is also transformative since it aims to scale up CRT solutions in the country, take the CRT suppliers and private sector to another level and unlock investment in climate adaptation of farming systems in the targeted value chains.

Project Description Overview

Project Objective

Adoption of climate resilient technologies (CRTs) and innovative finance solutions with adaptation benefits for smallholder farmers, AC/POs and agri-MSMEs

Project Components

Component 1: Promoting climate resilient technologies for building adaptive capacity in climate vulnerable agri-value chains

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing ($)	Co-financing ($)
1,382,800.00	1,600,000.00

Outcome:

Outcome 1: Enhanced market readiness for scaling up economically viable CRTs for agriculture production, processing and/or postharvest handling activities

Output:

Output 1.1: Business Acceleration program to improve investment readiness and capacity to scale operations of selected CRT providers

Output 1.2: Training and capacity building of PFI officers, AC/POs on CRT investment models

Output 1.3: CRT demonstration units installed in key locations for training youth and creating demand

Output 1.4: Outreach campaign promoting CRT benefits available for sale on existing digital agriculture marketplaces

Component 2: Unlocking sustainable microfinance products to support inclusive adoption of CRTs

Component Type	Trust Fund
Investment	LDCF
GEF Project Financing ($)	Co-financing ($)
2,470,600.00	8,110,915.00

Outcome:

Existing or innovative financial instruments enabled or introduced to enhance climate resilience in agriculture

Output:

Output 2.1: Blended finance models and associated procedures co-designed with PFIs

Output 2.2: Innovative financial instruments

Component 3: Strengthening institutional capacity building activities on climate resilient agriculture

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing ($)	Co-financing ($)
485,400.00	1,100,000.00

Outcome:

Institutional and human capacity to identify and implement CRTs with adaptation benefits

Output:

Output 3.1: Seminars, workshops, and study tours conducted to raise awareness of climate change impacts, vulnerability, and adaptation for relevant government staff at national and provincial levels

Output 3.2: Revised MAFF Climate Change Adaptation Toolkit

Output 3.3: Technical briefs on benefits of CRTs in target value chains developed

Output 3.4: On-farm research pilots for optimizing existing CRT solutions

M&E

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing ($)	Co-financing ($)
290,200.00	178,700.00

Outcome:

Project progress and results systematized to improve management, promote learning, and support upscaling of best practices

Output:

Mid-term and final evaluation carried out; project's progress monitored, documented and recommended actions formulated

Component Balances

Project Components	GEF Project Financing ($)	Co-financing ($)
Component 1: Promoting climate resilient technologies for building adaptive capacity in climate vulnerable agri-value chains	1,382,800.00	1,600,000.00
Component 2: Unlocking sustainable microfinance products to support inclusive adoption of CRTs	2,470,600.00	8,110,915.00

Component 3: Strengthening institutional capacity building activities on climate resilient agriculture	485,400.00	1,100,000.00
M&E	290,200.00	178,700.00
Subtotal	**4,629,000.00**	**10,989,615.00**
Project Management Cost	231,000.00	570,385.00
Total Project Cost ($)	**4,860,000.00**	**11,560,000.00**

Please provide Justification

PROJECT OUTLINE

A. PROJECT RATIONALE

Describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

Cambodia's population is estimated at 16.8 million in 2022, with 75% of the population residing in rural areas[1]. Located in Southeast Asia, Cambodia has experienced rapid economic growth over the past two decades, to which the agricultural sector has contributed significantly, accounting for 22.8% of GDP in 2021. Agriculture also plays a crucial role in reducing poverty in the country, employing 6.8 million people, or about 40% of the population according to the National Institute of Statistics (NIS).

The sustainability of the agricultural sector is threatened by climate change, to which Cambodia is highly vulnerable as evidenced by the country's 36th position in the 2020 ND-GAIN Index's vulnerability ranking[2]. By 2050, climate change is estimated to have a significant impact on Cambodia's Gross Domestic Product (GDP), with a projected decrease of almost 10%[3]. The main hazards threatening Cambodia are rising temperatures, heatwaves, droughts and floods, due to its low-lying tropical nature. They directly affect domestic supply chains, especially agricultural production where three out of four farmers are smallholders[4]. A further increase in the frequency and severity of extreme climatic events will exacerbate large-scale yield losses and production costs.

The Climate Resilience Enhancement for Building Adaptive Capacity in Agri-Value Chains in Cambodia (CREA) project targets the same commodities covered by the Agricultural Services Programme for an Inclusive Rural Economy and

Agricultural Trade (ASPIRE - AT[5][5]), namely cashews, vegetables, fruits, maize, pepper, and indigenous chickens, which are essential sources of income for farmers and their families, as well as contributing to the country's food security and export potential. The Climate Risk Assessments (CRAs)[6][6] undergone to inform the CREA design reveal that all commodities mentioned above, except processed fruits, are either at high or very high risk from climate change.

The Third National Communication reports by the National Council for Sustainable Development (NCSD) indicate a rise in mean annual temperature from 26.5°C in 1985 to 27.3°C in 2017, with an increase in temperature anomalies over the period. While the country already has some of the highest temperatures in the world, with an estimated national average of 64 days a year where the maximum temperature exceeds 35 degrees Celsius, temperatures are expected to rise further in the future. Climate projections indicate that the country is likely to experience warming of up to 1°C according to RCP4.5 (Figure 1) and more than 1.2°C according to RCP8.5 (Figure 2) by 2040 compared with the reference conditions observed during the period 1980-2005.

Maximum temperature increase in Cambodia under RCP4.5 for the period 2011-2040

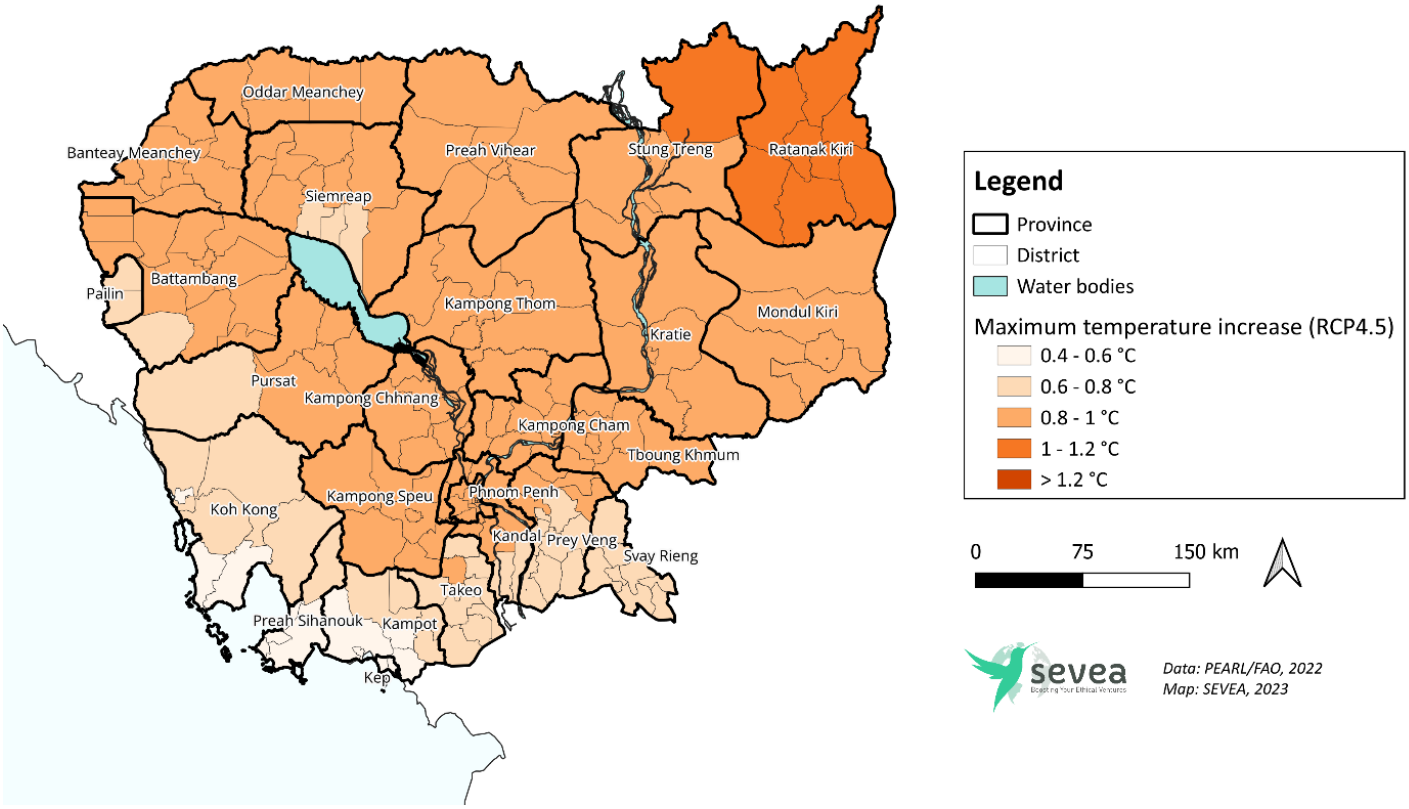


Figure 1: Maximum temperature increase forecast in Cambodia for the period 2011-2040 under RCP 4.5

Prolonged heatwaves pose a major threat to agriculture activities under both RCP4.5 and RCP8.5 scenarios. They already lead to a reduction in crop yields and overall agricultural output quality. Farmers report that the increased labour and treatment costs associated with managing hard heatwaves can already reduce profit margins by 15-20%. Additionally, rising temperatures have led to a rise in native chicken mortality by up to 20% in some farms in Takeo province these last years[7][7]. The occurrence of floods and droughts is also expected to increase in Cambodia, where a quarter of the population is already affected by extreme river flooding[8][8]. Although rainfall events are anticipated to occur less frequently, they are likely to be more intense, increasing the likelihood of prolonged periods of drought and intense flooding during heavy rainfall. Droughts can lead to crop failures and reduced yields, while floods can result in soil erosion, crop damage, and loss of livestock.

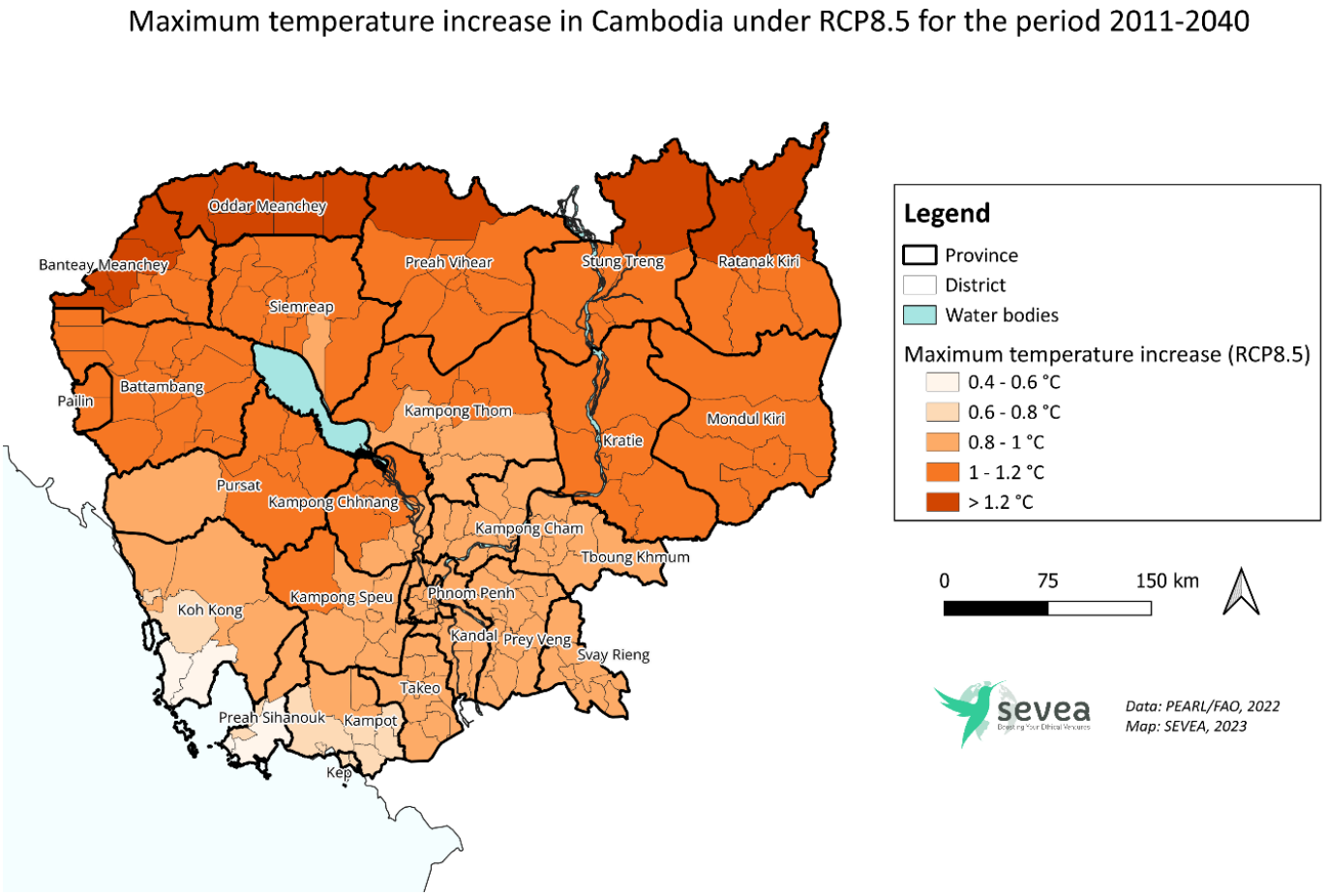


Figure 2: Maximum temperature increase forecast in Cambodia for the period 2011-2040 under RCP 8.5

Cambodia is still ill-prepared to face these climate change impacts: the country is ranked 164th in the 2020 ND-GAIN Index in terms of readiness[9], highlighting the need for an accelerated implementation of climate resilience measures. Climate change acts as a "multiplier" for socioeconomic vulnerabilities in Cambodia such as poverty, malnutrition, agricultural dependence, settlements in flood-prone areas, and poor public health. Taking all these factors into account, at least 563 communes (33.5%) of the 1,629 communes in Cambodia are considered highly or very highly vulnerable to climate change according to the NCSD[10]. The risks associated with an intensification of heatwaves and droughts are all the greater given the country's dependence on rain-fed agriculture, particularly vulnerable to droughts as crop farmers rarely have the water storage capacity to face prolonged dry seasons. There are a total of 2,544 irrigation schemes built to date, of which 47 are classified as large-scale (>5,000 ha command area), 1,243 medium-scale (200-5,000 ha command area), and 1,254 small-scale (<200 ha command area) [11].

These schemes are only serving some 1 million ha of cultivated area out of the total 4 million ha which are used for seasonal crops. Without year-round irrigation, crop intensification objectives cannot be met.

Water management issues will thus be worsened by increasingly unpredictable rainfall patterns, underground water salinization and seawater intrusion in coastal areas. Animal and fish raising will also be impacted by climate change, mostly due to water scarcity in dry seasons, but more so as a result of heat stress and the wider spread of vector-borne diseases among livestock. Finally, climate change will impact agricultural logistics and storage, but also because rising temperatures and humidity will further pressure food safety and quality management practices. Out of the 1.7 million farm households, 75% are smallholder farmers with holdings typically around one to two hectares. Their low mechanization level undermines their ability to compete with neighbouring countries such as Vietnam and Thailand. Imports from these countries drive down prices on the domestic market and further reduce local farmers' ability to increase production. In addition, Cambodia is dependent on foreign players down- and upstream of the value chain, as the country lacks strong domestic inputs for production and processing industries. Currently only around 10% of all Cambodian agricultural produce is processed in-country[12][12]. Consequently, Cambodia imported agricultural goods at a net loss of USD 1.26 billion in 2018[13][13].

To address these challenges, the Royal Government of Cambodia (RGC) and its development partners have increasingly incorporated climate adaptation measures into agricultural policies and programs. The 2022-2030 Agricultural Development Policy (ADP) aims to enhance agricultural growth by improving productivity, commercialization, diversification, and digitalization. The policy sets ambitious objectives for agricultural value chains, including annual growth targets of 3.1% for crop production and 2.7% for livestock. It also aims to increase processed food exports to 15% of total exports by 2030. To strengthen the sector's climate resilience and be able to reach these targets, the policy emphasizes sustainable management of land, water, forestry, and fishery resources. The adoption of climate-resilient technologies (CRTs) is also identified as a key lever, contributing to post-pandemic economic recovery objectives (2021-2023).

During the preparation of CREA, specific adaptive options were assessed for their suitability in the Cambodian context. Under both RCP4.5 and RCP8.5 scenarios, they are capable of addressing prolonged heatwaves, droughts, change in rainfall patterns, and floods. These options comprise several CRTs with commercial potential that offer short-term climate adaptation benefits. They can be combined with extension services for sustained, long-term change. In terms of crops, adaptive options include improving irrigation systems and water harvesting (solar water pumps, tanks), enabling a more efficient use of water consumption (smart irrigation systems, net houses, hydroponics), or reducing losses and/or reducing costs (upgraded pipes, drip systems). Other solutions relate to farming techniques, aiming to reduce impacts on ecosystems (use of organic fertilizers), climate forecast information for improving cropping strategies, or pest and disease control (early warning systems, digital applications for decision-making). For native chickens, they include supporting water management solutions and non-climate sensitive fodder sources (collective solar grinder to produce local feed) or solar cooling systems[14][14]. By adopting these CRTs, farmers can directly prevent or minimize the adverse effects of extreme climate events.

This will improve their incomes and competitiveness to overcome climate and economic shocks as well as reduce their dependence on fossil fuels and minimize greenhouse gas (GHG) emissions.

Baseline Scenario. Development programs show that most farmers are willing to adopt these CRTs, as long as they can help them to better deal with climate change related effects and result in improved livelihood and incomes. In a context where vulnerability of water resources to climate change is increasing, it is estimated that in the Tonle Sap area alone, there is a direct reachable market for solar water pumps of over 12,000 farmers who would benefit and would be eager to switch to solar, for a total market of USD 31.9 million[15][15]. However, despite its huge adaptative and commercial potential, the development of CRTs in the agricultural sector faces significant challenges both on the demand and supply sides that CREA offers to tackle.

During field trips, interviews found that global awareness of CRTs has increased, due mostly to public authorities and development partners. In spite of this progress, CRT still needs to be demonstrated as beneficial to farmers and other stakeholders. Further, the farmer ecosystem lacks capacity-building and human resources, including extension services, agri-businesses, agricultural cooperatives (AC) and producer organizations (POs). Through CREA, AC/POs, farmers, extension services, policy makers, and local financial institutions will be built up to address these challenges. Various awareness-raising campaigns will be conducted using digital technologies, as well as capacity-building programs. The effectiveness of CRT will also be demonstrated through participatory applied research (PAR) projects.

Interviews with farmers suggest that they are willing to invest in CRTs, but many are unable to afford them due to their upfront costs. In addition, loans for CRTs are still viewed as a risky investment given the high up-front costs. For example, a 250m^2 net house with a drip system can cost about USD 3,500, whereas solar water pumps are considerably more expensive than those powered by diesel or electricity, even though the payback period can be less than two years. In most cases, farmers do not have the financial resources to acquire these technologies and must rely on outside funding to acquire these technologies. A majority of the loan products currently available on the market are unsuitable for smallholder farmers and AC/POs due to their high interest rates and the requirement to pledge immovable assets as collateral. More than half of farmers still lack access to finance[16][16] and the current scenario for CRT acquisition heavily relies on limited grant funding provided by development partners. For a large-scale market to emerge, more affordable commercial loan options are needed. CREA seeks to address this challenge through the development of blended finance mechanisms with selected partner financial institutions (PFIs).

Support for PFIs will be focused on both developing their portfolio in order to finance climate adaptation of agriculture and ensuring the sustainability of these developments. According to consultations conducted during the detailed design process, while PFIs are willing to contribute more to the financing of CRTs, they are not well versed in climate adaptation challenges, agricultural market information and a clear understanding of climate adaptation

and related solutions. Project support will be directed towards loan officers and local branches to help them better understand farmers' profiles and investment plans for climate adaptation.

In a business-as-usual scenario, both smallholder farmers and more commercial actors such as (semi-) commercial and agribusinesses will not be able to afford CRT packages, primarily due to their high upfront costs. Their borrowing capacity will be limited as financial institutions active in agriculture (mostly MFIs, ARDB, Acleda) will continue to assess their profile as highly risky – either because their incomes are dependent upon activities increasingly vulnerable to climate change and dependent on climate sensitive factors (water, soil, etc.), or as a result of existing debt/lack of collateral, or due to an insufficient understanding of their risk profiles. In the event that they eventually take out a direct loan in order to acquire CRT or CRT packages, they may find it difficult to pay them back, if their financial solvability is overestimated and/or if any unexpected event occurs, preventing them from repaying it (e.g. floods that cause production losses, medical problems, etc.). As a result of the quasi-absence of safeguards such as guarantee mechanisms and insurance schemes, initiatives initially intended to enhance resilience, farmers would add an additional layer of financial vulnerability to the existing climate vulnerability through the acquisition of CRT, creating a vicious cycle which has recently been documented[17][17].

In parallel, other financing options will likely remain limited due to the poor development of alternative mechanisms to direct lending to acquire CRT packages, such as leasing, wholesale lending, PAYGO, fee-for-service, contract farming, etc. and the limited collaborations between CRT suppliers, financial institutions/fintechs and agriculture organizations (AC, PO, business clusters, extension services). Ultimately, CRT will be largely restricted to strong (semi-) commercial farmers and agri-businesses.

Although programs like the IFAD/GEF S-RET[18][18], the EU-funded Switch-to-Solar or GIZ's CRAS[19][19] project have contributed to the development of an emerging network of CRT providers, the majority of them remain micro, small, and medium-sized enterprises (MSMEs) with relatively small sales. According to a representative of a local financial institution, many of these businesses are family-run and have a limited capacity to absorb additional projects and capital. For instance, less than 10 companies in the country provide solar water pumps and poses considerable expertise. In addition to weak financial management, corporate governance, limited turnover, and low profitability, these factors impede companies' access to commercial debt or equity financing, which in turn restricts their ability to structure their operations and grow their sales.

Through technical guidance, training, and investment-readiness support, CREA will assist CRT providers in scaling up their activities. In order to maximize the project's impact, a targeted approach will be used to provide the most effective support. According to consultations with provincial, district, and commune officials, climate change impacts farming at the production level the most. Additionally, interviews with stakeholders involved in processing

and post-harvest activities indicate that supply instability limits aggregation and value addition. Since several crops/livestock supported by CREA's baseline project are at high or very high risk of climate change, as indicated by Climate Risk Assessments (CRAs), CREA will assist farmers in enhancing their resilience and maximizing the benefits from post-harvest activities and the entire value chain.

Situational analysis of targeted value chains:

-

Cashew: The Cambodian government has set its sights on positioning the country as a global leader in cashew production. There were approximately 143 thousand cashew holdings in the country in 2018, covering 219 thousand hectares of land for approximately 108 thousand tonnes produced[20][20]. Production is mainly concentrated in Kampong Thom province, with a majority of smallholders operating orchards averaging 1 to 2 hectares[21][21]. Challenges must be addressed to fully realize Cambodia's potential in this sector. Only 6% of holdings reported using irrigation. The decline in market prices and the increasing cost of production have compelled many smallholder farmers to replace cashew nut trees with other crops such as cassava, resulting in a reduction in agri-land production[22][22]. Cashew production in Cambodia has the reputation of being of poor quality. The sector is mostly informal and the lack of processing factories within the country has led to the majority of the production being exported to Vietnam for processing. This arrangement results in a significant portion of the value added being captured by other countries. The sector is poorly organized, with a long and inefficient value chain with a lot of different collectors[23]. To strengthen Cambodia’s capacity to grow quality product, process, store export cashew nuts, this requires capacity building efforts to improve production methods, investments in processing facilities, and the establishment of storage infrastructure to facilitate the export of cashew nuts

Vegetables: Cambodian vegetable production is diverse, with snake gourds, water convolvulus, pumpkin, cucumber, squash, eggplant, and chili accounting for 76% of total holdings1. Although, with 41,000 hectares under production, they account for just 1.3% of the total cultivated area. The NIS reports a total of 217,000 vegetable holdings in Cambodia in 2018. The bulk of for-profit production is concentrated in provinces around the Tonle Sap area. Vegetable production in Cambodia is characterized by seasonal fluctuations and an inadequate domestic supply to meet the country’s demand. According to the Ministry of Agriculture, Forestry, and Fisheries (MAFF), production climbed to 716,113 tonnes in 2020, but Cambodia still imported 329,612 tonnes that year. Limited irrigation system availability restricts production capacity and exacerbates seasonality. Additionally, high fertilizer usage (200-300kg per ha) raises concerns about environmental impact and sustainable practices in vegetable cultivation[23][23]. These challenges can be mitigated through capacity-building efforts that focus on the implementation of efficient water technologies. By improving water management practices, farmers can better cope with water shortages and increase the overall resilience of their vegetable farms. There is a need to minimize post-harvest losses and ensure the availability of high-quality produce in the market. Distribution and storage of vegetables can be improved through the use of technologies such as cold storage facilities. By addressing these value chain issues, the vegetable sector can improve its productivity, profitability and overall sustainability.

Fresh fruits: Fruit production in Cambodia has been growing steadily in recent years, with mangoes, bananas, pineapples, durian, rambutan, longan and coconut being the most cultivated commodities. According to MAFF, the total area of fruit cultivation in Cambodia was around 152,000 hectares in 2020. Mangoes is the first commodity cultivated with almost 125,000 hectares[24][24]. The role of the contractors is important in mangoes value chain, as they are involved in the management of different production steps, as well as in the collection and trading. A few companies process and export mango, such as Misota Food Cambodia, based in Battambang. For banana, Stakeholders involved in the value chain are farmers, workers, and input suppliers for the production process. Collectors, transporters, traders, retailers, etc. are involved for the collection and the trade. In general, fruits are mainly produced by smallholders in the provinces of Kampot and Battambang. The sector faces several challenges, including a lack of infrastructure such as irrigation systems and a lack of modern farming techniques and equipment. The negative effects on yield and product quality are exacerbated by the effects of climate change.

Native chickens: Chicken is one of Cambodia's main production sub-sectors, with 23.6 million natural chicken heads in 20191. The chickens are raised for meat and eggs and often seen as a complementary activity or a means for ensuring food security, meeting local consumption demands, with little to no export activity. Local breed chick producers consistently sell their chicks throughout the year, with higher production levels during specific holidays. A few agribusinesses, such as CP or 3ple Farm, are present in the country and purchase the production of smallholder farmers to process, package and sell it locally. Farmers generally use traditional practices and lack suitable infrastructure and equipment for rearing chickens, which can result in poor growth rates, low egg production and higher mortality rates among chickens. This can have a negative impact on farmers' incomes and limit the availability of quality chicken products on the market. These effects are exacerbated by the increasing occurrence of climatic events in the country such as heatwaves, droughts, and floods. Apart from infrastructures and systems that reduce the risk of the value chain commodities, creating facilities that increases the value of the produced commodities also help to increase the adaptive capacity of producers.

Maize: Maize is the fourth most produced commodity in Cambodia after rice, cassava, and sugar cane. Cambodia harvested 185,500 hectares of corn in 2019[25][25]. The same year, Cambodia exported $1.69M in maize, the main destinations being Thailand, Taiwan, Vietnam, South Korea, and Bangladesh[26][26]. The majority of maize exports are conducted informally, with products being sold directly to collectors who then transport them to Vietnam (about 80% of exports), while the remaining 20% is processed in local factories[28]. It also should be noted that many small farmers in Cambodia are starting to grow more maize to sell to the animal feed industry. Despite its major importance to the Cambodian economy, the sector suffers from development challenges such as high price fluctuations on the market, a lack of technical knowledge in the field of post-harvest management and limited irrigation facilities, which pose problems with regard to the risks associated with climate change and hamper its growth.

Pepper: Pepper is one of Cambodia’s main crop exports. Cambodia produced approximately 30 thousand metric tons of pepper in 2019[27][27]. The commodity is grown throughout Cambodia, with the provinces of Ratanakiri, Mondulkiri, and Tboung Khmum allocating the most hectares to this crop. Kampot pepper is recognized as a high-quality product with a protected geographical indication (PGI) status since 2010. The commodity also faces some challenges that threaten its sustainability and growth. The Cambodian pepper industry heavily depends on the

markets of Vietnam and Thailand[28][28], to which a significant portion of the local production is exported to be processed and packaged[30]. Despite the emergence of a few local companies / brands these last years, such as Sela Pepper or La Plantation [31].The sector is highly fragmented, with many small-scale farmers operating independently. Challenges also include a lack of infrastructure, as well as changing weather conditions and extreme events such as droughts and floods, which can affect the growth and harvesting of pepper plants. Climate change may also alter the soil composition and salinity levels, which are crucial for Kampot pepper's unique flavor.

Targeting approach. Initially, activities aimed at creating demand for CRTs will be implemented in five provinces: Battambang, Kampong Chhnang, Kampong Thom, Prey Veng and Takeo. This group of provinces has been validated by the climate risk assessments as having a high risk to climate change. In both the RCP4.5 and RCP8.5 scenarios, they will experience significant temperatures increases by the year 2040. As confirmed by interviews with local authorities, POs, and smallholder farmers in June 2023, farmers in several districts in these provinces are already heavily affected by heatwaves, droughts, and changes in rainfall patterns.

CREA's efforts to promote the use of CRTs in Cambodia's agricultural sector will complement other ongoing or upcoming projects in the country, in particular, the baseline project ASPIRE-AT. Through ASPIRE-AT, CREA will work with AC/POs and farmers. As a result, CRTs have an unprecedented opportunity to grow their market since their penetration can be paired with other aspects surrounding farm sustainability that are supported by ASPIRE-AT, including lack of mechanisation, inadequate infrastructure and standardised practices, limited local market opportunities, and frequent price fluctuations. As a result, both projects will greatly contribute to strengthening the agricultural sector's resilience.

[1] World Bank database, 2022. Available online: https://data.worldbank.org/country/cambodia?view=chart

[2] University of Notre-Dame, 2020.

[3] World Bank, ADB (2021) *Climate Change Country Profile: Cambodia.* Available online: https://climateknowledgeportal.worldbank.org/sites/default/files/2021-08/15849-WB_Cambodia%20Country%20Profile-WEB.pdf

[4] World Bank database, 2022.

[5] The total project cost of ASPIRE-AT amounts to USD 194.0 million over a seven-year implementation period (2023-2030) and targets 100,000 smallholder farm households nationwide.

[6] The Climate Risk Assessment (CRA) report has been uploaded to the GEF project portal.

[7] Field trip interviews with farmers, CREA, June 2023.

[8] *Climate Change Country Profile: Cambodia,* WB, ADB, 2021.

[9] University of Notre-Dame, 2020.

[10] Cambodia's Third National Communication, NCSD, 2022.

[11] Ministry of Water Resources and Meteorology, 2022.

[12] Cambodia agriculture, natural resources, and rural development sector assessment, strategy, and road map, ADB, 2021

[13] Cambodia's Agri-Food Trade: Structure, New Emerging Potentials, Challenges, and Impacts of COVID-19, Sok, Yang & Houn, 2021.

[14] See Section 4 of the CRA Report for a full table on CRT options prioritized by the project.

[15] Market estimates from the Switch-to-Solar Program, 2022.

[16] JICA (2022) Improving Access to Finance for the Agriculture Sector

[17] Microfinance, over-indebtedness and climate adaptation, new evidences from rural Cambodia, Royal Holloway, University of London, 2022.

[18] Building Adaptive Capacity through the Scaling-up of Renewable Energy Technologies in Rural Cambodia (S-RET).

[19] Strengthening the climate resilience of agriculture in Cambodia and Viet Nam (CRAS).

[20] *Cambodia Inter-Censal Agriculture Survey 2019 (CIAS19),* NIS, 2019. However, recent data from the Cashew Federation suggest this amount has increased as of 2022, with production area for cashew estimated at about 500,000 ha and production levels amounting to approximately 1 million tons annually.

[21] *Detailed Economic and Financial Analysis*, ADB, 2020.

[22] Field interview with CAC, June 2023.

[23] IFPRI (2014) The Fertilizer Industry in Cambodia: Market, Challenges and the Way Forward.

[24] EuroCham (2022) Sourcing from Cambodia.

[25] CEIC (2023) Cambodia Harvested Area: Corn.

[26] OEC (2023) Maize in Cambodia.

[27] Statista (2023) Pepper production in Cambodia from 2011 to 2019.

[28] Mr. Pisith SOK, '*An Analysis of Pepper (Piper Nigrum) Value Chains in Cambodia*', North American Academic Research, Vol. 4, Issue 1, pp. 107-127, January 2021

B. PROJECT DESCRIPTION

This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the guidance document. (Approximately 3-5 pages) see guidance here

DESCRIBE CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN WITH THE ORIGINAL PIF

As a result of recommendations from STAP, several changes have been made to the project design from what was provided in the PIF, particularly in terms of identifying multiple plausible futures and examining how proposed climate adaptation interventions will work in these futures. The detailed design now considers that a menu of options can be used in combination with other services to strengthen the resilience of agricultural systems and cope with climate change effectively. Additionally, in preparation for the design mission, several consultations were conducted with key stakeholders, such as MAFF departments, farmers and farmer organizations, and other relevant actors.

Climate Risk Assessments (CRAs) were prepared to provide insight into current agricultural practices, climate change challenges, adaptation strategies, and appropriate interventions for CREA within the value chains covered by ASPIRE-AT. In support of the project preparation between April and June 2023, a significant amount of additional detail was generated from the CRAs as well as the field mission that led to a more detailed design of the project. The results framework also shows an adjustment to the project's target contribution to GEF 8 indicators under the LDCF window. The Theory of Change (ToC) has likewise been aligned with the revised project outcomes and outputs including the assumptions under the baseline project (ASPIRE-AT). It is also important to note that the project design team conducted the entire design mission with the participation of representatives from MAFF and the ASPIRE-AT project team to ensure coordination and synergy in the development of project activities. The following is a comprehensive description of the project.

The Climate Resilience Enhancement for Building Adaptive Capacity in Agri-Value Chains in Cambodia (CREA) project aims to scale up climate resilient technologies (CRTs) and innovative financing solutions to support agriculture, farmers' livelihoods, and food security in rural Cambodia.

The purpose of this project is to improve farming systems to be able to respond to climate change related effects, thereby benefiting the entire value chain, including production, processing, and post-harvest activities. In addition to improving their competitiveness and diversifying farm and food processing revenues, smallholder farmers can benefit from the use of appropriate sets of CRTs and services, including renewable technologies, while simultaneously improving their adaptation to climate shocks and reducing their dependence on fossil fuels and greenhouse gas (GHG) emissions. A market-based approach will be utilized to facilitate the diffusion of CRTs in collaboration with smallholder farmers, CRT providers, extension services, partner financial institutions (PFIs), and agricultural micro, small and medium-sized enterprises (agri-MSMEs).

CREA will be implemented through a two-tiered approach. At the national level, climate resilient agriculture will be built into government agencies' capacity, and campaigns will be conducted to raise awareness about CRT benefits. Secondly, CRTs will be validated in the field and adopted at large scale at the local level through blended finance mechanisms. The following five provinces will be prioritized: Kampong Chhnang, Kampong Thom, Prey Veng, Takeo and Battambang. These provinces are situated in two of Cambodia's agroecological zones, the Tonle Sap and Mekong plains. There are several districts where the project intends to focus its activities which present a high level of climate risk and a high market potential for adaptation solutions.

The target provinces were chosen based on their exposure to climate risks and the potential for impact through CREA. Especially in the district of Rolea Bier (Kampong Chhnang) is exposed to floods and rising temperatures and has business clusters of chicken and vegetables. The province of Kampong Thom is categorized as highly vulnerable to floods and droughts, and specific districts such as Kampong Svay, Sandan, and Stoung are considered highly exposed

to floods. These districts also have a high density of business clusters for several targeted value chains, including chicken and vegetables in Stoung, chicken in Kampong Svay, and cashew in Sandan. Prey Veng has a disparity in terms of exposure, but overall exposure is high to floods and rising temperatures. Districts located near the Mekong, such as Peam Chor, are the most vulnerable to floods in this province, and there are business clusters of vegetable production in this district. Finally, Angkor Borei and Borei Cholsar in Takeo are exposed to droughts and have important business clusters of chicken and vegetables. There is also a small production of pepper in the province.

CREA's approach will ensure integration with ASPIRE-AT, the baseline project, and facilitate long-term linkages with the GCF funded IFAD project: Climate Adaptive Irrigation and Sustainable Agriculture for Resilience (CAISAR)[1][29].

CREA will follow ASPIRE-AT's targeting approach which is based on a cluster approach and based on the areas where bulk production of target commodities is located. Therefore, geographic targeting is based on clusters, not on provinces. Smallholder farmers who belong to agricultural cooperatives (ACs) or producer organizations (POs)[2][30] are the primary target group. As part of ASPIRE-AT's validation process of these AC/POs, the POs will be referred to as 'graduated PO status and include agricultural cooperatives.

Among the 1200 Agricultural Cooperatives currently registered nationwide, women represent 63% of the total number of members. In business clusters (informal producers organisations supported by the ASPIRE programme), women represent around 40% of the members. A recent assessment of around 2,000 business clusters showed that gender parity in decision-making positions is almost achieved with 40% of administrative positions occupied by women. In most cases, however, women are assigned the role of cashier (46%) while they are much less likely to be in deputy and leader positions (31% and 23% respectively)[3][31]. The same pattern is also valid across the 1200 Agricultural Cooperatives registered nationwide: there are around 40% of women in cooperative management committees.

The graduated PO has: (i) at least 150 members who are smallholder farmers; (ii) engaged in at least one of the target value chains of ASPIRE-AT; (iii) has held an election for the governing Board within the last 3 years, with at least 40% of eligible members voting; (iv) at least 40% of the members of the governing Board and senior leadership positions are women; (v) has at least one administrative staff member who receives a salary; (vi) keeps complete annual accounts showing receipts, expenditures, cash position and assets on a cash basis; and (vii) has a formal partnership agreement with one or more private sector buyers.

CREA will target a total of 10,000 households (of which 1,500 women headed households). In order to achieve the targeting objective of 40,000 beneficiaries, the project will focus on 228 graduated POs. The project will initially support activities through an initial market push in the five target provinces through a target of 45 AC/POs which is equivalent to 10% of total number of AC/POs in the five provinces. The project will adopt a phased approach and gradually scale up its interventions nationwide (as the project cannot geographically confine the loan mechanism of PFIs and the CRT market in these provinces alone as that would hamper the overarching approach to reach transformational change and impact at scale).

	TOTAL	Kampong Thom	Kampong Chhnang	Battambang	Prey Veng	Takeo
GENERAL AGRICULTURAL PROFILE						
Total nb of holdings with agriculture activity	585.000	119.000	81.000	104.000	139.000	142.000
Total nb of holdings raising poultry	368.000	82.000	51.000	31.000	109.000	95.000
Total nb of ACs	425	62	48	87	136	92
ACs rated as good	29	7	5	7	3	7
ACs rated as medium	399	71	41	71	131	85
ACs lead by women	64	5	13	15	21	10
Total members	65.896	8.189	10.149	25.874	12.658	9.026
Average number of members per AC	155	132	211	297	93	98
% of women		72%	73%	60%	63%	50%
Total Ha in selected value chains	224.942	57.268	5.973	148.333	6.171	7.198
ASPIRE AT						
ASPIRE AT Y1 TOTAL AC	14	3	0	4	3	4
#Households	2.753	507	0	806	732	708
ASPIRE AT Y1 TOTAL BC	48	6	0	9	22	11
#Households	7.100	900	0	1.250	3.300	1.650
ASPIRE AT Y1 TOTAL Org	62	9	0	13	25	15
ASPIRE AT Y1 TOTAL HH	9.853	1.407	0	2.056	4.032	2.358
MAIZE						
Total #Holdings	24.000	3.000	2.000	16.000	1.000	2.000
Total #Ha	54.292	363	1.209	49.450	2.637	634
ASPIRE-AT Y1 Existing AC	0		0	0		
#Households	0		0	0		
ASPIRE-AT BC Y1 to form new AC	2		0	1	1	
#Households	300		0	150	150	
PEPPER						
Total #Holdings	2.000	-	-	2.000	-	-
Total #Ha	657	319	0	301	0	37
ASPIRE-AT Y1 Existing AC	0					
#Households	0					
ASPIRE-AT BC Y1 to form new AC	0					
#Households	0					
VEGETABLES						
Total #Holdings	61.000	17.000	10.000	7.000	18.000	9.000
Total #Ha	63.814	354	1.250	60.474	1.273	463
ASPIRE-AT Y1 Existing AC	6		0	2	2	2
#Households	1.226		0	345	538	343
ASPIRE-AT BC Y1 to form new AC	15		0	4	5	6
#Households	2.250		0	600	750	900
CASHEW NUTS						
Total #Holdings	30.000	24.000	4.000	1.000	1.000	0
Total #Ha	70.018	52.782	912	14.311	136	1.877
ASPIRE-AT Y1 Existing AC	2	2	0			
#Households	307	307	0			
ASPIRE-AT BC Y1 to form new AC	1	1	0			
#Households	150	150	0			
FRUITS						
Total # (mango)	95.000	9.000	27.000	15.000	28.000	16.000
Total #Ha (fruits)	36.161	3.450	2.602	23.797	2.125	4.187
ASPIRE-AT Y1 Existing AC (Longan)	0		0	0		
#Households	0		0	0		
ASPIRE-AT BC Y1 to form new AC (longan)	1		0	1		
#Households	50		0	50		
NATIVE CHICKEN						
#Holdings (poultry)	368.000	82.000	51.000	31.000	109.000	95.000
#Chicken	7.930.577	1.467.014	1.134.093	1.186.605	1.964.345	2.178.520
ASPIRE-AT Y1 Existing AC	6	1	0	2	1	2
#Households	1.220	200	0	461	194	365
ASPIRE-AT BC Y1 to form new AC	31	5	0	4	17	5
#Households	4.650	750	0	600	2.550	750

Table 1: AC/POs in target provinces undergoing process of validation by ASPIRE-AT in CREA target provinces

The above table highlights the current presence of AC/POs identified in CREA target provinces which are in the process of being validated through ASPIRE-AT. Year 1 will be concentrated in these provinces and linkages with the baseline project will ensure that as demand growth the institutional structures at provincial level accompany this process of scaling up and expanding the geographic scope of the CRT market.

As Lead Executing Agency, the Ministry of Agriculture, Forestry and Fisheries (MAFF) will be responsible for providing overall coordination. It is anticipated that capacity building activities, training, and the development of knowledge management products to address climate change-related effects in agriculture will be conducted in collaboration with the Ministry of Environment (MoE), the Ministry of Water Resources and Meteorology (MoWRAM), the National Committee for Sub-National Democratic Development Secretariat (NCDD-S), as well as with the Ministry of Women Affairs (MoWA).

The Theory of Change (ToC) presented on page 17 represents the intervention logic of the CREA project. The process of finalizing the program theory followed the recommendations established by GEF STAP[4]32. Therefore, ToC development went through two design stages: the initial design (PIF) stage, followed by refinement and updating, resulting from the design team's field visit to Cambodia. In June 2023, the CREA design team met with potential project implementing partners, including AC/POs, the ASPIRE-AT project team, CRT providers, microfinance institutions, and related UN agencies. These stakeholder engagements enabled the design team to comprehend the situational context better and to develop a more robust program theory. Following these conversations, the design team held two half-day facilitated workshops to test the initial program logic and refine existing strategies based on the stakeholder and partner feedback collected during the field trip. As a result, project ToC has been updated to ensure stakeholder acceptance, as well as to promote project team and partner ownership of project goals.

As a reflection of these efforts, the outcomes, representing the effects of CREA's project outputs, are illustrated in green boxes in the TOC below. The outputs (yellow boxes) represent the planned results of the CREA project activities that will be achieved by the end of the project. The assumptions throughout the diagram (orange) represent a number of empirically supported hypotheses identified during the project identification stage and further refined as a result of the project design. Starting from the bottom of the diagram (red box), the TOC introduces the climate vulnerability context of the project's key target provinces. CREA project seeks to address some of the issues exposing domestic and export-oriented value chains to high risks of climate shocks outlined in the Climate Risk Assessment report:

1. **Water stress, pests and diseases: These risks significantly affect cashew production due to limited access to water reservoirs, drip irrigation systems, weather forecasting systems, and agroecological practices like mulching.**

2. **Reliance on traditional techniques and manual labor: Vegetable production in target provinces is particularly vulnerable due to these factors, coupled with limited adoption of good agricultural practices and climate-smart agriculture techniques. The affordability of solutions like irrigation systems and weather forecasting remains challenging for smallholder farmers.**

3. **Rising temperatures, heatwaves, drought, and floods: Fresh fruit production faces high climate risks due to these factors, exacerbated by a lack of water management and adaptation practices against climate change. Similarly, native chicken farms are highly vulnerable to rising temperatures and heat waves, with moderate adaptive capacity.**

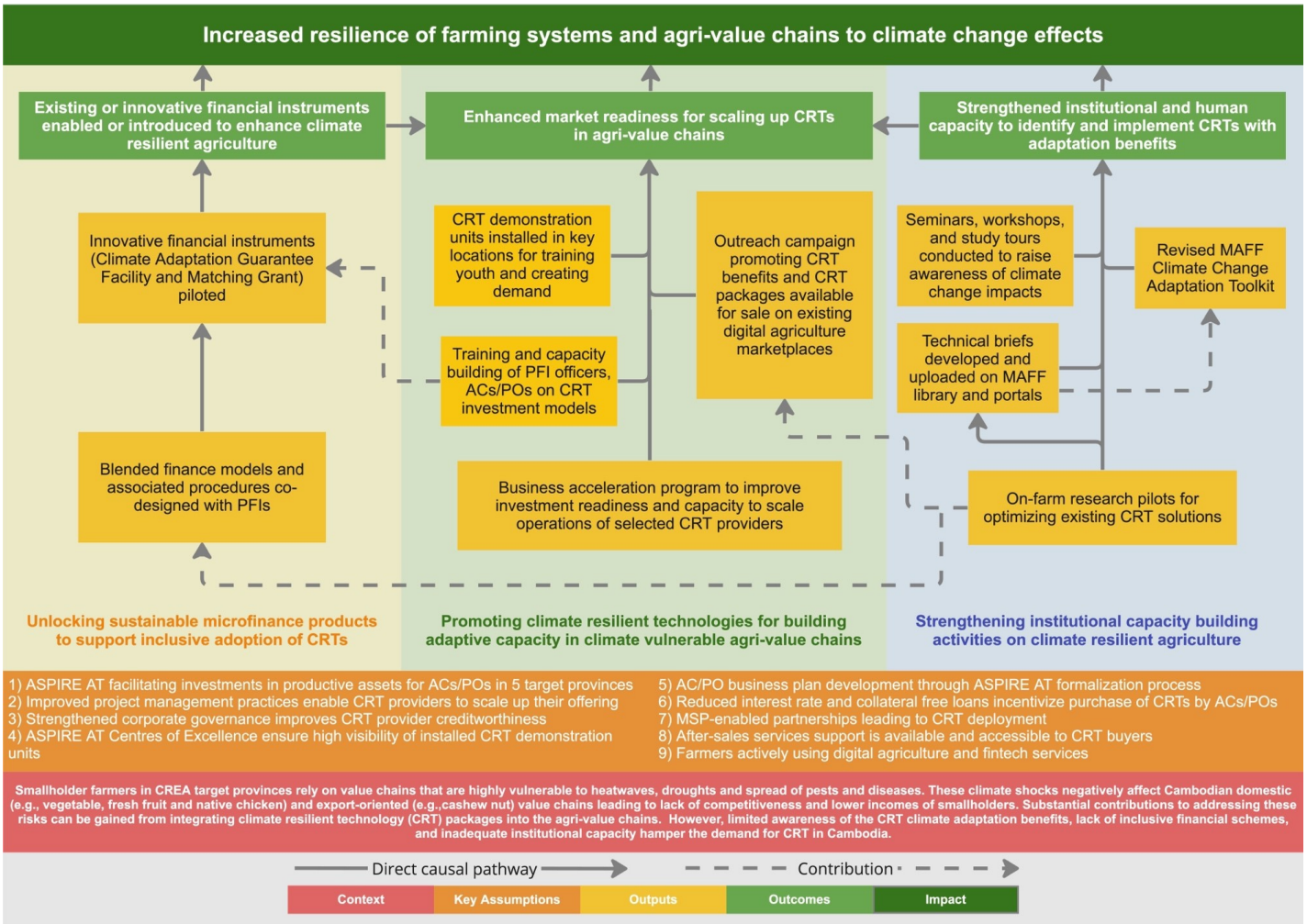
4. **Limited adaptive capacity: Despite some adaptation measures being implemented, such as raising chickens on less drought- and flood-prone land and planting trees for shade, the overall capacity to cope with climate change across all agri-value chains still needs to be improved.**

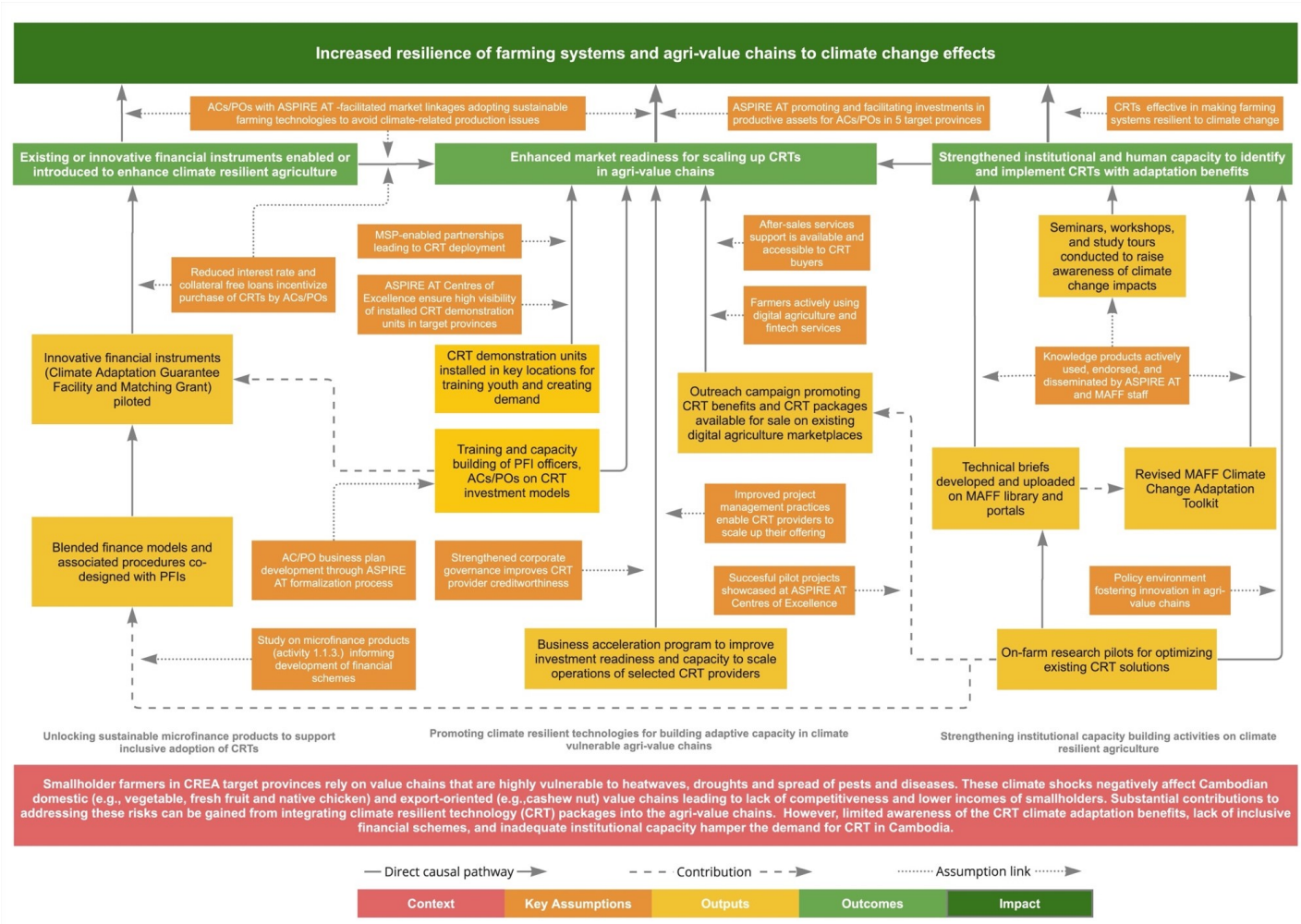
To address these challenges in a sustainable manner, CREA ToC centers on the critical need to increase the resilience of farming systems and agri-value chains to the effects of climate change. This is achieved through a three-pronged approach: enhancing market readiness (Outcome 1), enabling financial instruments (Outcome 2), and strengthening institutional and human capacity (Outcome 3).

Outcome 1 aims to enhance the readiness of the Cambodian market to scale up economically viable CRTs for agriculture production, processing, and post-harvest activities. It operates under several key assumptions, such as the interest of AC/POs in adopting sustainable farming practices and the promotion of investments in productive assets led by CREA's baseline project ASPIRE-AT. To achieve this, several outputs are planned. These include a business acceleration program for CRT providers, training for PFI officers and AC/POs on CRT investment models, installation of CRT demonstration units, and an outreach campaign to promote CRT benefits.

Outcome 2 focuses on enabling or introducing financial instruments to enhance climate-resilient agriculture. It assumes that AC/POs members are willing to accept loan-related risks if suitable financial assistance is provided and there is a conducive environment for investments in productive assets enabled through ASPIRE AT facilitated market linkages. The outputs to achieve this outcome involve the co-design of blended finance models with PFIs and the piloting of innovative financial instruments, such as the Climate Adaptation Guarantee Facility and Matching Grants, to help AC/POs adopt CRTs.

Outcome 3 aims to strengthen the institutional capacity to identify and implement CRTs with adaptation benefits. This outcome assumes that existing CRTs are effective, that government bodies are interested in promoting climate adaptation practices, and that the policy environment is conducive to adopting such practices. To achieve this, several outputs are planned. These include conducting seminars, workshops, and study tours for government staff, revising the MAFF Climate Change Adaptation Toolkit, developing technical briefs, and piloting on-farm research for optimizing existing CRT solutions.


Increased resilience of farming systems and agri-value chains to climate change effects
Existing or innovative financial instruments enabled or introduced to enhance climate resilient agriculture
Enhanced market readiness for scaling up CRTs in agri-value chains
Strengthened institutional and human capacity to identify and implement CRTs with adaptation benefits
Innovative financial instruments (Climate Adaptation Guarantee Facility and Matching Grant) piloted
CRT demonstration units installed in key locations for training youth and creating demand
Outreach campaign promoting CRT benefits and CRT packages available for sale on existing digital agriculture marketplaces
Seminars, workshops, and study tours conducted to raise awareness of climate change impacts
Revised MAFF Climate Change Adaptation Toolkit
Training and capacity building of PFI officers, ACs/POs on CRT investment models
Technical briefs developed and uploaded on MAFF library and portals
Blended finance models and associated procedures co-designed with PFIs
Business acceleration program to improve investment readiness and capacity to scale operations of selected CRT providers
On-farm research pilots for optimizing existing CRT solutions
Unlocking sustainable microfinance products to support inclusive adoption of CRTs
Promoting climate resilient technologies for building adaptive capacity in climate vulnerable agri-value chains
Strengthening institutional capacity building activities on climate resilient agriculture
1) ASPIRE AT facilitating investments in productive assets for ACs/POs in 5 target provinces
2) Improved project management practices enable CRT providers to scale up their offering
3) Strengthened corporate governance improves CRT provider creditworthiness
4) ASPIRE AT Centres of Excellence ensure high visibility of installed CRT demonstration units
5) AC/PO business plan development through ASPIRE AT formalization process
6) Reduced interest rate and collateral free loans incentivize purchase of CRTs by ACs/POs
7) MSP-enabled partnerships leading to CRT deployment
8) After-sales services support is available and accessible to CRT buyers
9) Farmers actively using digital agriculture and fintech services
Smallholder farmers in CREA target provinces rely on value chains that are highly vulnerable to heatwaves, droughts and spread of pests and diseases. These climate shocks negatively affect Cambodian domestic (e.g., vegetable, fresh fruit and native chicken) and export-oriented (e.g.,cashew nut) value chains leading to lack of competitiveness and lower incomes of smallholders. Substantial contributions to addressing these risks can be gained from integrating climate resilient technology (CRT) packages into the agri-value chains. However, limited awareness of the CRT climate adaptation benefits, lack of inclusive financial schemes, and inadequate institutional capacity hamper the demand for CRT in Cambodia.
Direct causal pathway
Contribution
Context
Key Assumptions
Outputs
Outcomes
Impact



Project Development Objective. The objective of the project is: Adoption of climate resilient technologies (CRTs) and innovative finance solutions with adaptation benefits for smallholder farmers, AC/POs and agri-MSMEs. The project has three technical components. These are (i) Promoting climate resilient technologies for building adaptive capacity in climate vulnerable agri-value chains; (ii) Unlocking sustainable microfinance products to support inclusive adoption of CRTs; and (iii) Strengthening institutional capacity building activities on climate resilient agriculture.

Component 1: Promoting climate resilient technologies for building adaptive capacity in climate vulnerable agri-value chains

Under this component, business and technical assistance support will be provided for CRT providers, aiming to improve their capacity with respect to post-investment management, finance mechanism refinement, improved after-sales services, corporate governance and project management. This will enable their businesses to attract more commercial financing. Additionally, demonstration units, on-site training, multi-stakeholder platforms (MSPs)[5][33] and marketing and awareness raising campaigns will support demand creation. Component 1 is

expected to benefit 10,500 households of which 1,500 are women-headed households. Through technical support of recruited service providers, 2,000 PFI officers will be capacitated in delivering outreach strategies, financial products, and services to rural areas; and it is expected that 45 AC/POs[6][34] will have business plans that include CRT packages.

Outcome 1: Enhanced market readiness for scaling up economically viable CRTs for agriculture production, processing and/or postharvest handling activities

Output 1.1. Business Acceleration program to improve investment readiness and capacity to scale operations of selected CRT providers. **As part of this output, 30 CRT providers/agri-MSMEs accelerated with technical assistance, financial matchmaking, and/or direct financing, including those CRT providers led or managed by women with the potential and willingness to expand their activities in Cambodia will receive tailored business support to their requirements. The objective of this output is to make selected CRT providers capable of absorbing additional financing, projects, and sales while ensuring that farmers receive the highest quality products. Aspects of gender equality and social inclusion will be included into design and delivery of the Business Acceleration program as well as the support to CRT providers to integrate GESI into its corporate governance, business plan and products and services. This can work in collaboration with existing .a regional joined project on 'women for climate-resilient societies, UN Women and UN Environment in Cambodia will work to support renewable providers to develop guidelines and build capacity on GESI integration into corporate governance and business.**

Activities:

-

Activity 1.1.1: Competitive Bidding process to select CRT providers to participate in the Business Acceleration program. **The recruitment campaign will utilize social media, local networks such as Energy Lab, and other development partners in the area. The project will also be open to international companies committed to developing their activities in the country, thereby boosting market competition. Several CRT companies/agri-MSMEs have been identified and will be contacted to gauge their interest in participating in the Business Acceleration program[7][35]. The program will be open to 5 companies, recruited on the following criteria: (i) institutional capacity and track record to demonstrate past performance and quality of their CRT; (ii) financial viability of their business model; (iii) willingness to scale-up their activities in Cambodia with financial milestones and growth trajectories; and (iv) motivation to actively engage in the program. An independent technical committee composed of representatives from MAFF, other relevant public institutions such as Khmer Enterprise[8][36], and local experts will be set-up for the selection of the CRT providers.**

Activity 1.1.2: Recruit an international consultancy firm to conduct an initial assessment of the financial and business capacities of selected CRT providers. **The firm will be responsible to conduct an initial assessment in the following areas: (i) project management capacity; (ii) access to innovative financing for business expansion; (iii) financial management and corporate governance; and (iv) digital marketing services to monitor, troubleshoot and provide after-sales customer support to their clients. CRT providers will be also supported to integrate gender equality and social inclusion (GESI) into its corporate governance, business plan, products and services. Based on this, the firm will develop the contents based for each specific CRT provider onboarding the Business Acceleration program.**

Activity 1.1.3: Conduct a study examining the available microfinance products for CRTs. **In parallel to assessments of selected CRT providers, the hired consultancy firm under Activity 1.1.2 will conduct a study to provide a thorough understanding of smallholder farmers' current financial status post-Covid (level of indebtedness, level of collateral, etc.). The study will provide insight into their purchasing behaviors, understanding of climate vulnerability, and preferences regarding CRT adoption and financing. The study will elaborate on how to unlock sustainable financial products, understanding mechanisms of introducing insurance schemes for loans and how to increase the loan size/portfolio for CRTs. It will expand and build upon the below initial surveys conducted during the detailed design of CREA as shown in the table below:**

Lender	Features of the loan	Interest Rate	Collateral	Term (Months)	Eligibility criteria	Branches' location
AMK	Loan < $1,000	1.5% per month (admin fees applied)	No	3 to 24	Based on profile assessment. If farmers have 3 loans already, they won't be eligible.	100% Communes, Districts, Provinces ; 98% Villages
	Tri-party loan (SME & Farmers)	1.5% per month (Interest applied if large volume (e.g., 100+ loans)	Company deposit 20% of the amount as guarantee Company is guarantor and will have to repay if default	n/a	Farmer profile assessment + Company profile: Legal documents (registration etc.); Financial statements (previous 3-year sales, forecast); Company presentation (type of product, services);	
LOLC	Loan < $2,000	1.5%	No	n/a	Based on assessment and capacity of repayment (incomes) + history check if client is on black list/defaulted loans. No eligibility if they already have loans.	79 branches, 100% Provinces
	Loan > $2,000	1 to 1.5% based on the value of the loan	Land title is required. Third party to provide guarantee (value 100%) with 30% deposit.	n/a	Same as above + collateral / guarantee required.	
	Group Loan: up to $1,750 per group member	1.5%	No	Max 16 months	Based on profile assessment	
Chamroeun	Loan > $750	Annual Percentage	Yes (land title, moto) Soft title can work	16	According to client's profile & cashflow, conditions can be negotiable. Fixed asset	11 Provinces including Kampot,

		Rate (APR) +/- 23%	according to value of the loan, otherwise hard title required		required in addition of a co - borrower and guarantor. Term and repayment method to define on a case by case.	Kandal, Prey Veng
	Loan < $750	APR +/- 26%	No	16	Guarantor + History check	
Amret Amret	Individual Loan: from $100 to $100k	Interest based on loan amount.	All require collateral but they are flexible: they can use collateral from relatives. Value collateral 150%.	Up to 48 months for loan to $20K / If more, up to 60 months	Based on profile assessment and capacity of repayment + on history, check if client is on black list. No eligibility if they already have loans.	Amret operates in 25 provinces, almost all the districts, 2000 commercial field staff
	Group Loan : Max per member $750, up to 6 members	1.5% per month + admin fees 2%	No collateral	Up to 12 months, flexible payment	People needs to leave in their own house, having 1 economic activity, refused if already 2 loans. Prefer 3 to 4 members.	

Table 2: Selected MFIs' schemes available in Cambodia for smallholder farmers[9][37]

Activity 1.1.4: Launch the Business Acceleration program. **Selected CRT providers, including those CRT providers led or managed by women will receive tailored support to strengthen their financial, managerial, and operational capacity, based on the needs assessment conducted under Activity 1.1.2. Selected CRT providers will be expected to dedicate one full day per month. The project will build synergy with existing initiatives on clean and renewable technologies incubation and acceleration programs which are implemented by Energy Lab, Impact Hub and Techo Startup Center (TSC) to identify potential women led CRTs. The Business Acceleration program will include the integration of GESI into its corporate governance, business plan, products and services.The Business Acceleration program will have a total duration of one year and is expected to start in mid-2024.**

Activity 1.1.5: Workshop to disseminate results of the Business Acceleration program**. With participation of CREA-Project Support Unit (PSU) and other relevant MAFF staff, the recruited consultancy firm will recommend targeted investees/portfolio companies and provide a roadmap for the selected CRT providers for expanding their market in support of CREA-funded activities. MAFF and the established technical committee will be kept in the loop on the progress and results of the Business Acceleration program.**

Implementation Arrangements:

This output is implemented by an international consultancy firm, with a local base in Cambodia. The firm will need to have a proven track record in managing acceleration programs in the field of agriculture and experience to provide technical assistance to agri-MSMEs in the following areas: (i) strategic planning and business plan; (ii)

business advisory or coaching; (iii) human resources acquisition; (iv) internal control systems, including financial records and management and governance; (v) legal and taxation.

Output 1.2. Training and capacity building of PFI officers and AC/POs on CRT investment models. **Under this output, various training and capacity building activities will be conducted, tailored to the specific needs of AC/POs and local PFI officers. Training sessions will be held to increase knowledge of CRTs, their benefits, and investment models for incorporating them into farm production systems. AC/POs/women farmer groups should be familiar with the key economics of CRTs, including market price, investment level, and payback period, as well as the various financial options and models available. As a result of collaboration with local authorities, pro-active learning and participatory management will be enhanced by organising farmer field schools, exposure visits, and meetings with key stakeholders. Activities supported under this output will integrate women's empowerment farmer business school (WE-FBS) approach[10][38] adopting from gender action learning systems (GALS) tools and techniques into business skills trainings for enhancing capacity of AC/POs and lead/champion farmers in CRT adoption. This output will be complemented by demonstration units (output 1.3). Well-trained extension agents will also be provided with tailored advisory services designed to help them develop demand for CRT packages.**

Activities:

Activity 1.2.1: Validation process of active/interested AC/POs. **In collaboration with ASPIRE-AT and PDAFF staff, the first step will be to validate the number of AC/POs active and interested in CRT for their farming systems. There are a total of 465 AC/POs undergoing the process of validation by ASPIRE-AT in CREA target provinces. The number of farmers within an AC/PO can vary with a minimum of 50 to a maximum of 1,000 members[11][39]. CREA priority target will be 'graduated POs' as defined by the targeting strategy of the baseline project which entail about 200 farmer members of the AC/POs[12][40].**

Activity 1.2.2: Recruitment of a national service provider to assist with the development of AC/PO business plans. **This service provider will work in close cooperation with ASPIRE-AT[13][41] and PDAFF in validating the AC/POs that are active and interested in purchasing CRTs. Once these AC/POs have been identified, the service provider will work closely with AC/PO (through Activities 1.2.3 and 1.2.4) to develop business.**

Activity 1.2.3: Training workshops for AC/POs on CRT investment models to support business plans development**. Training sessions will be conducted directly with POs to ensure financial literacy regarding CRT investment models. Refresher sessions will be provided in each target province with the assistance of ASPIRE-AT in inviting AC/POs to**

attend. The purpose of these training workshops is to ensure that POs understand the key economics of CRTs, such as price, level of investment, and payback period, as well as the different financial options and models available to acquire CRTs and the key variables to make the best investment decision. Trainings would be centered around climate change prevention strategies and awareness raising on weather patterns, particularly rainfall variations, to help make informed decisions regarding crop management and potential climate resilient technologies for cashew cultivation, irrigation, pest and disease management and efficient use of fertilizers. As export opportunities in agriculture and agri-processing continue to grow, men are better placed to benefit due to having greater access to market information and networks. Evidence also suggests that men may take over production and marketing when it becomes financially lucrative to do so[14][42]. For this reason, the WE-FBS approach will be an important pillar in ensuring women also have access to the knowledge and networks developed through the training workshops.

Activity 1.2.4: Training on Economic and financial analysis of CRT Investment Models to improve local PFI officers' knowledge. The purpose of this activity is to build capacity on CRT investment models for PFIs through training sessions to local PFI officers on the following topics: (i) the challenges related to climate change and its consequences for the adaptation of agricultural value chains; (ii) understanding CRT packages' economics and market potential; (iii) understanding agricultural organizations (AC/PO, business clusters) and their engagement with such partners; (iv) knowledge of CRT suppliers and CRT supply chains; and (v) adapting/securing due diligence processes and other loan procedures to better integrate climate risks and CRTs. The training will cover market data on CRTs, opportunities, and challenges in the supply of CRTs. It will also introduce innovative end-user financial mechanisms deployed by CRT suppliers, and the promotion and use of digitally-enabled loans and fee collection services for AC/POs. The overarching focus will be to build a pipeline of potential clients (ideally AC/POs) for the newly developed blended finance model.

Activity 1.2.5: Recruitment of a Rural Finance Consulant to assist the Project Support Unit (PSU). MAFF will hire technical assistance to support developing the training tools for to deliver the sessions to local PFIs (Activity 1.2.4) as well support validation of the associated procedures for the blended finance schemes (Activity 2.1.1), negotiate and monitor results in close coordination with the PFIs. The training tools will integreate gender sensitivity into training activities PFI local officers on CRT investment modes and, including promotion and use of digitally enabled loans and fee collection services to ACs/POs, particularly among women farmers. In collaboration with ASPIREAT, integrate women's empowerment farmer business school (WE-FBS) approach adopting from gender action learning systems (GALS) tools and techniques into business and financial literacy skills trainings and other technical trainings for enhancing capacity of POs/ACs and lead/champion farmers for adopting CRTs and increase access to financial resources and other support services.

MAFF will also be provided with training sessions in the first year of the project on specific finance-related topics, such as the main investment models in CRTs, as well as the operation and benefits of the guarantee facility. The Rural Finance officer will ensure regular dialogue and synergy between PFIs and MAFF. He/she will also collaborate with PDAFF to aggregate the AC/PO business plans with CRT integration and support in the submission process to the PFIs. It will ensure that women farmers are supported and enable to access and use of CRT.

Implementation arrangements:

A local consultancy firm will be hired by MAFF and supported by the Rural Finance consultant to assist the Ministry in the development of the training curricula and to conduct the training sessions for both PFIs and AC/POs. The selected firm must have demonstrated experience in capacity-building and financial literacy activities in a rural

context, particularly in CRT-related areas, as well as expertise in supporting local banks and microfinance institutions. The training sessions will be organized in close coordination with the PFIs and ASPIRE-AT.

Output 1.3. CRT demonstration units installed in key locations for training youth and creating demand. **Through this output, a robust set of CRT packages with demonstrated benefits will be established in strategic locations in close collaboration with ASPIRE-AT partners, including AC/PO, business clusters, and extension services. The CRT demonstration will also focus on the value chains that more women farmers are involved in such as vegetables, chicken and livestock productions. ASPIRE and AIMS have mobilized more than 1,400 POs and established more than 2,000 business clusters (BCs). Under ASPIRE-AT, 500 AC/POs are expected to be fully functional with active buyer contracts. In the CREA project, these farmers will be prioritized due to their business and administrative capacity, their partnership with the private sector, and their management of social and environmental risks. 425 ACs (of which 64 are led by women) are currently active in the target provinces, and have 65,896 members (of which 41,347 are women). CREA plans to work with smallholder farmers who are members of AC/POs to ensure concerted demand. This will enable CRT providers to offer better after-sales services and achieve economies of scale. Moreover, AC/POs have a strong financial governance system that enables them to manage payment options proposed by CRT providers.**

Activities:

Activity 1.3.1: Site selection, field visits for assessing demand and farmer willingness to pay for CRTs. **The field visits and site selection will include a detailed value chain analysis and climate risk analysis across each localized value chain. Three key criteria will be utilized to evaluate the CRT packages appropriate for the selected value chains: (i) resilience for farmers and agribusinesses; (ii) economic sustainability (payback period, adoption potential, and distribution capability; and (iii) social benefits, such as gender equity.**

Activity 1.3.2: Grants to CRT providers to install demonstration units in key locations to train youth and create demand**. CREA will support the implementation of 10 demonstration sites[15][43] in accordance with the following criteria established in the baseline project ASPIRE-AT: (i) the commercial, financial and technical viability of selected CRTs; (ii) the ability of AC/POs to manage their investments; (iii) the strength of the partnership arrangements, including technical assistance from agribusiness partners to farmers and AC/POs; (iv) social inclusion (benefits for poor households, opportunities for women and youth, etc.); and (v) environmental, climate and social risks (including accessibility). Demonstration units will be linked to the POs and farmers through a network of Lead Farmers and will enable demonstrating a wide range of technologies and become "neutral knowledge platforms" to guide farmers' investment choices in production and postharvest technologies. In addition, they will seek to complement the national digital marketing campaign (Output 1.4) and offer a perfect opportunity to showcase benefits to farmers and inform their purchasing decision. Awareness raising will be coupled with capacity-building activities towards local authorities, CRT suppliers, donors, NGOs working in the sector on both climate resilience, CRT packages and sustainable and inclusive finance key learnings obtained in Component 2. Some examples of potential demo sites are most likely to include nethouses, solar water pumps, drip irrigation systems, and other efficient/effective ways to use water, as well as solar-powered grinders, dryers, and cooling systems (which can enhance resilience to droughts,**

heatwaves, and changes in rainfall patterns). Other CRTs may involve community level investments for perishable vegetables such as cold-chain storage support and greenhouse packaging. The supported CRTs will be complemented with digital services, integrated farming systems, application of organic fertilizer, and soil and nutrient management activities.

Overview of selected Climate Resilient Technologies (CRTs) promoted by the project

CRT	Description	Benefits
Nethouse, irrigation system and a solar water pump	Nethouses in conjunction with a solar-powered irrigation scheme.	**Nethouses** provide a controlled environment for crop cultivation, protecting plants from adverse weather conditions, pests, and diseases. This leads to improved crop quality and higher yields, ensuring a more reliable and profitable harvest for farmers. Additionally, nethouses allow for year-round cultivation, extending the growing season and enabling farmers to diversify their crop production. In combination with an **irrigation scheme**, farmers can optimize water usage, ensuring consistent and efficient irrigation for their crops. This promotes sustainable water management and enhances the overall productivity and farmers' income. Analyses have shown that this model allows for 8–10 cropping cycles per year compared to six cycles in open field with drip irrigation, yields increase by up to 50 percent and gross margins by up to four times compared to traditional open-air farming. The adoption of a **solar water pump** eliminates the reliance on traditional fossil fuel-powered pumps, reducing irrigation operational costs and environmental impact.
Solar grinder (individual and community models)	Solar grinders for various raw materials found within communities, such as soybeans, rice, cassava, water spinach.	Feed produced with solar grinders can provide a useful alternative. Empirical observations have shown that native chickens fed with local inputs are often more resilient to heat stresses or drought compared to those fed with to imported feed. By utilizing renewable solar energy instead of fossil fuels, solar grinders also contribute to mitigation efforts. Solar grinders can reduce labor and operating expenses for feed compared to handmade and commercial options. They can also serve as an additional source of income when extra feed is sold to other farmers. Collective models, where the grinder is shared among members of a cooperative, allow for sharing the upfront cost, reducing risks, and developing capacity for producing high-quality feed.

Irrigation as a Service (IaaS)	Solar-powered irrigation systems installed and operated by service providers with user fees paid by farmers.	IaaS schemes benefit farmers who cannot invest in their own irrigation systems, shifting maintenance from individual farmers to service providers. User fees are lower than for diesel-based systems. Service providers can help to shift towards sustainable water management, improving water-use efficiency, and supporting farmers in coping with climate variability (droughts and irregular rainfall patterns). Solar energy brings mitigation co-benefits.

Activity 1.3.3: Development of training materials for PDAFF, CEWs, and public extension service agents as well as exposure to demonstration sites for CRT. **This material will be developed into media content, and disseminated through existing MAFF, PDAFF partner NGO and partner fintech, and DAS e-learning and social media platforms for use and dissemination by public extension, namely, CEWs and PDAFFs whom will continue to play an active role in strengthening knowledge dissemination channels from national to provincial and village levels.**

Activity 1.3.4: Multi-stakeholder platforms (MSPs) showcasing CRT benefits and investment opportunities. **MSPs will disseminate and share lessons learned from the demonstration units. Through the MSPs, farmers will be able to exchange ground evidence about the benefits of suitable CRT packages that will be leveraged during the dissemination phase. MSPs will serve as a platform to identify technical, organizational, economical, and financial challenges to their roll-out through blended financing mechanisms supported by Component 2. Additionally, these activities will facilitate the assessment of the potential for digital services to support CRT, since these events are likely to facilitate the establishment of a first robust network between AC/POs CRT adopters, service providers including fintech and digital extension service companies.**

Implementation arrangements:

-

Capacity development of lead farmers, youth groups and AC/POs will be supported through MAFF/GDA and PDAFF staff. Demonstration units will be led by CRT providers (selected through the competitive bidding process under Activity 1.1.1) with grant support from the project. The CRT providers will be responsible for selecting interested farmers, including women and youth who will act as 'lead champions' and will have the opportunity to test different financing/business models. The Rural Finance officer based in the CREA-PSU will provide oversight in close collaboration with the recruited Provincial Coordinators (based in each province at PDAFF level). The project will work in close collaboration and consultation with Ministry of Women's Affairs and its line provincial departments, and women led CSOs based in the provinces to ensure that women farmers who are not engaged in the ACs or POs can also access to CRT services.

Output 1.4. Outreach campaign promoting CRT benefits and CRT packages available for sale on existing digital agriculture marketplaces. **This output focuses on the execution of a widespread outreach campaign that champions**

the benefits of CRTs and highlights the availability of CRT packages on established digital agriculture marketplaces[16][44]. The outreach campaign will address the digital gaps and divide between women and men. Only 40% of the population owned a smartphone and can access the internet. Women consisted of 41% of those who owned smartphone and their digital literacy is still limited compared to men (Cambodia Academy of Digital Technology). The campaign's overarching goal is to reach and inform 200,000 farmers, including women and youth across Cambodia about the advantages of adopting CRT through existing digital agriculture services and relevant social media platforms. In addition, this output aims to simplify the process of CRT adoption by enabling CRT providers to utilize existing digital marketplace platforms to offer their packages. This approach is designed to streamline the acquisition process, reducing barriers and enhancing the accessibility of CRT packages for farmers from all genders and diverse groups..

Activities:

Activity 1.4.1: Develop the marketing campaign strategy that outlines the key messages, visuals, and formats that will be used in the campaign. The marketing campaign strategy will be developed with a focus on outlining the key messages, visuals, and formats to be utilized in the campaign. This strategy will include crafting effective messages that communicate the benefits of CRT adoption and the availability of CRT packages. The project will ensure that outreach activities and materials are gender inclusion and accessible by all genders and diverse groups of farmers.

Activity 1.4.2: Technical Assistance support for CRT providers to effectively onboard and promote their products on existing digital market places. A digital marketing agency will be recruited and support will be facilitated through direct engagement between digital marketplace platform owners (e.g., Wing Agri, Chamka App, Khmer Agriculture Suite, Tonlesap, etc.) and the partner CRT providers. Through facilitation of national level workshop this assistance will entail trainings on product presentation, marketing strategies, and customer engagement to enhance the visibility and appeal of the CRT products. CREA will integrate digital services for increasing market penetration by reducing transaction costs for CRT providers in regards to after-sales services, monitoring, and troubleshooting.

Activity 1.4.3: Develop marketing materials based on the content strategy. In line with the increasing digitalization of the agricultural sector and the widespread use of smartphones among farmers in targeted provinces, the campaign will prioritize mobile-first content. The materials developed will be easily accessible, viewable, and shareable on mobile devices, thus accommodating the information needs of farmers who rely heavily on these devices. Moreover, acknowledging the importance of crafting user-friendly content for CREA's primary target audience, farmers, their preferences will be a key consideration in CREA's outreach strategy. This activity will involve adapting and enhancing technical training materials developed under Activity 1.3.3 by developing short videos and visual information that can be easily understood and quickly consumed. These new resources will be designed to distill complex CRT concepts into readily accessible content, accommodating farmers with varying levels of literacy and technical knowledge. The digital divide between women and men, and gender barriers will be addressed and considered for developing marketing materials.

Activity 1.4.4: Launch the campaign across the identified platforms. **This will involve posting content on social media, digital agriculture services (e.g., Chamka app, WingAgri, etc.), broadcasting messages on TV and radio, distributing leaflets, and showcasing CRT packages at trade fairs. The performance of the campaign will be monitored and evaluated using relevant metrics such as audience reach, engagement, and conversion rates.**

Implementation arrangements:

The technical assistance support for CRT providers (Activity 1.4.2) will be implemented by CREA-PSU, with support from a recruited marketing agency also responsible to implement the outreach campaign and the development of marketing materials. The agency will facilitate continuous engagement between CRT providers and digital agriculture service platform companies with the goal of educating CRT providers on the procedures for introducing their products and providing their support services through digital marketplaces. The selected agency should have a proven track record of running behavior change campaigns in the agricultural sector.

Component 2: Unlocking sustainable microfinance products to support inclusive adoption of CRT

Component 2 of the project involves piloting and scaling up two blended finance schemes in collaboration with selected Partner Financial Institutions (PFIs) to facilitate the acquisition of CRTs by farmers that are members of target AC/POs/ women farmer groups. High collateral requirements and interest rates continue to be significant obstacles for accessing loans to acquire CRTs. The project aims to address these challenges through two de-risking mechanisms. The first scheme established will be the Climate Adaptation Guarantee Facility, which will serve as a complementary guarantee to the existing Credit Guarantee Corporation of Cambodia (CGCC) products[17]45 and fully remove collateral barriers for AC/POs/ women farmer groups seeking to acquire CRTs. This facility will be accompanied by a second financing instrument, a Matching Grant scheme that will significantly reduce interest rates on a first-come, first-serve basis until the grant budget is exhausted. Component 2 is expected to leverage USD 5 million from private sector sources. The implementation of these two blended finance schemes will result in the availability of attractive, affordable local lending options.

Outcome 2: Existing or innovative financial instruments enabled or introduced to enhance climate resilient agriculture

Output 2.1. Blended finance models and associated procedures co-designed with PFIs. **Two strong and complementary financial institutions have already been pre-selected for due diligence[18]46. The first is Wing Bank, a pioneer of digital services in rural Cambodia, with agricultural value chains and POs among the strategic priorities of their recently launched bank. Wing Bank is strategically positioned to be an effective partner for this project due to its innovative digital services and unmatched network of over 11,000 agents. A second PFI is Chamroeun**

Microfinance, a company with a well-established brand in agriculture and a strong presence among AC/POs with a dedicated product and strategy. Chamroeun also has strong connections with CRT providers that can be leveraged to amplify outreach efforts. The intended long-term outcome is to de-risk and stress-test the CRT market, which, in turn, opens up channels for private financing for climate adaptation. The project will ensure that the finance modalities and schemes are accessible by small holder farmers, particularly women and youth and women led or managed MSMEs and CRTs providers.

Activities:

Activity 2.1.1. Meetings with selected PFI for validation of blended finance schemes. The first step will involve validating CREA financial schemes with PFIs. Due diligence will be conducted on the selected PFIs[19][47] and will include an assessment of the internal management capacity, compliance with environmental and social management procedures standards, knowledge of the CRT market, and alignment with project objectives and timelines. The PFI will be selected in consultation with the Ministry of Agriculture, Forestry and Fisheries (MAFF). The main environmental and social concerns with respect to these institutions relate to their capacity to identify, manage and monitor the potential environmental and social risks and impacts associated with the on-lending activities. There is also a moderate risk that the PFI has high-risk projects in its portfolio. PFI compliance with these requirements and capacity to manage environment, social and climate risks and impacts as well as knowledge about the climate risk in the agriculture sector will constitute key criteria for the final selection of the PFI.

Activity 2.1.2. Blended finance mechanism and associated procedures jointly designed. It is anticipated that two instruments, the Climate Adaptation Guarantee Facility and the Matching Grant, will be piloted with a total grant investment of USD 2,200,000. The study on microfinance products and schemes suitable for climate resilience in farming systems, produced under Component 1, will be used to refine and validate the proposed financial schemes developed through CREA. Legal expertise will be consulted during the negotiation process in order to ensure that the agreement is legally sound and compliant with all partners' policies (MAFF and PFIs). Negotiations will cover various aspects, including fund flow arrangements, deposit account conditions, operational manual, social and environmental standards/compliance and loan product features. An important consideration is also understanding the operational bottlenecks of the blended finance schemes supported through he ASPIRE-AT[20][48].

Implementation arrangements:

This output will be led by MAFF with technical support from the Rural Finance officer recruited by the project. PFIs will sign an MoU with MAFF and play an active role in setting up innovative financial mechanisms. The innovative instruments are expected to become operational within six months following the official launch of the project, subject to due diligence conducted prior to project start-up. It will integrate GESI dimensions into PFIs' operational guidelines and refinement of the eligibility criteria by ensuring that small-holder farmers, including women and youth, and women led or managed MSMEs/CRT providers, and POs/ACs are accessible to finance schemes.

Output 2.2. Innovative financial instruments piloted. Under this output, the project will pilot two de-risking instruments, a Climate Adaptation Guarantee Facility (USD 2,000,000) and a Matching Grant facility (USD 200,000) to directly reduce the interest rate for the AC/POs/women farmer groups. These loans are targeted primarily for farmers that are members of AC/POs due to their strong financial management and governance capabilities.

Activities:

***Activity 2.2.1. Climate Adaptation Guarantee Facility established (USD 2,000,000*)**. This facility will serve as a guarantee and remove collateral barriers for AC/POs and farmers seeking to acquire CRTs. USD 2,000,000 will be transferred by MAFF on a deposit account hosted by Wing Bank to create the Climate Adaptation Guarantee Facility. These funds will be utilized by Wing Bank and Chamroeun to provide collateral-free loans for AC/POs and farmers willing to invest in CRT. Throughout the CREA project, Wing Bank, the bank hosting the deposit account, will be able to use up to USD 1,500,000 of the total funds as a first-loss guarantee. With this guarantee, Wing Bank will develop a specific unsecured loan product, called the Inclusive Green Financing loan with a disbursement amount of USD 3,500,000 to AC/POs and farmers. The loan amount will be capped at USD 25,000, following Wing Bank's policy. Wing Bank has identified support for agri-suppliers and farmers as one of its strategic priorities and anticipates rapid growth. Through a new digital platform, they have successfully piloted an agriculture supply chain marketplace that provides cooperatives, sellers, buyers, and farmers access to digital payment solutions, flexible logistics, and agricultural financing facilities. This platform will be scaled up in November 2023 to promote a new collateral-free loan product, reference CRT suppliers and increase their visibility, and provide digital loans to farmers and POs.

The model with Wing Bank is summarized below:

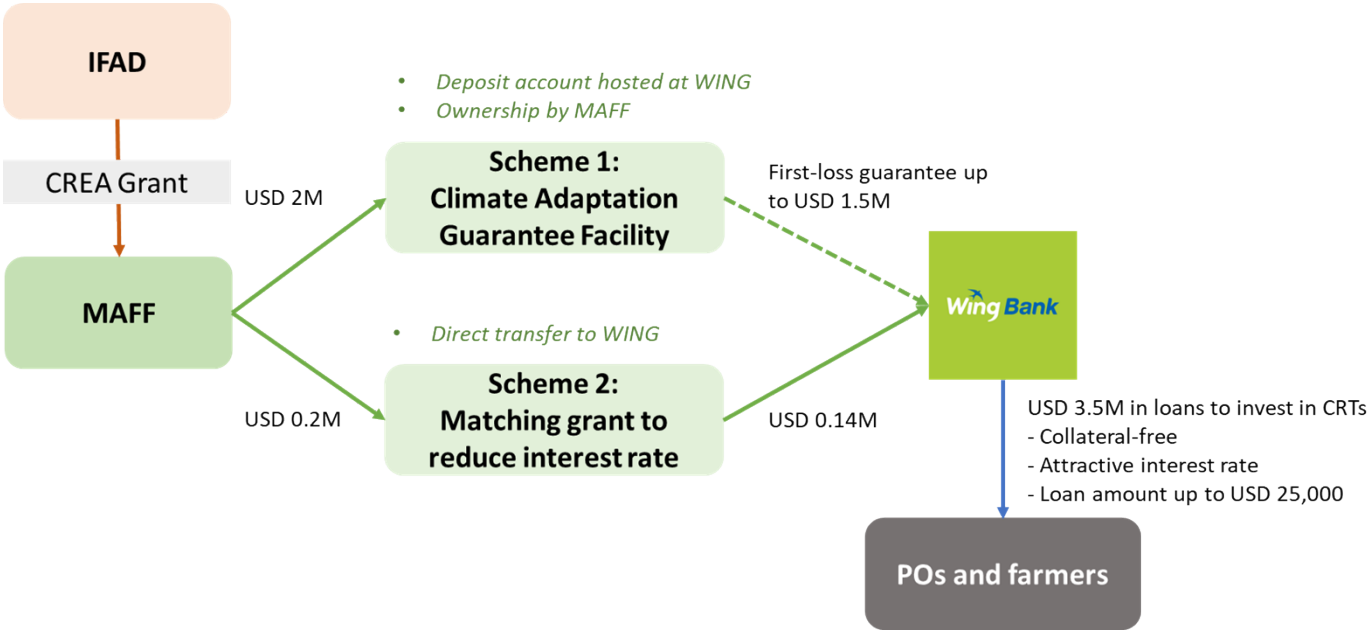


Figure 3: Utilization of the 2 CREA blended finance schemes by Wing Bank

Chamroeun will access up to USD 500,000 of the total funds. Due to their distinct market position, they will utilize the Climate Adaptation Guarantee Facility differently. In 2023, Chamroeun obtained a portfolio guarantee from the CGCC[21][49] to cover losses when they lend to cooperatives. Through this guarantee scheme with CGCC, Chamroeun has provided collateral-free loans to approximately 100 AC/POs within a portfolio of USD 10,000,000 in agriculture as of December 2022[22][50]. These loans are used for different usages, including the acquisition of agriculture

machinery and CRTs. Within this context, Chamroeun will use a portion of the funds from the Climate Adaptation Guarantee Facility (USD 50,000 out of USD 500,000) as a first-loss guarantee to provide collateral-free loans directly to farmers, where the CGCC mechanism does not apply. The remaining funds (USD 450,000 out of USD 500,000) will be injected into Chamroeun's as liquidities/liabilities to expand its existing portfolio of AC/POs and farmers investing in CRTs. The funds will be returned to the deposit account hosted by Wing Bank upon project completion. Chamroeun will not create a dedicated product but will adjust its existing agri- and cooperative loan products. For ACs, the maximum loan amount could reach USD 100,000.

The model with Chamroeun is summarized below:

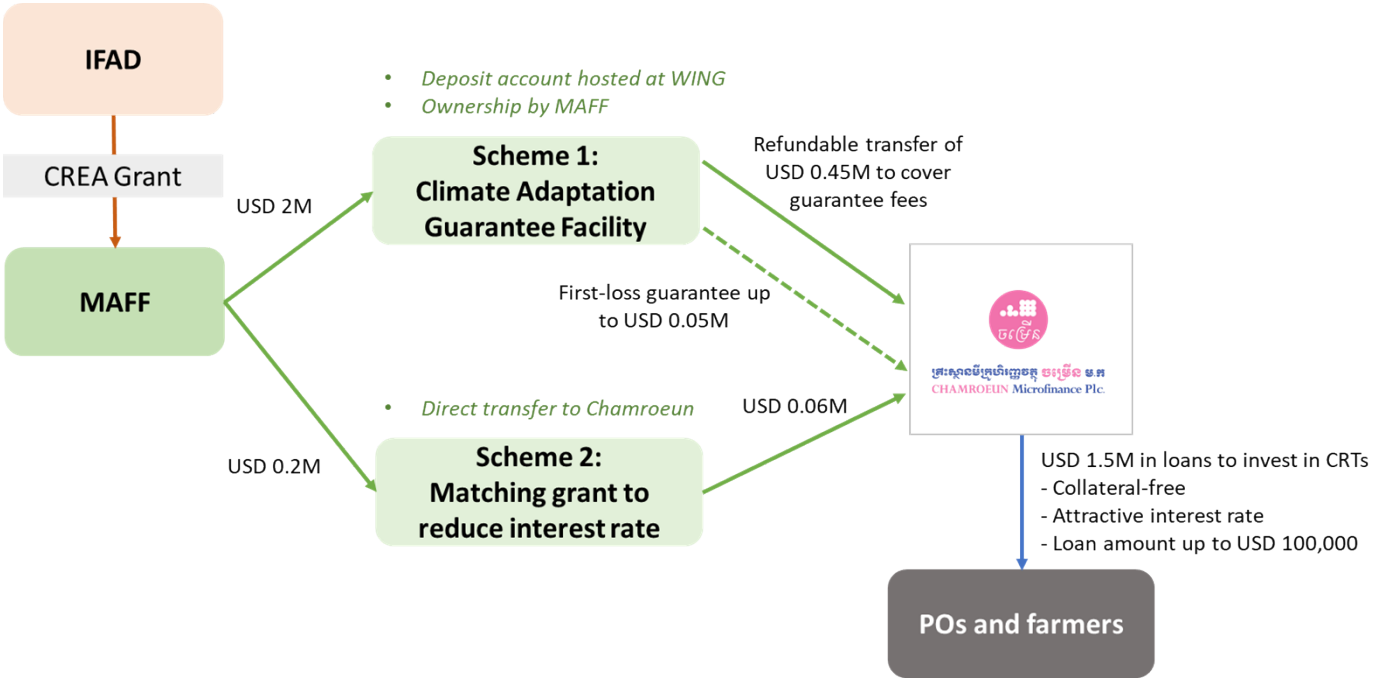


Figure 4: Utilization of the CREA blended finance schemes by Chamroeun Microfinance

Overall, Wing Bank and Chamroeun are expected to leverage USD 5,000,000 in collateral-free loans[23][51]. As a result, loan sizes will be variable, ranging from USD 1,000 to USD 100,000, depending on the borrower's credit rating and the CRTs acquired. In terms of access to market, Wing Bank will leverage their new agriculture supply chain marketplace, called Wingagri, to provide digital loans to POs and farmers using their platform. They will also leverage their network of rural agents. Chamroeun will use its extensive network of loan officers to reach out to potential customers. The training to AC/POs on CRT investments conducted in Output 1.2 will also provide opportunities to present the offer of the two PFIs. The investments must focus on the acquisition or utilization of one or more CRTs in order to qualify for CREA financing. With CREA, AC/POs will likely be able to request smaller loans than those offered by the Agricultural and Rural Development Bank (ARDB) under the ASPIRE-AT project,

providing another attractive financing option and stimulating healthy market competition. The estimated number of loans issued is between 1,000 and 2,000.

The sustainability of the Guarantee facility comes from the fact that the interest will be paid by Wing Bank on the deposit account at a rate determined by Wing Bank. As a result of this arrangement, the facility will grow organically. Furthermore, the Climate Adaptation Guarantee Facility will remain available to other development partners and financial institutions interested in expanding its capacity[24][52]. This is provided they align with the CREA project's approach and requirements. At the mid-term review, an assessment will be conducted to evaluate the facility's impact on loan disbursement. The facility will continue to be available to Wing Bank, Chamroeun, and other development partners or financial institutions.

***Activity 2.2.2*: Matching grant scheme piloted. To create additional incentives to purchase CRT, the second instrument under CREA will be a matching grant totaling USD 200,000 which will be used to directly reduce the interest rate by 3%, down to 7.5% per annum depending on the applications[25][53] for AC/POs and farmers who take a loan with one of the Partner Financial Institutions (PFIs). This instrument will be implemented on a first-come, first-served basis, until exhaustion of the funds. MAFF will directly transfer a lump sum amount of USD 140,000 to Wing and USD 60,000 to Chamroeun which they will manage independently[26][54]. These funds will be used to directly reduce the interest rate for their customer base. It is estimated that borrowers will benefit from the reduction of the interest rate, create strong momentum on the market during the first months of the program. The model will be refined during the negotiation process (Activity 2.1.2).**

***Activity 2.2.3: Conditional transfers to AC/POs*. This incentive mechanism is dedicated for AC/POs that have submitted business plans and requested a loan to purchase CRTs. This initial market push through conditional transfers for AC/POs opting for the schemes will be managed similar to a results-based grant mechanism and will also be disbursed on a first come first-serve basis until the grant budget is exhausted.**

Implementation arrangements:

The PFIs will be responsible for reporting aggregate results to MAFF PSU on a quarterly basis, including data such as the number of borrowers, share of female borrowers, number of loans, volume of outstanding loans, cumulative value of loans, grant amount disbursed and portfolio at risk. Combined with the first scheme, this will provide AC/POs and farmers with access to collateral-free loan options at an attractive interest rate from Wing Bank and Chamroeun. This is expected to significantly improve the attractiveness of CRTs and lending options for POs and farmers, therefore creating strong traction on the market and create a momentum around the acquisition of CRTs. It should also open the way for further soft loans and investments in CRT in the coming years. The PDAFF in the target provinces and local PFI officers will help in building a pipeline of AC/POs willing to purchase CRTs.
Finally MAFF-PSU will liaise with the National Bank of Cambodia and the Ministry of Economy and Finance with the support of development partners such as ADP or UNESCAP, both institutions are working on a stronger framework

to support the development of climate finance in Cambodia. This includes the implementation of a Climate Finance Facility (CFF) by the end of 2024, managed by ARDB. THE CFF WILL AIM TO UNLOCK AND CHANNEL CLIMATE INVESTMENTS INTO GREEN SECTORS, INCLUDING AGRICULTURE PROJECTS. THEREFORE, MAFF-PSU WILL REGULARLY REVIEW POTENTIAL SYNERGIES THAT CAN BE CREATED BETWEEN THE BLENDED FINANCE INSTRUMENTS DEVELOPED WITHIN CREA AND THE CFF. CRTs.

Component 3: Strengthening institutional capacity building activities on climate resilient agriculture

Component 3 will strengthen the institutional and human capacity to identify and implement CRTs with adaptation benefits. To this end, component 3 foresees activities to raise relevant national and provincial level government agencies' awareness of climate risks in agriculture by conducting study tours and field trips that will reinforce links between relevant policymakers and officials from neighbouring countries and foster stakeholder exchange e.g., through focus group discussions. CREA will also work with the ASPIRE-AT team to support and harmonize existing MAFF knowledge management platforms on climate resilient agriculture and adaptation solutions. Information management and sharing, for instance by means of videos, apps, websites and digital platforms, will empower stakeholders and ensure that CRTs are effectively promoted by MAFF, PDAFF and CEWs thus maximizing their potential for adoption by AC/POs. Additionally, on-farm research pilots will be conducted to support the optimization of existing CRT. This includes improving the understanding of climate risk and vulnerability of target value chains and the identification and optimization of the best combination of CRTs, depending on local context, in complementarity with climate-resilient agriculture practices.

Outcome 3.1: Institutional and human capacity to identify and implement CRTs with adaptation benefits

Output 3.1. Seminars, workshops, and study tours conducted to raise awareness of climate change impacts, vulnerability, and adaptation for relevant government staff at the national and provincial levels. **Relevant line ministries, departments, and technical working groups will be brought together to address cross-sectoral issues linking agriculture, energy, water, income generation, gender and youth employment. Awareness raising of climate risks in agriculture for relevant government agencies at national and provincial levels including technical advisors in the Office of Environment, Natural Resources and Agriculture under the authority of the district governor, Commune Extension Workers (CEWs), will be of paramount importance.The project will continue strengthening technical and institutional capacities in conducting climate change impact assessments and climate change projections in sectoral and sub-sectoral development plans.**

<u>Activities:</u>

Activity 3.1.1. Orientation workshop for MAFF at national and provincial levels. **The workshop will be an entry point to familiarize with the CREA project as well as discuss capacity building needs of MAFF government staff and synergies with other ongoing initiatives.**

Activity 3.1.2. Seminars for national and provincial level staff within MAFF and other relevant line Ministries. **These events will provide a venue for government agencies, MAFF research institutes and other line ministries (MoE, MoWRAM, MoWA) involved in climate change adaptation in the agriculture sector. The objective is to enhance inter-ministerial knowledge sharing and includes support activities to the GEF office of MoE. Seminars will be facilitated to ensure that relevant staff have good knowledge on the following matters: (i) Cambodia Climate Change Policy framework; (ii) Climate Change policy goals of the RGC relevant to the agricultural sector; (iii) Meaning of mainstreaming climate resilience in agriculture with reference to the monitoring framework designed by IIED for MoE and MAFF; (iv) Barriers to the adoption of CRT and scaling up blended finance solutions for AC/POs; and (v) Awareness of a range of potential cross-sectoral actions MAFF/MoE can take to promote dialogue around the importance of CRT.**

Activity 3.1.3 Study visits conducted at regional level. **Locations and specific sites to visit will be discussed during the orientation workshop and can include events at regional level outside Cambodia to gain knowledge on existing CRTs and packages adopted in the Mekong region in particular and in region more generally. The study visits are intended to reinforce links between relevant policymakers and officials from neighbouring countries, building consensus and momentum for implementation of climate change adaptation activities. Through these visits, South-South learning and peer-to-peer networking between countries in the Mekong region will be fostered around challenges to climate adaptation and relevant CRTs. Study tours will include focus group discussions and field trips to provide participants exposure to CRT policies and practical implementation issues at national, provincial and/or local levels. Study tours will be designed for the participation of senior leaders and experts to support policy dialogue on CRT barriers and solutions for adaptation in the agricultural sector.**

<u>Implementation arrangements:</u>

This output will be coordinated by CREA PSU and in close collaboration with the ASPIRE Secretariat. Focal points from the Departments of Science and Technology and Climate Change of MoE will be consulted during the preparation phases of the seminars and invited to participate. Annual study tours will be proposed by the CREA PSU and endorsed by MAFF.

Output 3.2. Revised MAFF Climate Change Adaptation Toolkit. **Through this output, the project will stimulate further work on options for adapting to climate change in the agricultural sector in Cambodia. It will draw on lessons learned from the demonstration units (Output 1.3) as well as other South East Asian countries. At present,**

the toolkit available online[27][55] under the National Council for Sustainable Development (NCSD) provides information on 34 technologies ranging from integrated farming systems, agroforestry, canal and pumping interventions and rainwater harvesting to name a few. It describes what policy makers, development planners, agriculture experts and other stakeholders in Cambodia should consider while determining a technology development path in agriculture.

Activity 3.2.1: Technical support to review and update the toolkit. **A consultant will be recruited to update the toolkit[28][56]. Training material developed in 1.3 will feed into this toolkit taking into account practical considerations for making this toolkit more user-friendly as well as informing MAFF which technologies, human capacities and skills are already available locally.**

Activity 3.2.2: Meeting with MoE and MAFF to assess the updates required for the MAFF CCA Toolkit. **This meeting between MoE and MAFF will be an important step to assess the knowledge gaps in CRTs/CCA and to decide on the additionality the CREA funded activities can bring in updating the Toolkit. Provincial, district, and commune level staff will be empowered to communicate the benefits of adaptation technologies featured in the Toolkit to AC/PO members using newly developed information materials.**

Activity 3.2.3: Support the consolidation and enhancement of the MAFF/ASPIRE online knowledge management and extension platform. **This activity is in line with the Digital Technology Policy Framework (2021-2035) which emphasizes the use of digital platforms in production and value chains of agriculture. The project will provide technical assistance support and increase institutional capacity for enhancing digital technology in particular as a tool for improving the way knowledge management products are uploaded on the extension platform and ways in which these are communicated to AC/POs but also other relevant stakeholders in line with Cambodia's e-Agriculture Strategy.**

<u>Implementation arrangements:</u>

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Given MoE's role in developing the CCA toolkit, they will play a central role in providing inputs to the Toolkit. MAFF GDA and the Technical Working Group on Agriculture and Water (TWG-AW) will provide technical direction. Activities 3.2.2 and 3.2.3 will be led by a recruited short-term national consultant which will work closely with CREA-PSU and PDAFF. Provincial coordinators will support in identifying relevant modalities for improving knowledge sharing between national, provincial and local levels in order to communicate the benefits of CRTs to key audiences.

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Output 3.3. Technical briefs on benefits of CRTs in target value chains developed. **The MAFF Climate Adaptation Toolkit will be updated through the development of technical briefs around climate adaptation solutions and production benefits of CRTs in target value chains. These briefs will distill complex information into user-friendly**

content (Khmer-language and infographic content), thereby strengthening the understanding of CRTs among national and provincial stakeholders. These KM products will be uploaded to MAFF's website, e-library, and other knowledge management platforms used by the national and provincial staff, ensuring easy access for key stakeholders in a user-friendly and accessible manner. Activities under this output are closely linked with Output 1.4. CREA will adapt existing resources such as video materials, messaging apps, and voice chats through existing MAFF channels like the MAFF News App, CAMAgriMarket, AgriLibrary, and partner digital agriculture platforms such as Agribuddy, Chamka, Tonlesap App, and WingAgri.

Activities:

Activity 3.3.1: Recruit short-term consultant to document CRTs piloted under the project and conduct desk review. This activity will be carried out by the recruited consultant under Output 3.2 and involve conducting field visits to the demonstration sites and an assessment of the demand for the piloted CRTs. An assessment of the CRTs integrated in the business plans submitted by AC/POs to PFIs will be a key indicator in understanding the ground level reality of CRTs with high-potential and hence which require to be further supported with robust data and communication material.

Activity 3.3.2: Develop Technical Briefs on CRTs for target value chains. The recruited consultant will develop 7 technical briefs (1 for each target value chain) elaborating on the costs and benefits (economic, social and environmental) of the CRTs. The technical briefs will also be part of the package of KM products to be uploaded on the MAFF extension platform.

Activity 3.3.3: Workshop to review available documentation on CRTs. Workshops will be conducted at national and provincial levels to discuss progress in implementation of CREA and provide a venue for government agencies and MAFF research institutes to promote and discuss CRT in farming systems and the technical briefs in particular. CREA will conduct these workshops in close collaboration with the ASPIRE-AT team to support and harmonize existing MAFF knowledge management platforms on climate resilient agriculture and adaptation solutions. Information management and sharing will empower stakeholders and ensure that CRTs are effectively promoted by PDAFF, maximizing their potential for adoption by AC/POs.

Implementation arrangements:

Under the overall coordination of CREA-PSU, this output will be implemented through technical assistance support of the recruited national consultant. He/she will liaise with MAFF/GDA, ASPIRE Secretariat, MoE/NCSD, MoWA, MoWRAM and other line agencies both at national and provincial levels. The digital marketing agency recruited under Output 1.4 will be responsible to support in digitizing and uploading the material on the MAFF/ASPIRE extension platform.

Output 3.4. On-farm research pilots for optimizing existing CRT solutions. Under this output, CREA will support participatory applied research (PAR) on CRTs currently on the market. This will improve the quality, durability,

and cost-effectiveness of the selected CRTs[29][57]. R&D grants to academic institutions will be provided to support enhancing of facilities and laboratories, validate on the techno-commercial aspects of climate resilient technologies (quality assurance), promote business incubation initiatives to increase engagement in entrepreneurship or to offer apprenticeship opportunities for fresh graduates, especially if linked to one of the demo units identified or implemented in component 1. Applications of academic institutions will be solicited through a call for proposals. Each proposal will be reviewed against a developed standardized list of criteria, to define the grant amount allocated (up to USD 50,000 maximum), and which will vary depending on expected results. This mechanism will also likely be leveraged to conduct useful R&D developments with relevant academic, CRT suppliers, AC/POs and/or buyers to overcome bottlenecks identified during the pilots in Component 1.

Activities:

Activity 3.4.1: Call for Proposal presentation and issuance for the selection of MAFF Research Institutes **CREA-PSU will issue a Call for Proposals within MAFF to all the research institutes. Joint proposals will also be accepted. A shortlist of high-potential research institutes which have expressed interest include: (i) the Royal University of Agriculture (RUA); Prek Leap National Agriculture Institute; National Institute of Agriculture in Kampong Cham, all of which are public institutions. Others may include the Cambodian Agricultural Research and Development Institute (CARDI) and Institute of Technology of Cambodia (ITC) which already contribute to research and development to enable modernization of agriculture production and processing technologies.**

Activity 3.4.2: Develop methodology for field assessment of CRTs. **The on-farm research pilots will focus on assessing the optimal dimension, types of material, resistance to storm, temperature aspects, and the economics of investment opportunities for CRTs. This work will be done in partnership with the CRT providers but the research institutions will be granted greater duties to do CRT research, including designing and developing machinery, accessories and equipment for use in agriculture production and processing that constitute the core aspects for enhancing development of the CRT sector.**

Activity 3.4.3: Research study on climate risk and vulnerability for target value chains in agriculture. **PDAFF and provincial coordinators together with the selected MAFF research institutes will conduct cost-benefit analyses of CRTs selected for the on-farm research pilots and take into account the different agroecological zones and climate scenarios (dry climate, strong winds, temperature rises, etc.). As part of the research assessment, ergonomics and inclusivity (gender and accessibility) will also be considered as well as the present status of quality standards and sustainability of CRTs. The research study will focus on adaptation options which are (i) capable of responding to droughts, heatwaves, changes in rainfall patterns, and outbreaks of pests and diseases associated with those events; (ii) accessible to farmers and offer a favourable cost-benefit ratio; and (iii) characterized by commercial potential and are widely available. The study will define the hotspot locations for the research pilots identifying the complementarity with climate resilient agriculture practices such as intercropping or integrated farming where appropriate.**

Activity 3.4.4: Technical assistance for evaluation of Innovation Grants. **The evaluation of the proposals submitted by the research institutes will be led by an independent international consultant. Under the guidance and supervision of the Project Manager, the Grants Proposal Evaluator will be responsible to conduct a full assessment of each eligible proposal and prepare a shortlist to present for approval to the Technical Committee comprising of MAFF, CREA-PSU and ASPIRE Secretariat and chaired by the Project Director.**

Activity 3.4.5: Innovation Grants disbursed for Participatory Applied Research (PAR). **Grants will be disbursed to selected research institutes who will be responsible for the duration of the on-farm pilot in purchasing the CRT as well as the research equipment for data collection and monitoring. Ultimately the goal is cost optimization through analysis of these CRTs taking into account the different agroecological zones and different climate scenarios (dry climate, strength of winds, temperature rises etc.). It is important to note, activities 3.4.4 and 3.4.5 will prioritize supporting/enhancing existing institutions within larger national research agenda of MAFF research institutes. Additionally, this outcome is strongly aligning with activities under output 1.3**

Implementation arrangements:

CRT providers will carry out these activities in close collaboration with MAFF research institutes. Monitoring and reporting will be conducted by the grantees (research institutes). The data reported will be verified and certified by the Department of Agriculture Engineering of General Department of Agriculture and Department of Agricultural Extension, Forestry and Fisheries The latter will also take the lead in the outreach campaign, through multiple platforms within MAFF.

Project Implementation Plan: Interim targets by Year					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Outcome**
Component 1: Promoting climate resilient technologies for building adaptive capacity in climate vulnerable agri-value chains					
Output 1.1: Business acceleration program to improve investment readiness and capacity to scale operations of selected CRT providers	• Launch Competitive Bidding process to select CRT providers • Recruit Consultancy firm for initial assessment of business capacity of selected CRT providers	• Business Acceleration program	• Workshop to disseminate results of the Business Acceleration program		**Outcome 1:** Enhanced market readiness for scaling up economically viable CRTs for agriculture production, processing and/or postharvest handling activities
Output 1.2:	• Validation process of active AC/POs	• Training for integration of Women's	• Workshop at provincial level		

Training and capacity building of PFI officers, AC/POs on CRT investment models	• Recruit national consultant/firm to support development of AC/PO business plans to integrate CRT	Empowerment Farmer Business School (WE-FBS) (MoWA/PDOWA) • In-depth/follow-up meetings with AC/POs on CRT investment models	(PDoE, PDoWA, PDAFF)		
Output 1.3: CRT demonstration units installed in key locations for training youth and creating demand	• Site selection, field visits for assessing demand, willingness to pay for CRTs • Technical assistance on integrated farming system approach, application of organic fertilizers, and soil and nutrient management activities (for PDAFF)	• Grants for CRT providers to install demonstration units for AC/POs/youth groups • Multi-stakeholder platform (MSP) events • Training material for PDAFF, CEWs including one-pager briefs on Economic and Financial analysis of CRTs			
Output 1.4: Outreach campaign promoting CRT benefits and CRT packages available for sale on existing digital agriculture marketplaces	• Digital marketing agency recruited • National level workshops for CRT providers, fintech and digital extension service companies for onboarding CRT on digital marketplaces	• Digital user-friendly KM products developed • Marketing campaign launched to disseminate benefits of CRT adoption through existing digital agriculture services and relevant social media platforms			
Component 2: Unlocking sustainable microfinance products to support inclusive adoption of CRTs					
Output 2.1: Financial schemes and associated procedures co-designed with PFIs	• Meetings between selected PFIs and MAFF for validation of blended finance schemes • Design blended finance mechanism and associated procedures (fund flow, fiduciary/risk management, operational manual, SECAP etc.)				**Outcome 2:** Existing or innovative financial instruments enabled or introduced to enhance climate resilient agriculture

	• Recruit Green Finance Coordinator				
Output 2.2: Innovative financial instruments piloted		• Establish the Climate Adaptation Guarantee Facility and Matching Grant facility • Conditional transfers to AC/POs - incentive mechanism for AC/POs to submit business plans with integration of CRT	• Assessment of the two blended finance schemes		
Component 3: Strengthening institutional capacity building activities on climate resilient agriculture					
Output 3.1: Seminars, workshops, and study tours to raise awareness of climate change impacts, vulnerability, and adaptation for government staff	• Orientation workshop for government staff at national level on climate resilient agriculture and project goals/objectives • Study visits conducted at regional level	• Workshop for relevant government staff at national and provincial levels			**Outcome 3:** Strengthened institutional and human capacity to identify and implement CRTs with adaptation benefits
Output 3.2: Revised MAFF Climate Change Adaptation Toolkit		• Seminar to discuss knowledge gaps in the CCA Toolkit • Technical support to review and update the Climate Change Adaptation (CCA) Toolkit	• Support the consolidation and enhancement of existing MAFF/ASPIRE knowledge management and extension platform		
Output 3.3: Technical briefs on benefits of CRTs in target value chains developed		• Recruit Consultant/firm for developing methodology for field assessment of CRTs that require optimization • Research on climate risk and vulnerability for target value chains in agriculture for validating on-farm research pilots			
Output 3.4: On-farm research pilots for optimizing existing CRT solutions	• Request for Proposal and selection of MAFF research institutes	• Innovation Grants for Participatory Applied Research (PAR) on-farm pilots		• Results disseminated from the on-farm pilots	

Monitoring and Evaluation (M&E)

The M&E plan is based on the results-based management approach outlined in the Results Framework (RF). The RF matrix outlines project objectives, core indicators, impact, outcomes, and outputs. Based on GEF's Programming Strategy on Adaptation to Climate Change for the LDCF and SCCF for the GEF-8 Period[30][58] and IFAD's Results and Impact Management System (RIMS), performance indicators (OVIs) have been selected and defined to enable uniform data collection and analysis. In the Results Framework, data collection frequencies, schedules, and roles are outlined.

According to the GEF programming recommendations, CREA M&E efforts will be aligned with those of its baseline project ASPIRE-AT to ensure alignment with the M&E plan[31][59]. To this end, CREA's M&E data collection methods will, where POsible, use ASPIRE-AT's outcome survey panels, the ASPIRE-AT Management Information System, and the Secretariat which is appointed by MAFF to carry out ASPIRE-AT's day-to-day duties as outline in the Project Implementation Manual (PIM)[32][60].

Data collection: The M&E data collection instruments will consist of (i) Outcome Survey; (ii) CREA-related project reports and agreements; (iii) CRT and PFI partner business plans, reports, expenditure ledgers, and other documentation; and (iv) digital advertising and web data analytics platforms. All collected data will be, if possible, to disaggregated by sex, gender and other diversities relevant for the project.

Core indicators will be measured according to GEF and IFAD guidelines. In target provinces, households of AC/POs will be surveyed. A convenience sample of MAFF national and provincial staff will also be used. For Component 1 and 2 outcomes, these samples should include a representative number of women, youth, and indigenous populations. In accordance with GEF and IFAD guidelines, outcome surveys will be conducted at baseline, mid-term, and end-line.

Data from crops, farmer revenues, and expenditures are captured by the ASPIRE-AT project MIS, along with AC/PO and enterprise-level data. Data will be collected using this MIS by ASPIRE-AT. In addition, AC/POs, partner enterprises, and PFIs participating in ASPIRE AT should provide regular progress reports to facilitate output-level indicator monitoring. By building on ASPIRE AT's MIS, the project will be able to track CREA-related outcome and output indicators, which include: (i) CRT installation records and key uses and applications of CRTs; (ii) AC/POs loan repayment data (repayment of CREA-established loans) and PFI reports; (iii) CRT providers' project-related sales, income, and expenditures, and; (iv) CREA-related project documents, reports, attendance records, digital files, and MAFF website analytics. To ensure the timeliness and quality of implementation of CREA project components, IFAD and MAFF-PSU staff will undertake regular supervision and monitoring missions as per the M&E work plan.

M&E work plan and adaptive management: The M&E work plan identifies key M&E activities to be carried out throughout the duration of the CREA project. Monitoring and evaluation for the CREA project will be the responsibility of the project management team in MAFF-PSU and will share resources, including technical assistance, with ASPIRE AT M&E. PDAFFs with the support of a provincial coordinator funded by CREA on a retainer

basis will be tasked to ensure that M&E data are collected in a complete and timely manner. At the start of the project, MAFF-PSU will recruit an M&E Officer, who will be responsible for monitoring the project progress and ensuring timely submission of reports as per the M&E work plan.

An Inception Workshop will be held two months after the project begins. MAFF will host the inception workshop with participation from IFAD Country Programme Team, CRT providers, PFIs, ASPIRE AT managers, AC/POs representatives, and other stakeholders. This workshop is essential for devising the initial year's budget and work plan, clearly defining responsibilities, and exploring financial reporting obligations in alignment with the project's goals.

An annual reflection workshop will be held (in parallel but separate from the project coordination committee meetings). The Annual Reflection Workshop will bring together the PSU and other project stakeholders to reflect on results achieved and indicator data collected during the previous year of project implementation. Information gathered at the reflection workshop will be reported in the annual Project Implementation Report (PIR), while adaptive measures will be incorporated into the following year's Annual Workplan and Budget (AWP&B). Additionally, the Project Results Framework should be updated following the Annual Reflection Workshop.

Project Reporting: IFAD-MAFF will conduct joint annual supervision missions to assess the CREA project's progress. SMs will be conducted in conjunction with those of ASPIRE-AT. Supervision missions will focus on finance and administration, monitoring and evaluation, and project safeguards and gender.

IFAD will engage an independent external consultant to conduct a Mid-Term Review assessment to evaluate progress towards achieving the desired outcomes and suggest necessary adjustments. The findings and recommendations of this review will be documented in the Mid-Term Review report submitted to GEF alongside the updated Climate Change Adaptation Tracking Tools. The midterm assessment Terms of Reference will be prepared by MAFF and agreed to by IFAD. Additionally, the PMU will submit Project Implementation Reports (PIRs) each year during the month of September to the GEF.

Upon completion of the project, an End-of-Project assessment will be conducted within three months of the CREA closing date. The end-of-project evaluation will focus on whether the project delivered the results as originally intended (and if any corrections were made at the mid-term review). In the terminal evaluation, results will be evaluated for their impact and sustainability, including contribution to capacity development and environmental goals. A Terminal Evaluation report will be submitted to GEF within six months before or after project completion.

GEF and IFAD project reporting is the responsibility of the CREA project management unit. Listed below are the necessary reports, their responsible parties, deadlines and associated budget.

Update table based on Cost Tables

M&E Reporting	Responsible Parties	Time Frame/Deadline	Budget (USD)	GEF (USD)	RGC (USD)
Inception Workshop	MAFF-PSU	Within two months of initiation of project implementation	40,000		40,000
Project Inception Report (govt)	MAFF-PSU (M&E Officer)	Within two weeks of inception workshop	11,200		11,200
Baseline survey and validation of Climate Risk Assessments (GEF/govt)	MAFF-PSU / consultants/firm	Validation of ASPIRE-AT baseline surveys	102,700		102,700
Project Implementation Report (PIR)	MAFF-PSU (with support from M&E officer)	Annually	N/A*		
Annual Work Plan and Budget (AWP&B)	Finance Officer	Annually	N/A**		
Project Implementation Review (GEF)	IFAD ECG with inputs from all project implementing stakeholders	Annually (early September)	N/A*		
Climate Change Adaptation Tracking Tool (GEF)	M&E Officer with inputs from project-supported national parks	At mid-point and terminal evaluation	N/A*		
Data collection and reporting	Provincial coordinators	Every six months	31,000	6,200	24,800
Mid-term Review (GEF)	Consultant	At the mid-point	34,000	34,000	
Terminal Evaluation (GEF)	Consultant	Within six months before or after project completion.	44,300	44,300	
M&E Officer (GEF)	Consultant	Full-time	72,000	72,000	
Environment, Climate and Social Safeguards Specialist	Consultant	Full-time	122,000	122,000	
Total			**457,200**	**278,500**	**178,700**

** Included in salary and TOR of M&E Officer*

*** Included in salary and TOR of Finance and Accounting Officer*

**** Total 5 Provincial Coordinators (1 per target province)*

Knowledge Management

Knowledge Management is a critical enabling factor for scaling of climate adaptation technologies and practices. Throughout its activities, CREA will invest in the creation of knowledge assets and products both related to the benefits of CRTs and innovative rural financing for climate adaptation. Knowledge assets and product development are at the core of a number of CREA's planned outputs and activities. CREA knowledge activities and deliverables will include:

Activity/Deliverable	Component	Timeline	Budget (USD)	Notes
Seminars, workshops, and study tours to raise awareness of climate change impacts, vulnerability, and adaptation for government staff	Component 3 (Output 3.1)	PY1, PY2, PY3, PY4	44,000	
Technical briefs on the benefits of CRTs in target value chains	Component 3 (Output 3.3)	PY1, PY2, PY3	40,000	Publication and dissemination
Training material for PDAFF, CEWs including one-pager briefs on Economic and Financial analysis of CRTs	Component 1 (Activity 1.3.3)	PY1, PY2	54,000	
		PY1, PY2	49,000	

Digital user-friendly KM products aimed to familiarize smallholders with the benefits of CRTs through easy-to-understand and easy-to-share information (infographics, video materials)	Component 1 (Activity 1.4.3)			The materials for the outreach campaign will be based on those training materials developed under Activity 1.3.3.
Revised MAFF Climate Change Adaptation Toolkit	Component 3 (Output 3.2)	PY3, PY4	39,600	Including workshops with MAFF to discuss knowledge gaps in the Toolkit
Reports outlining the findings from the study on microfinance products for CRTs (Activity 1.1.3), and a research study on climate risk vulnerability (Activity 3.3.3)	Component 1/Component 3 (Activity 1.1.3 / Activity 3.3.3)	PY3	10,800	
Workshop to disseminate results of the Business Acceleration program.	Component 1 (Activity 1.1.5)	PY2	5,000	
Reports on quality, durability, and cost-effectiveness of currently available CRT solutions in Cambodia.	Component 3 (Output 3.4)	PY4	13,000	Including publication and dissemination
Good Practice Briefs documenting lessons and recommendations stemming from CREA's other project knowledge assets and the mid-term (MTR) and end-line evaluation.	M&E	PY2, PY4	A cost component of the M&E officer	
Publishing KM assets on relevant IFAD, GEF and MAFF online repositories.	KM&L	Ongoing	A cost component of the M&E officer	

Based on the relevance and appropriateness of the knowledge assets for different stakeholders, the dissemination of knowledge assets and products will be executed through (1) ASPIRE AT's project website (https://aspirekh.org); (2) ASPIRE AT Centers of Excellence (CoE); (3) project outputs 1.4 (Outreach campaign promoting CRT benefits available for sale on existing digital agriculture marketplaces); (4) project output 3.1. (Training, workshops and study tours conducted to raise awareness of climate change impacts, vulnerability, and adaptation for relevant government staff at the national and provincial levels); and (5) other relevant knowledge repositories such as GEF Knowledge and Learning (https://www.thegef.org/what-we-do/topics/knowledge-learning); IFAD Knowledge webpage (https://www.ifad.org/en/web/knowledge/publications). Furthermore, building on its baseline project ASPIRE AT, CREA will support ASPIRE AT knowledge management efforts by participating, alongside ASPIRE AT staff in other relevant scientific, policy-based, and/or any other networks, which may be of benefit to project implementation through lessons learned.

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[1] CAISAR focuses on improving farm-level climate adaptation, resilience, and water use efficiency as well as climate-proofing water infrastructure and rehabilitating and modernizing irrigation infrastructure for increased resilience. The project is a USD100 million GCF funded project in collaboration with IFAD and AIIB. CREA will collaborate with CAISAR in assessing the climate vulnerability of target districts in Kampong Chhnang given this is an overlapping target province.

[2] Producer Organisation means any type of formal or informal grouping of farmers for the purpose of improving their agriculture production, post-harvest handling, storage, processing or marketing. Organisations that have credit schemes as their sole or main activity do not qualify for project support (ASPIRE-AT Project Implementation Manual, Annex 8, pg. 14).

[3] Ministry of Agriculture, Forestry and Fisheries (2022). Gender mainstreaming policy and strategic framework in Agriculture sector 2022-2026.

[4] Stafford Smith, M. 2020

[5] The project will build on the Multi-Stakeholder Platforms Lessons learned about their role in IFAD value chain brief, considered an effective tool promoted by IFAD for pro-poor value chain governance.

[6] The average number of farmers per AC/PO in CREA target provinces is 165 members. So, it is expected that a total of 6,600 farmers under these 40 AC/POs will submit business plans with integration of CRTs.

[7] During the design mission conducted in June 2023 to assess the state of the CRT supply in Cambodia, approximately 15 companies with expertise in providing solar water pumps and/or irrigation solutions were identified, such as SOGE, Pteah Baitong, or Agros. Additionally, around 10 companies offering nethouses or greenhouses were identified, such as ISC or Kasekor Chhlat. See stakeholder Engagement Plan for full list.

[8] Khmer Enterprise has been involved with a recent Investment Readiness Program funded by Swisscontact supporting Entrepreneur Investment Support, an initiative within the Enhancing Entrepreneurial Ecosystem and Investment (3Ei). The project will be discussing with them the lessons learned from the 3Ei initiative.

[9] The main message from this table is that interest rates remain high (often between 15 and 18% per annum) and collateral is required most of the time for amounts bigger than USD 3,000.

[10] The WE-FBS has been piloting in Cambodia with support from the FAO in partnership with the Gender Working Group of MAFF and MoWA with aims to enhance the capacities of rural men and women small-scale producers to create profitable agricultural enterprises. The program has reached over 2,300 producers, with about 60% of them being women. To date the following has been achieved: 17 master trainers at the national level; 112 provincial facilitators from various departments and organizations; 97 formal and informal producers' groups across 62 villages.

[11] Based on the initial baseline/feasibility studies conducted by ASPIRE-AT, about 5 ACs have memberships of 1,000 members or above.

[12] Validated AC/POs are referred to as graduated POs.

[13] Under ASPIRE-AT, one service provider will be recruited early in the project with the dual role of (i) supporting capacity development of POs; and (2) further developing procedures and working methods as a basis for recruiting up to four additional service providers based either on cluster areas or on specific

value chains. CREA will benefit from the latter activity of the service provider given the baseline project is at a more advanced stage in terms of implementation and planning activities.

[14] Ministry of Agriculture, Forestry and Fisheries (2022). Gender mainstreaming policy and strategic framework in Agriculture sector 2022-2026.

[15] The project will provide up to 50% grant funds of the total cost for CRT demo units, with a maximum cap of USD1,000 per individual CRT and USD10,000 per cooperative CRT. The funds will be channelled directly to the CRT providers. The CRT providers will be responsible for selecting interested farmers who will act as 'lead champions' and will have the opportunity to test different financing/business models (i.e., revolving fund with farmers, credit scheme, discounted CRT as time-bound promotion etc.)

[16] These services will include cashless payroll services; cashless merchant solutions using QR technology; internet banking facilities

[17] The Credit Guarantee Corporation of Cambodia (CGCC) provides guarantee products to PFIs, but these products are not suitable for loans below USD 20,000 or for diversified portfolios like CRTs. Additionally, the guarantee comes with a cost (1% of the loan amount per year), which is borne by farmers.

[18] See Annexes uploaded on the portal for brief company profiles of Wing Bank and Chamroeun.

[19] IFAD has recently signed an agreement for a USD5 million subordinated to AMK. The due diligence process for Wing and Chamroeun will follow the same internal procedures.

[20] The Agricultural and Rural Development Bank (ARDB) and SME Bank manage two dedicated blended finance instruments for providing concessional loans to agricultural cooperatives through ASPIRE-AT. The instrument also permits CRT investments and provides additional market space for CRT providers.

[21] https://www.cgcc.com.kh/en/

[22] Chamroeun is currently partnering with Heifer International Cambodia to better understand the needs of the cooperatives and provide adequate financial support. See an example of loan granted to a cooperative: https://www.facebook.com/heifercambodia.org/photos/a.531397430371527/2262728483905071/?type=3&locale=ms_MY. Additionally, Chamroeun has already put some actions into place to develop its activity on the market of CRT. As an example, the MFI is providing working capital financing to Agros, a local provider of solar water pumps and soil management solutions. The MFI is working with the supplier to provide loan options to their customers.

[23] Wing Bank will disburse USD 3,500,000 and Chamroeun USD 1,500,000 in collateral-free loans.

[24] Chamroeun will receive a USD 100,000 grant from UNEP through the EmPower II project focusing on building climate resilience of women in rural areas. CREA will enable Chamroeun to expand its outreach among farmers and develop its CRT portfolio, in synergy with UNEP.

[25] The actual interest rate provided by Wing Bank and Chamroeun ranges between 10.5% and 18% per annum.

[26] The exact amount will be estimated by the PFIs, discussed and agreed upon with MAFF during the negotiation phase.

[27] *https://ncsd.moe.gov.kh/sites/default/files/2019-10/Adaptation%20Technologies%20Guide-Agriculture_June%202019_En.pdf*

[28] The latest version of the Climate Change Adaptation Toolkit was published in June 2019.

[29] As an example, material and optimal design size are technical improvements that can enhance the performance of nethouses on the market. For solar pumps, it is necessary to assess the most efficient types of pumps, batteries, panels, etc. in order to ensure sustainability. One potential demonstration unit will be to pilot irrigation methods inside nethouses and understanding quantities of water required for various crops, as well as optimal sizing of tanks/reservoirs for pumping water into them and using efficiently water for irrigation through gravitational pressure pipes. Another model combines electric pumps with greenhouses and storage tanks. This model would be attractive to farmers where the grid is available and stable given that tariff rates are lower at night (9pm-7am).

[30] GEF/LDCF.SCCF.32/04/Rev.01)

[31] Guidelines on the GEF Project and Program Cycle Policy (GEF/C.59/Inf.03), p.16

[32] Annex 8: Project Implementation Manual (PIM) – Monitoring, Evaluation and Knowledge Management (p. 127-137)

Institutional Arrangement and Coordination with Ongoing Initiatives and Project.

Please describe the Institutional Arrangements for the execution of this project, including financial management and procurement. If possible, please summarize the flow of funds (diagram), accountabilities for project management and financial reporting (organogram), including audit, and staffing plans. (max. 500 words, approximately 1 page)

MAFF will be the Project Executing Agency and will assign project management responsibilities to the CREA Project Support Unit (PSU). Close coordination with the ASPIRE Secretariat[1][61] is envisaged, thus making use of established capacity, ensuring continuity and facilitating implementation of the project. ASPIRE Secretariat will be assisted by a core team of technical advisers funded by CREA. MAFF-General Directorate of Agriculture (MAFF-GDA) will be responsible for technical guidance in key areas including (i) formation and capacity building of ACs; (ii) registration of POs; (iii) development and approval of technical protocols for crop production; (iv) coordination of the project ICT strategy; and (v) management of Centres of Excellence.

PDAFFs will (i) conduct mapping of pro-poor value chains and producer organisations; (ii) conduct formation and registration of Agriculture Cooperatives; (iii) manage and coordinate networks of Lead Farmers including identifying training needs; (iv) cooperate with regional service providers for business development services to graduated POs; (v) project planning, monitoring and reporting at Provincial level. On the basis that the due diligence process is successful, Wing Bank and Chamroeun will be project implementing agencies and will manage the Climate Adaptation Guarantee Facility and the Matching Grant facility, screen and conduct due diligence on investment proposals, finance investments and report on results to the project.

CREA-PSU's will recruit a Finance and Accounting Officer, an M&E Officer, 5 Provincial Coordinators (each based in target provinces for coordination between national and provincial levels), a Rural Finance officer and a Social Safeguards Specialist. In addition, service providers will be hired for technical assistance support including national and international consultants to support the PSU in the following areas: (i) leading the Business Acceleration Program; (ii) launching the Digital Marketing campaign, developing technical briefs / updating the Climate Adaptation Toolkit and uploading them on various platforms; and (iii) supporting the development of AC/POs business plans.

CREA PSU will be responsible for **Financial Management** of the project using systems and procedures established under ASPIRE and consistent with GoKC's Standard Operating Procedures (SOP) for externally financed projects/programmes. CREA PSU will operate one dedicated project account for the GEF grant proceeds and one blended finance deposit account hosted by Wing Bank. CREA PSU, with support from ASPIRE Secretariat will be responsible for project **procurement** using GEF funds and will follow the SOP to the extent such are consistent with the IFAD Project Procurement Guidelines. PO's will conduct a simple community procurement process to identify preferred suppliers for investments financed through the selected PFIs.

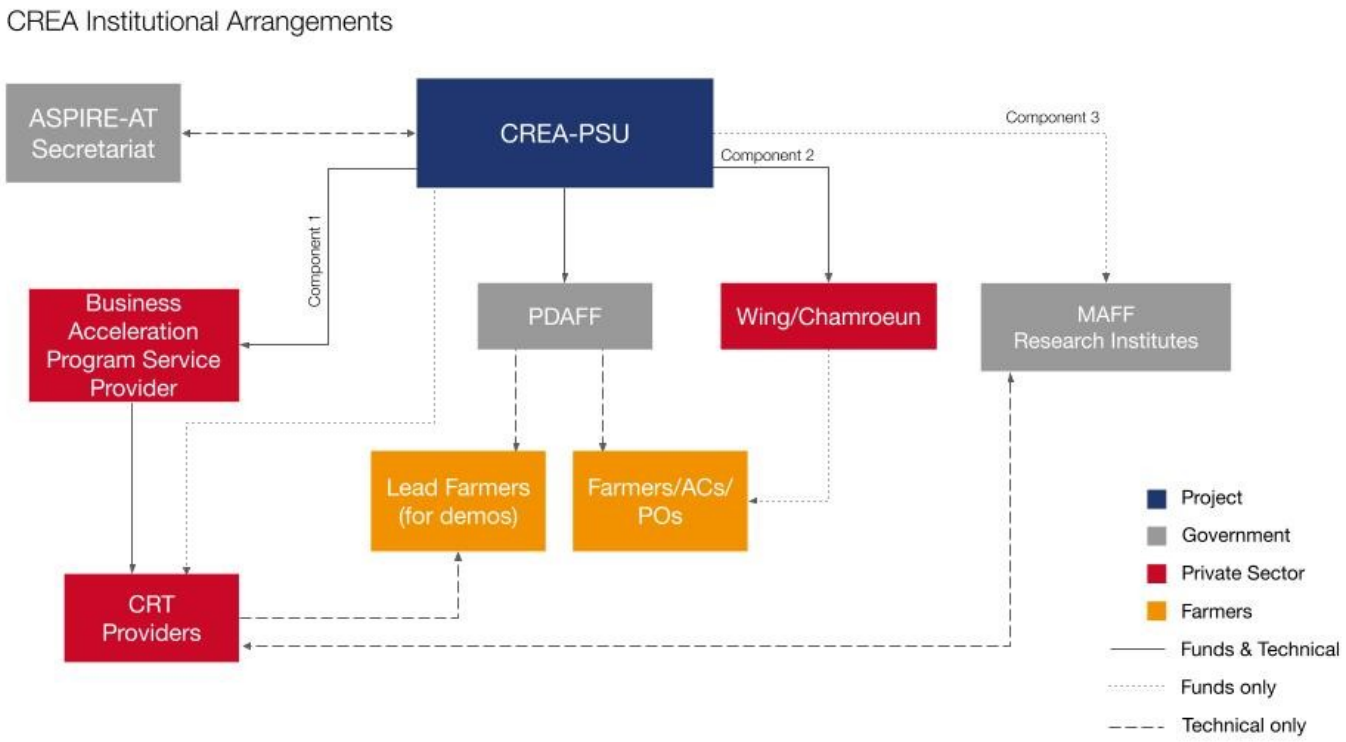

Figure 5: CREA Institutional Arrangements

[1] ASPIRE Secretariat will recruit and manage a core team of project technical advisers comprising Chief Technical Adviser; Deputy Chief Technical Adviser; Gender and Social Inclusion Specialist; Social, Environment and Climate Change Specialist, M&E and Planning Specialist, ICT Specialist, Finance and Accountant Specialist and Procurement Specialist.

Will the GEF Agency play an execution role on this project?

If so, please describe that role here and the justification.

Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing (max. 500 words, approximately 1 page)

Cooperation with ongoing initiatives and projects include:

Agricultural Services Programme for Innovation, Resilience, Extension and Agricultural Trade (ASPIRE AT; 2023-2028) will be implemented by MAFF and will link smallholders to value chains for domestic and priority export markets through enhanced producer organizations (POs) including existing agricultural cooperatives (ACs). ASPIRE AT will be national in scope and reach out to about 125,000 rural households (corresponding to 500,000 people). The project is expected to begin implementation in 2023 and will focus on smallholders who are already members of AC/POs as well as approximately 2,000 of the business clusters (BCs) established by ASPIRE and AIMS. Estimated available financing of the project totals USD 125.2 million. ASPIRE-AT will be the baseline project for CREA. Specific mechanisms of ASPIRE-AT such as the Centres of Excellence or the result-based grant will be leveraged through

CREA, respectively for supporting awareness raising and capacity-building on climate change and co-financing demonstration pilots. In return, the CREA project expects stimulating productive and resilient assets including CRT in production, post-harvest and processing, enhancing the adaptive capacity of farmers and agribusinesses within the scope of ASPIRE-AT.

Climate Adaptive Irrigation and Sustainable Agriculture for Resilience (CAISAR) will be implemented by the Ministry of Water Resources and Meteorology (MoWRAM) with finance from AIIB, GCF and IFAD to support climate-adaptive irrigation. The project targets 4 provinces located in the Lower Tonle Sap basin: Kampong Speu, Kampong Chhnang, Kandal, and Pursat. The total financing envelope is USD100 million and proposed investments (expected to begin in 2025) will support the efforts of the Government of Cambodia to sustain food security and rural livelihood during and after the Covid-19 crisis through the restoration and enhancement of smart and climate resilient irrigation systems under the theme of "Build Back Better".

AMK Microfinance – Promoting Pro-Poor Rural Development through Microfinance to be financed by IFAD's subordinated loan of USD 5 million under IFAD Non-Sovereign Operations (NSO) facility. AMK will leverage up to 5 times the initial IFAD contribution to address the financial needs of rural women, youth and poor smallholder famers and Agriculture Small and Middle-sized Companies (Agri-SMEs) development in all Cambodian provinces in the wake of COVID-19, fostering productivity improvement, increased income and job-creation in rural areas. Through this project, a line of credit for smallholder farmers to purchase solar pumps is being planned for a total amount of USD 500,000.

In addition to close coordination with the above three projects, **IFAD's Inclusive Green Financing initiative (IGREENFIN)** for climate resilient and low emission smallholder agriculture is an "IFAD-green finance brand" and the first Green Climate Fund (GCF) lending regional programme to be implemented at scale in five West African countries across Green Great Wall (GGW) 4 and beyond. This project with a total financing envelope of USD 155 million will be good source of best practices and lessons learned for CREA. The project seeks to improve access to financing and further promote the adoption of climate resilient and low emission agriculture practices and solar energy systems throughout agricultural value chains to reduce GHG emissions.

The Cambodia-Australia Partnership for Resilient Economic Development (CAP-RED) will provide a total USD 107 million grant from 2022 to 2030 to recover from the consequences of the Covid-19 outbreak. The programme has three strategic components: capacity building in the public health sector to respond to potential future outbreaks, a stability component including assistance on policymaking for social security, education, improved public governance, and inclusiveness of women and vulnerable groups, and an economic recovery component. The latter includes "efforts to boost agricultural production, diversify crops and increase value addition" and "alternative financial services tailored for women in rural areas", as well as efforts to "link smallholder farmers to markets".

Sustainable Assets for Agriculture Markets, Business and Trade Project (SAAMBAT; 2019-2025). The development objective of SAAMBAT is to stimulate rural productivity and enterprise development. The project is implemented by the Ministry of Rural Development (MRD) and targets about 200,000 rural households to benefit from investments in value chain infrastructure (rural roads, rural markets, infrastructure facilities, water management schemes, etc.) and skills, technology and enterprise development (building technical skills for rural youth and supporting dissemination of digital technologies).In line with the programmatic approach, SAAMBAT will work nationally and in 50 main production areas, referred to as Economic Poles (EP), of commodities targeted by ASPIRE and AIMS which

are active in 20 of the 25 Provinces of Cambodia. For Phase 1, 10 EP have been selected from the provinces of Battambang, Kampong Cham, Kampong Chhnang, Kandal and Svay Rieng.

Cambodia Agricultural Sector Diversification Project (CASDP; 2019 -2025), implemented in 10 provinces (Kampong Cham, Kampong Speu, Kampong Chhnang, Kratie, Stung Treng, Preah Vihear, Ratanakiri, Siem Reap, Phnom Penh, Battambang) by MAFF, MEF, MDR and MoWRAM. The project is supporting (i) agricultural value chain development of agricultural cooperatives/ producer organizations and small and medium agribusinesses by facilitating their partnership and building their business development capabilities; (ii) collective/public infrastructure and farm-to-market roads; and (iii) information systems and food quality and safety control and management.

Climate Friendly Agribusiness Value Chains Sector Project (ADB; 2019 – 2025). The project is implemented in 4 provinces (Kampong Cham, Tbong Khmum, Kampot and Takeo) and focuses on four major agricultural value chains: rice, maize, cassava and mango. The project's support is directed towards (i) agricultural cooperatives/farmer organizations and agribusinesses in productivity improvement and diversification; (ii) food quality and safety control and management; and (iii) storage, processing and export capacity. It also supports climate resilient agriculture infrastructure; promotes the applications of solar energy and bioenergy; and enhances technical, institutional and policy capacity and environment that will contribute to the development of the four selected value chains.

Heifer's Cambodia's Poultry Project of National Pride (PPNP) registered the Social Entrepreneurs Union of Agricultural Cooperatives (SEUAC) in June 2022. Under Heifer, 15 cooperatives from six provinces were registered into 1 apex cooperative at national level by MAFF. The project end date is June 2026 and targets 11 provinces (overlapping with all 5 CREA provinces) involved in the poultry sector. However, the initial focus has been in Kep, Kampot, Sihanoukville and Koh Kong provinces where the project works with 64 cooperatives and 17,640 SHGs. It plans to establish 26 collection centres, 2 chick hatchery enterprises, 1 poultry processing plant. All these activities can be entry points for CRT providers in the poultry sector and linkages will be sought under CREA given the potential market space that can be created as well as the possibility to work with ACs that have a good financial management and governance.

The *"Public-Social-Private Partnerships for Ecologically-Sound Agriculture and Resilient Livelihoods in Northern Tonle Sap Basin (PEARL)"* project was formulated under the leadership of MoE and MAFF, with technical support from FAO. The GCF-funded USD 43 million project will benefit 450,000 smallholder farmers and local value-chain actors in the Northern Tonle Sap Basin comprising of the following provinces: Siem Reap, Kampong Thom, Kampong Chhnang, Pursat, and Battambang, to enhance the adaptive capacity of smallholder farmers, local communities and other value chain actors given it is one of the most vulnerable regions to floods and droughts, which are projected to become more frequent and intense due to climate change, thus exacerbating socioecological vulnerabilities. Complementarity with CREA stems from the PEARL project's focus on access to climate information, as well extension services, finance, and technologies through a market-oriented approach.

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Lessons Learned from recently completed projects

Building Adaptive Capacity through the Scaling-up of Renewable Energy Technologies in Rural Cambodia (S-RET; 2016-2020). S-RET has two project outcomes: (i) Installation of 8,000 renewable energy technologies (RET) by farmers for agriculture production, processing and post-harvest handling; (ii) Enabling policy framework and institutional modalities for facilitating scale-up of climate resilient RET in agriculture. Through the S-RET project, a total of 7,090

units of RETs (solar pumps, solar animal feed processing units, solar cooling box for animal vaccines storage, solar dryers, solar egg incubator and biochar briquette for heating chick) have been installed which saved 15,408 tons of CO2e. S-RET was selected by the GEF Secretariat as one of its Global Good Practice Project. A strong proponent of the project was setting up demonstration units under Provincial Department of Agriculture, Forestry and Fisheries (PDAFF) Agricultural Engineering Offices to disseminate and provide support on agricultural technologies to farmers, as well as link them to related grantees for RET investment. At policy level, the Renewable Energy policy has also been drafted attributable to work on the ground by the S-RET project.

Accelerating Inclusive Markets for Smallholders (AIMS; 2017 – 2023). The project works with smallholder farmers and their producer groups or agricultural cooperatives, traders/agribusinesses, MSMEs, service enterprises and agro-processors/industry associations to promote agricultural value chain development. Its main focus is on commercialization of agricultural commodities and products. The value chains on which it has been working are vegetables, cassava, backyard/native chickens, rice and raw silk. In order to support these value chains, credit and matching grants are made available for various target groups. The additional value AIMS project brings to the proposed LDCF proposal is the market space it can create for technology providers through the approximately 500 POs with active contracts with buyers accounting for USD 57 million in sales. Many more such POs and contracts are in the pipeline spanning a range of key commodities: chicken, vegetables, cassava and premium traceable rice.

ASEAN AgriTrade project (2018 – 2023) working closely with the country's General Directorate of Agriculture (GDA), MAFF, the project seeks to improve the framework conditions for the implementation of sustainability standards in agricultural value chains within the ASEAN region (Cambodia, Lao PDR, Myanmar, Viet Nam). Through the GIZ implemented Agrinnovation Fund in ASEAN, the project – amongst other activities – provided i) a solar-powered cold storage to store vegetables to the Kasekor Akphiwat Thmei Agricultural Cooperative, ii) two solar dryer domes for an integrated value chain for specialised dry herbs and spices, and iii) climate-smart cover crop harvesting services (covering the soil with plants to protect and improve the soil whilst increasing climate resilience).

GIZ's Strengthening the climate resilience of agriculture in Cambodia and Viet Nam (CRAS; 2021 – 2024). The project is active in Vietnam and Cambodia, and aims to strengthen the resilience of poor population groups to climate change. In close cooperation with MAFF, CRAS supports selected value chain actors, in particular smallholder farmers of cassava and cashew, by i) improving the competence of smallholder famers concerning the application of climate resilient practices; ii) improving cooperation between producer and private sector actors; iii) cooperating with universities and other research institutes in the target areas, to ensure the ongoing provision of research results and climate data on national and regional platforms; and iv) informing public and private sector stakeholders on scalable measures on climate resilience.

Core Indicators

Indicate expected results in each relevant indicator using methodologies indicated in the GEF-8 Results Measurement Framework Guidelines. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

META INFORMATION – LDCF

LDCF **true**	SCCF-B (Window B) on technology transfer **false**	SCCF-A (Window-A) on climate Change adaptation **false**

Is this project LDCF SCCF challenge program?
false
This Project involves at least one small island developing State(SIDS).
false
This Project involves at least one fragile and conflict affected state.
false
This Project will provide direct adaptation benefits to the private sector.
true
This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs).
false
This project will collaborate with activities begin supported by other adaptation funds. If yes, please select below

Green Climate Fund	Adaptation Fund	Pilot Program for Climate Resilience (PPCR)
false	**true**	**false**

This Project has an urban focus.
false
This project will directly engage local communities in project design and implementation
false
This project will support South-South knowledge exchange
false

This Project covers the following sector(s)[the total should be 100%]: *	
Agriculture	30.00%
Nature-based management	30.00%
Climate information services	0.00%
Coastal zone management	0.00%
Water resources management	0.00%
Disaster risk management	0.00%
Other infrastructure	0.00%
Tourism	0.00%
Health	0.00%
Other (Please specify comments) SME/Private sector	40.00%
Total	100.00%

This Project targets the following Climate change Exacerbated/introduced challenges:*

Sea level rise	Change in mean temperature	Increased climatic variability	Natural hazards
false	**true**	**true**	**false**

Land degradation	Coastal and/or Coral reef degradation	Groundwater quality/quantity
false	**false**	**true**

CORE INDICATORS – LDCF

	Total	Male	Female	% for Women
CORE INDICATOR 1				50.00%

Total number of direct beneficiaries	40,000	20,000.00	20,000.00	
CORE INDICATOR 2 (a) Area of land managed for climate resilience (ha) (b) Coastal and marine area managed for climate resilience (ha)	120,000.00 0.00			
CORE INDICATOR 3 Number of policies/plans/ frameworks/institutions for to strengthen climate adaptation	0.00			
CORE INDICATOR 4 Number of people trained or with awareness raised	200,000	100,000.00	100,000.00	50.00%
CORE INDICATOR 5 Number of private sector enterprises engaged in climate change adaptation and resilience action	30.00			

SUB INDICATOR 1

	Total	Male	Female
1.1 Number of direct beneficiaries from more resilient physical and natural assets	40000	20,000	20,000
1.2 Number of direct beneficiaries with diversified and strengthened livelihoods and sources of income	0	0	0
1.3 Number of direct beneficiaries from the new or improved climate information services including early warning systems	0	0	0
1.4 Number of youth (15 to 24 years of age) benefiting from the project	0	0	0
1.5 Number of elderly (over 60 years of age) benefiting from the project	0	0	0
1.6 Increased income, or avoided decrease in income (per capita in $ across all relevant beneficiaries)	0		

SUB-INDICATOR 2

2.1 Hectares of agricultural land

120,000

2.2 Hectares of urban landscape

0

2.3 Hectares of rural landscape

0

2.4 Hectares of forests

0

2.5 Hectares of marine area

0

2.6 Hectares of freshwater area

0

2.7 Number of residential houses

0

2.8 Number of public buildings

0

2.9 Number of irrigation or water structures

0

2.10 Number of fishery or aquaculture ponds or cages

0

2.11 Number of ports or landing sites

0

2.12 Km of road

0

2.13 Km of riverbank

0

2.14 Km of coast

0

2.15 Km of stormwater drainage

0

2.16 Number of new adaptation technologies supported

0

SUB INDICATOR 3

3.1 Number of policies/plans developed and strengthened that will mainstream climate resilience

0

3.2 Number of systems and frameworks established for continuous monitoring, reporting and review of climate adaptation impacts

0

3.3 Number of national climate policies and plans enabled, including national adaptation planning processes

0

3.4 Number of institutional partnerships or coordination mechanisms established or strengthened

3

3.5 Number of institutions with increased capacity to plan, implement, monitor, and report for climate adaptation

0

3.6 Number of institutions with increased capacity to attract, and manage climate adaptation finance

0

3.7 Number of local community organizations benefitting from and/or engaged in institution strengthening, partnerships, or financing

0

3.8. Number of climate risk and vulnerability assessments conducted

0

SUB INDICATOR 4

4.1 Number of people trained or made aware of climate change impacts and appropriate adaptation responses	Total	Male	Female
a) National government	0	0	0
b) Local government	0	0	0
c) Local community organizations	200000	100,000	100,000
d) Extension services	0	0	0
e) Hydromet and disaster risk management agencies	0	0	0
f) School children, university students, and teachers	0	0	0
g) Youth	0	0	0

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Technical details:

Key Risks

	Rating	Explanation of risk and mitigation measures
CONTEXT		
Climate	Substantial	Climate change projections (both RCP 4.5 and RCP 8.5) for Cambodia, including CREA's specific intervention areas, foresee a significant increase in climatic events that are hazardous to agricultural activities and related livelihoods (prolonged drought, and variability of rainfall pattern and intensity, increased incidences of pests and diseases, flood, storms, and extreme heat/ heatwaves). Cambodia's agriculture sector is, at the same time, particularly vulnerable to threats as it suffers from a low adaptive capacity. The climate risk category of the project is determined as substantial. The mitigation of these risks is inherent to the project's overall objective, namely to promote technologies that help to render farming systems more climate resilient. Mitigation measures also include: • Awareness raising on the preparation and/or update of crop seasonal calendars, • Promotion of

		local drought tolerant varieties, • Improvement of management practices (water efficient technologies, infield water harvesting, water catchment pond), • Promotion of integrated pest management, • Research & development activities dedicated to improve and to climate-proof the CRTs, and • Awareness raising to encourage the uptake of blended finance schemes. To mitigate contributions to climate change through GHG emissions (from project operations such as transport, CRT construction, office management), CREA promotes: • The application of renewable energy technologies in combination with CRTs (e.g., solar water pumps) • Energy efficiency measures along all project operations. • CREA will also follow a strict zero forest encroachment and deforestation strategy with no impact on carbon rich ecosystem.
Environmental and Social	Moderate	The environmental and social risk category for CREA is moderate, based on the SECAP screening tool. A moderate environmental risk may result from improper treatment, handling or storage of end-of-life CRT components. Health and safety risks for both workers and communities and their members might result from the construction, operation and maintenance of CRTs. Mitigation measures include: • Focus on existing agricultural areas already under production status and managed by members of formal and/or informal producers' organisations. • Systematically exclude interventions and activities involving habitats that are legally protected, officially proposed for protection, or

		recognized as protected by traditional local communities and/or authoritative sources. • Promote the inter/mix cropping practices and support to regulate the use of chemical inputs and encourage to use bio inputs. • Minimize waste mishandling and related pollution, CREA supports research on the design of CRTs as well as on re-use, re-cycling, and safe disposal mechanisms in close cooperation with CRT providers and users • Avoid use or promote inputs of fertilizers and other modifying agents but promotes solutions specific to reducing impacts on ecosystems (use of organic fertilizers, soil and nutrient management) • No UNESCO cultural heritage sites are located in the targeted provinces and a Cultural Heritage Management Plan in place helps to avoid impacts on archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values or contains features considered as critical cultural heritage • Maximize the benefit to IPs and avoid potential impacts, an IP's plan and Free, Prior and Informed Consent (FPIC) has been prepared • Ensure that the private partners involved in the project implementation will comply with standard health and safety procedures as well as with national labor laws and international commitments in terms of workers' safety, gender inequalities, discriminations, forced labor, working children, and other indecent working conditions. In the scope of its work with AC/POs and CRT providers, CREA will raise awareness on occupational health and safety risks and the need to

		mitigate them appropriately • Address CRT-related community health and safety risks by raising awareness and supporting research on the design of CRTs as well as on re-use, re-cycling, and safe disposal mechanisms • PFIs to comply with Environmental and Social Management procedures and ensure due diligence
Political and Governance	Low	CREA has secured national and provincial governments' endorsement. Risks associated with socio-political environment are low. Cambodia has a stable political environment and no major or sudden changes of policy direction affecting the project are foreseen. In the country's 2023 general elections, the Cambodia People's Party (CPP) renewed its mandate to govern the country. Likewise, the security environment is good and not expected to change.
INNOVATION		
Institutional and Policy		
Technological		
Financial and Business Model		
EXECUTION		
Capacity for Implementation	Moderate	The risk to the project outcomes stemming from changes in the national institutional framework and governance is judged low. The main environmental and social concerns with respect to PFIs relate to their capacity to identify, manage and monitor the potential environmental and social risks and impacts associated with the on-lending activities. There is also a moderate risk that the PFIs have high-risk projects in its portfolio. Mitigation measures include: • The project will bring both technical and financial

		support to equip the developers and work on the added value of their offer. • Capacity building in climate adaptation for agriculture will also be supported to contribute to the emergence of new valuable products and services on the market. • PFI Compliance with Environmental and Social Management procedures and capacity to manage environment, social and climate risks and impacts will constitute key criteria for the final selection of the PFIs.
Fiduciary	Low	On fiduciary aspects, project monitoring, cash management and financial reporting would be conducted by the relevant units of MAFF-PSU whom are familiar with the financial management and procurement aspects. The agreements with the partner financial institutions will include strict reporting mechanisms to MAFF-PSU to ensure that the funds they receive are used efficiently and for their right purpose.
Stakeholder	Low	Innovative mechanisms are at the pilot stage in Cambodia. To overcome potential barriers to their dissemination, the project will work on a wide range of mechanisms and pay close attention to any legal or financial requirements. • Their dissemination will be facilitated by the willingness of the CRT providers and selected PFIs to innovate in this sphere. • The post-Covid financial situation of the agri-businesses will be thoroughly assessed through the project and PFIs to ensure that the innovative financial solutions are corresponding to the needs deriving from additional pressure the Covid-19 pandemic has put on agri-businesses, such as burdens of

		compliance, shortages of skilled labor and markets, as well as the lack of access to finance and supporting infrastructure
Other	Low	COVID-19 Risk Overall, Cambodia's agriculture sector has proved resilient during the Covid-19 pandemic. Agriculture sector growth, particularly based on increasing exports through formal channels and taking advantage of recent trade agreements, is a key element of GoKC's strategy for post-pandemic recovery. The country managed the Covid-19 pandemic well, with around 3,000 deaths reported, and about 81% of the population vaccinated. However, the pandemic led to a near halt in international tourism and heavily impacted domestic retail services. Many migrant workers lost employment and returned to Cambodia during 2020, resulting in increased unemployment and reduced incomes from remittances. According to the Ministry of Social Affairs, Veterans and Youth Rehabilitation, there were 496,771 households registered in the ID Poor system before the Covid-19 pandemic. During the pandemic, two hundred thousand new households have registered on the government's on-demand ID Poor system, corresponding to a 60% increase in less than a year (from May 2020 to March 2021). To mitigate these challenges, the government released social transfers, as support for ID Poor households through the national Covid- 19 cash transfer emergency programmes for the most-affected families. • The risks from Covid-19 have been incorporated into the design and aligned with mitigation

		strategies reflected in the Agriculture Development Policy (ADP) specifically for Recovery, Reform and Resilience (3R) to develop a more commercial and export-oriented agricultural sector. • The CREA project will support climate adaptation and resilience benefits particularly in value chains (VCs) based on smallholder production, to achieve the scale and consistent quality of produce meeting the needs of export and domestic markets. • Mitigation strategies incorporated into the design include an emphasis on innovative financial instruments and taking advantage of the rapid impact of digitalization in the agricultural sector, especially in the context of the Covid-19 pandemic.
Overall Risk Rating	Moderate	The project will assess the technical/physical results and financial achievements of the project based on the contract agreements stipulated between MAFF and technology providers, PFIs, and including alignment with GEF policies and strategies, attainment and measurement of global environmental benefits and mobilization of co-financing. The PFI need to comply with Environmental and Social Management procedures. The main environmental and social concerns with respect to these institutions relate to their capacity to identify, manage and monitor the potential environmental and social risks and impacts associated with the on-lending activities. There is also a moderate risk that the PFI has high-risk projects in its portfolio. PFI Compliance with these requirements and capacity to manage environment,

		social and climate risks and impacts will constitute key criteria for the final selection of the PFI

C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Explain how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this. (max. 500 words, approximately 1 page)

Cambodia is a signatory country of the United Nations Framework Convention on Climate Change (UNFCCC) since 1996. In 2020, Cambodia submitted an updated Nationally Determined Contribution (NDC) and has identified agriculture as one of the most vulnerable sectors along with water resources, forestry, coastal zones, and human health. The overarching policy document guiding the strategy of the Royal Government of Cambodia (RGC) is the Rectangular Strategy for Growth, Employment, Equity and Efficiency, currently in its fourth phase for 2019-2023 (RS-IV). The RS-IV places promotion of the agriculture sector and rural development including strengthening of the agro-processing industry, promotion of vegetable production to substitute for imports, promoting exports, improved land management and investment in irrigation systems. All these areas can benefit from linkages with climate change and accelerating the transition to a climate-resilient, low-carbon sustainable development.

The proposed LDCF proposal is aligned to the GEF focal area on Climate Change. In particular, the CREA project strongly aligns with LDCF Priority Area 1 (Scaling Up Finance) and Priority Area 2 (Strengthening Innovation and Private Sector Engagement) within the priority Theme 1: Agriculture, Food Security, and Health. The project also has relevance with priority Area 3 (Fostering Partnership for Inclusion and Whole-of-Society Approach) of the new Adaptation programming strategy for GEF-8[66].

The Agriculture Sector Master Plan (ASMP) 2030 was also identified as a policy priority in RS-IV and was prepared with assistance from the IFAD-ASPIRE project. The ASMP sets the development goal “to increase agricultural growth with high competitiveness and inclusivity by providing high quality products which result in food safety and nutrition by taking into account sustainable land, forestry and fisheries resource management”. One of the ASMP objectives is to enhance agricultural value chains and their competitiveness. The Policy on Agriculture Extension in Cambodia (PAEC), recently updated with support from IFAD-ASPIRE commits Cambodia to developing a pluralistic extension service and this is consistent with CREA’s implementation modalities, which promote public private collaboration for providing extension services to farmers.

During the PPG stage, consultations with the GEF OFP and MAFF discussed the main key national priority documents, which are strongly aligned to the GEF 8 Programming Directions. The major policies include: (i) the Cambodia Climate Change Strategic Plan (CCCSP 2014-2023); (ii) National Adaption Programme of Action (NAPA) and Nationally Appropriate Mitigation Actions (NAMA); (iii) National Policy on Green Growth and; (iv) Policy on Biodigester Development in Cambodia (2016-2025). There are two main ongoing policies proposed and being implemented by the RGC in response to climate change issues, including the newly drafted Renewable Energy Policy. The CCCSP and Cambodia’s INDCs represent the most prominent action plans and documents outlining key national efforts in climate change adaptation and mitigation. Both initiatives are strongly aligned with the GEF-8 Climate Change focal area strategy which aims to support developing

countries to make transformational shifts towards net-zero GHG emissions and climate-resilient development pathways

The CCCSP (2014-2030) is the first-ever strategic plan produced by the Royal Government of Cambodia to mainstream climate change policies into the National Strategic Development Plan (NSDP) coordinated through MoE's NCSD. The Cambodia Climate Change Strategic Plan 2014 – 2023 vision is "Cambodia develops towards a green, low-carbon, climate-resilient, equitable, sustainable and knowledge-based society". The CCCSP lays out eight strategic objectives:

1. Promote climate resilience through improving food, water, and energy security;
2. Reduce sectoral, regional, and gender vulnerability to climate change impacts, and minimize risks to health;
3. Ensure the climate resilience of critical ecosystems (the Tonle Sap, the Mekong River, coastal ecosystems, and highlands, etc.), biodiversity, protected areas and cultural heritage sites;
4. Promote low-carbon planning and technologies to support sustainable development;
5. Improve capacities, knowledge and awareness for climate change responses;
6. Promote adaptive social protection and participatory approaches in reducing losses and damage due to climate change;
7. Strengthen institutions and coordination frameworks for national climate change responses; and
8. Strengthen collaboration and active participation in regional and global climate change processes.

These priorities also form the basis for and are reflected in the country's National Adaptation Plan process (NAP process, 2017), which was initiated in 2014. CREA directly contributes in various ways to these strategic objectives and priorities: Leveraging the availability, accessibility and use of CRT in the most relevant agricultural value chains vulnerable to climate change, the project directly contributes to the promotion of "climate resilience through improving food, water and energy security" (priority 1). Through its technical assistance and training/capacity development elements addressing AC/s/POs, PDAFF, CEWs, lead farmers and youth groups as well as through its outreach campaign, it also directly plugs into priorities 5 of the NAP process ("improve capacities, knowledge and awareness for climate change responses") and 7 ("strengthen institutions and coordination frameworks for national climate change responses").

Furthermore, CREA supports the promotion of "adaptive social protection and participatory approaches in reducing loss and damage due to climate change" (priority 6), especially with respect to i) promoting micro-financing to facilitate access to credits by local communities for climate change response, ii) integrating gender into climate change response planning, iii) leveraging the decentralization process to strengthen financial and institutional processes for local adaptation, and iv) instituting public engagement, participation and consultations as primary entry points for adaptation planning, promoting the involvement of multiple stakeholders, including NGOs, community-based organisations, youths, indigenous communities and the private sector. The NAP process also identifies the private sector as crucial to complement public sector funds and initiatives. While hitherto the private sector focused mainly on mitigation-related investments, CREA aims to leverage private sector investments and engagement into adaptation action. Additionally, collaboration and active participation in regional and global climate change processes is strengthened (priority 8) through the study visits under component 3, which are intended to reinforce links between relevant policymakers and officials from neighboring countries.

The NAP process also carved out a number of strategic intervention areas, of which CREA will contribute especially to:

- systematic financial support: establishment of a function to match financing needs with sources;

- capacity development and vertical mainstreaming linking national and sub-national levels: support measures such as capacity development, advisory services, upscaling mechanisms and enhanced ownership at the local level;

The proposed LDCF project supports Cambodia's NDCs, in particular concerning climate adaptation the document proposes priority action in the following areas:

- Promoting and improving the adaptive capacity of communities, especially through community-based adaptation action, and restoring natural ecological systems to respond to climate change;
- Increasing the use of mobile and permanent pumping stations in response to droughts, and promoting groundwater research in response to drought and climate risk;
- Strengthening technical and institutional capacities in conducting climate change impact assessments and climate change projections, and including climate change in sectoral and sub-sectoral development plans.

In order to accomplish this objective, the CREA project will take into consideration the differences between women and men in their knowledge, access, and utilization of climate resilient and energy-efficient technologies, as well as their attitudes towards the risks and rewards associated with adopting new technologies. Aligned with the GEF Objective 1.1: Accelerate the efficient use of energy and materials, the CREA project will also support the development of skills and training to increase women's participation in the development and deployment of energy efficient technologies and services, as well as in relevant decision-making processes.

There are several other policies related to sustainable agriculture that will be aligned with the proposed LDCF proposal including:

- The National Green Growth Roadmap with the goal to stimulate the economy through low carbon options, creating jobs, protecting vulnerable groups, and improving environmental sustainability.
- Master Plan for Crop Production in Cambodia 2030: A plan to transition to modern agricultural system capable of generating higher economic value in the rural and urban economy through the development of agroindustry, agribusiness, and sustainable agriculture.
- Agricultural Sector Strategic Development Plan, 2019-2023 includes the enhancement of agricultural productivity, diversification, and commercialization through different means such as climate-proof agriculture systems for adapting to changes in water variability to enhance crop yields and scaling-up of climate-smart farming systems.
- Cambodia Climate Change Financing Framework (2014): It promotes a common approach to define climate finance and assess its current level as well as prospecting for future financing schemes.

[1] https://www.thegef.org/council-meeting-documents/gef-ldcf-sccf-32-04-rev-01

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment

We confirm that gender dimensions relevant to the project have been addressed during Project Preparation as per GEF Policy and are clearly articulated in the Project Description (Section B).

Yes

1) Does the project expect to include any gender-responsive-measures to address gender gaps or promote gender equality and women's empowerment?

Yes

If the project expects to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment, please indicate in which results area(s) the project is expected to contribute to gender equality:

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision-making; and/or

Yes

Generating socio-economic benefits or services for women.

Yes

2) Does the project's results framework or logical framework include gender-sensitive indicators?

Yes

Stakeholder Engagement

We confirm that key stakeholders were consulted during Project Preparation as required per GEF policy, their relevant roles to project outcomes has been clearly articulated in the Project Description (Section B) and that a Stakeholder Engagement Plan has been developed before CEO endorsement**.**

Yes

Select what role civil society will play in the Project

Consulted only; Yes

Member of Advisory Body; Contractor; No

Co-financier;

Member of project steering committee or equivalent decision-making body ;

Executor or co-executor;

Other (Please explain)

Private Sector

Will there be private sector engagement in the project?

Yes

And if so, has its role been described and justified in section B project description?

Yes

Environmental and Social Safeguards

We confirm that we have provided information regarding Environmental and Social risks associated with the proposed project or program, including risk screenings/ assessments and, if applicable, management plans or other measures to address identified risks and impacts (this information should be presented in Annex E).

Yes

Please provide overall Project/Program Risk Classification

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate Medium/Moderate	Medium/Moderate Low		

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described during Project Preparation in the Project Description and that these activities have been budgeted and an anticipated timeline for delivery of relevant outputs has been provided.

Yes

Socio-economic Benefits

We confirm that the project design has considered socio-economic benefits to be delivered by the project and these have been clearly described in the Project Description and will be monitored and reported on during project implementation (at MTR and TER).

YES

ANNEX A: FINANCING TABLES

GEF Financing Table

Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	GEF Project Grant($)	Agency Fee($)	Total GEF Financing ($)
IFAD	LDCF	Cambodia	Climate Change	LDCF Country allocation	Grant	4,860,000.00	437,000.00	5,297,000.00
Total GEF Resources ($)						**4,860,000.00**	**437,000.00**	**5,297,000.00**

Project Preparation Grant (PPG)

Was a Project Preparation Grant requested?

true

PPG Amount ($)

150000

PPG Agency Fee ($)

14250

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	PPG($)	Agency Fee($)	Total PPG Funding($)
IFAD	LDCF	Cambodia	Climate Change	LDCF Country allocation	150,000.00	14,250.00	164,250.00
Total PPG Amount ($)					**150,000.00**	**14,250.00**	**164,250.00**

Please provide Justification

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total($)
Total GEF Resources					**0.00**

Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing($)	Co-financing($)
CCA-1-1	LDCF	4,370,000.00	10800000
CCA-1-3	LDCF	490,000.00	760000
Total Project Cost		**4,860,000.00**	**11,560,000.00**

Confirmed Co-financing for the project, by name and type

Please include evidence for each co-financing source for this project in the tab of the portal

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Ministry of Agriculture, Forestry and Fisheries (MAFF)	In-kind	Recurrent expenditures	9360000
Private Sector	Partner Financial Institution (PFI) -Chamroeun - and Technology Providers/Agri-MSMEs	Guarantee	Investment mobilized	2200000
Total Co-financing				**11,560,000.00**

Please describe the investment mobilized portion of the co-financing

Investment mobilized portion of the co-financing: Throughout the CREA project, the two selected PFIs, Wing Bank and Chamroeun will be able to use the guarantee facility established under Component 2 as a first-loss guarantee. With this guarantee, the PFIs will develop the Inclusive Green Financing loan with a co-financing leverage ratio of 2:1. Specific to Wing Bank, given their strong presence in digital platforms and agriculture supply chain marketplace that provides cooperatives, sellers, buyers, and farmers access to digital payment solutions, investment will be mobilized to promote a new collateral-free loan product. Chamroeun will leverage its own portfolio with an existing guarantee facility from the CGCC to cover losses when they lend to cooperatives. The sustainability of the Guarantee facility comes from the fact that the interest will be paid by Wing Bank on the deposit account at a rate determined by Wing Bank. Investment will be mobilized by the PFIs to directly reduce the interest rate for their customer base.

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

GEF Agency Type	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator		Juan Carlos Mendoza Casadiegos		juancarlos.mendoza@ifad.org
GEF Agency Coordinator		Janie Rioux		j.rioux@ifad.org
Project Coordinator		Anupa Rimal Lamichhane		a.rimallamichhane@ifad.org
Project Coordinator		Frew Behabtu		f.behabtu@ifad.org

Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Please attach the Operational Focal Point endorsement letter(s) with this template.

Name of GEF OFP	Position	Ministry	Date (MM/DD/YYYY)
H.E. Tin Ponlok	Secretary of State	Ministry of Environment	8/30/2022

ANNEX C: PROJECT RESULTS FRAMEWORK

Please indicate the page number in the Project Document where the project results and M&E frameworks can be found. Please also paste below the Project Results Framework from the Agency document.

Goal: Increased resilience of farming systems and agri-value chains to climate change effects

Project Objective: Adoption of climate resilient technologies (CRTs) with adaptation benefits for smallholder farmers, AC/POs and agri-MSMEs

Core Indicator 1: Number of direct beneficiaries
Target: 40,000 (Women: 20,000; Men: 20,000)

Core Indicator 2: Area of land managed for climate resilience (hectares)

Target: 120,000 hectares of agricultural land

Core Indicator 3 : Number of policies/plans/frameworks/institutions for to strengthen climate adaptation

Target: 3

Core Indicator 4: Number of people trained or with awareness raised (sex disaggregated)

Target: 200,000 (Women: 100,000; Men: 100,000)

Core Indicator 5: Number of private sector enterprises engaged in climate change adaptation and resilience action
Target: 30

Component 1: Promoting climate resilient technologies for building adaptive capacity in climate vulnerable agri-value chains

	Objectively Verifiable Indicators				Means of Verification			
	Indicator	**Baseline**	**Mid-Term**	**End Target**	**Sources**	**Frequency**	**Responsibility**	**Risks and assumptions**
Outcome 1: Enhanced market readiness for scaling up economically viable CRTs for agriculture production, processing and/or postharvest handling activities	• # of smallholder farm households that are members of AC/POs benefitting from more resilient physical and natural assets (sex disaggregated)[1] 62	0		10,000	Outcome Survey	CER, MTR, TE	Service provider	AC/POs with ASPIRE AT facilitated markets and agri-business partnerships interested in adopting sustainable farming technologies and practices to avoid climate-related production issues ASPIRE AT consolidating and formalizing
	• Women-headed households	0	1,500					
	• Number of ASPIRE AT -supported ACs in adopting CRT packages	0	114	228				
	• Percentage of supported CRT	0%	25%	50%	CRT income and	Annual	PSU	

	providers including women led or managed CRT providers reporting an increase in profit by at least 10%[2]63				expenditure reports			465 AC/POs in target provinces Farmers interested in reducing energy costs (diesel; electric energy) by adopting cost-effective CRT packages 15% of households in target provinces are women-headed
Output 1.1. Business acceleration program to improve investment readiness and capacity to scale operations of selected CRT providers	• Number of MSMEs (CRT providers) successfully completed the business acceleration program	0	10	30	Program completion records	Annual	PSU	Strengthened corporate governance improve the creditworthiness of CRT providers. Improved project management practices enable CRT providers to scale up their offering by serving more clients and providing better after-

								sales services.
Output 1.2. Training and capacity building of PFI officers, AC/POs on CRT investment models	• # of PFI officers supported in delivering outreach strategies, financial products, and services to rural areas. • Number of AC/POs with business plans that include CRT packages	0 0	1000 20	2000 40	Training attendance records Business plan document files	Bi-Annually Annual		PFI officers actively promote loans for CRT packages to AC/POs AC/POs business plan development supported through the process of ASPIRE AT AC/PO formalization
Output 1.3. CRT demonstration units installed in key locations for training youth and creating demand	• CRT units installed • Number of multi-stakeholder platform (MSP) events showcasing CRT benefits and investment opportunities facilitated	0 0	10 10	10 20	Installation records MSP records	Annual Annual	PSU	Demonstration sites increase the awareness, interest, and engagement of farmers for new agri-tech solutions. Centres of Excellence (ASPIRE AT Output 3.2.1) in target provinces serve as information centres, increasing the visibility of CRTs demonstration units in target provinces. All the relevant

								stakeholders (including CRT providers, PFIs, AC/POs, government representatives, farmers, etc.) interested and willing to participate actively in the multi-stakeholder platforms. The MSPs lead to concrete follow-up actions, such as partnerships formed, CRT purchases and deployment.
Output 1.4. Outreach campaign promoting CRT benefits and CRT packages available for sale on existing digital agriculture marketplaces	• Number of CRT products and packages listed on digital agriculture marketplaces and financial technology • Number of unique views/impressions of CRT-related information (ads) by beneficiaries reached with a nation-wide digital marketing campaign • Number of short, easy-to-understand videos on CRT benefits produced.	0 0 0	5 100,000 7	10 200,000 7	Digital marketplace records Data analytics reports by social media and DAS partner	Annual	PSU	The logistics for delivering the CRT products and packages purchased online to the farmers are reliable and efficient. After-sales service and support (like product installation help, troubleshooting, maintenance guidance etc.) is available and accessible to buyers.

								Short, bite-size materials designed mobile phone consumption reach wider audience and increase farmers' engagement with the information about CRTs. 10,000 farmers actively using ASPIRE AT-promoted digital apps (ASPIREA AT Output 2.1.2)
Component 2: Unlocking sustainable microfinance products to support inclusive adoption of CRTs								
	Objectively Verifiable Indicators				**Means of Verification**			
	Indicator	**Baseline**	**Mid-Term**	**End Target**	**Sources**	**Frequency**	**Responsibility**	**Risks and assumptions**
Outcome 2: Existing or innovative financial instruments enabled or introduced to enhance climate resilient agriculture	• Amount of investment mobilized (US$) from private sector sources • Percentage of ASPIRE AT - supported ACs in target provinces reporting using the new financial instruments for purchasing CRTs	0 0%	US$5 M 10%	US$7.4 M 20%	PFI reports Outcome survey	Annual CER, MTR, TE	PSU Service provider	AC/POs members willing to accept loan-related risks if suitable financial assistance is provided ASPIRE AT promoting and facilitating investments in productive assets for AC/POs in 5 target provinces

								AC/POs with ASPIRE AT facilitated markets and agri-business partnerships interested in adopting sustainable farming technologies and practices to avoid climate-related production issues
Output 2.1. Blended finance models and associated procedures co-designed with PFIs	• Partnerships agreements signed between IFAD, MAFF and selected PFIs	0	2	2	Contract documentation	CER, MTR, TE	Service provider	Existing MFI providers interested in developing CRT specific loan products in collaboration with IFAD/MAFF Study on microfinance products (activity 1.1.3.) informing development of financial schemes
Output 2.2. Innovative financial instruments piloted	• Number of Blended finance instruments (Climate Adaptation Guarantee Facility and Matching Grant) piloted with selected PFIs to support CRT acquisition by AC/POs	0	2	2	Official documentation: charters, records and documents	Annual	PSU	AC/POs with demonstrated strong financial management and governance skills interested in securing loans for purchasing agri technologies. Reduced interest rate

								and collateral free loans will incentivize purchase of CRTs by AC/POs Guarantee scheme enables AC/POs to access collateral free grants from PFIs for purchasing CRT packages
Component 3: Strengthening institutional capacity building activities on climate resilient agriculture								
	Objectively Verifiable Indicators				**Means of Verification**			
	Indicator	**Baseline**	**Mid-Term**	**End Target**	**Sources**	**Frequency**	**Responsibility**	**Risks and assumptions**
Outcome 3 Strengthened institutional and human capacity to identify and implement CRTs with adaptation benefits	Number of government staff made aware of benefits of CRTs for climate adaptation in agriculture	0	680	1,360	Outcome survey	CER, MTR, TE	Service Provider	Available CRTs effective in making farming systems resilient to climate change. Line ministries are interested in collaborating to identify and promote climate adaptation practices in the agriculture sector National and provincial staff available and interested in improving
	- National staff - male	0	85	170				
	- National staff - female	0	85	170				
	- Provincial staff - male	0	255	510				
	- Provincial staff - female	0	255	510				

								their knowledge in climate adaptation practices and technologies Policy environment is conducive to the promotion and adoption of climate adaptation technologies and practices (Conducive climate adaptation policy environment)
Output 3.1. Seminars, workshops, and study tours conducted to raise awareness of climate change impacts, vulnerability, and adaptation for relevant government staff at the national and provincial levels	• Number of workshops / seminars conducted at national and provincial level and conferences • Number of study tours/events on regional climate resilience and adaptation attended by government staff	0	8 2	16 4	Training attendance records and conference records	Annual	PSU	Raised awareness about the climate change risks and adaptation strengthens the institutional support for adoption of CRTs Regular interaction between government agencies staff in the Mekong region fostering South-South cooperation learning around climate resilient practices and CRTs

Output 3.2. Revised MAFF Climate Change Adaptation Toolkit	• Publication of the revised Climate Change Adaptation toolkit	0	0	1	Toolkit document	Annual	PSU	Digitized toolkit, technical briefs, and other knowledge products are actively used, endorsed, and disseminated by MAFF and other institutions
Output 3.3. Technical briefs developed and uploaded on MAFF library and portals	• Number of technical briefs developed for target value chains	0	4	7	Document files and direct URLs on the KM platforms	Annual	PSU	
Output 3.4. On-farm research pilots for optimizing existing CRT solutions	• Number of on-farm action research Innovation Grants awarded to CRT providers and/or research institutes.	0	4	4	Grant award contracts	Annual	Service provider	Policy environment fostering innovation in agri-value chains. Successful grantees products showcased at ASPIRE AT Centres of Excellence. Successful CRT packages endorsed by PDAFF and promoted by CEWs in target provinces.

-

[1] Indicator corresponds to the IFAD RIMS indicator 1.2.2: (Number) Percentage of persons/ households reporting adoption of new/improved inputs, technologies or practices

[2] Indicator corresponds to the IFAD RIMS indicator 2.2.2: (Number) Percentage of supported rural enterprises reporting an increase in profit

ANNEX D: STATUS OF UTILIZATION OF PROJECT PREPARATION GRANT (PPG)

Provide detailed funding amount of the PPG activities financing status in the table below:

Project Preparation Activities Implemented	GETF/LDCF/SCCF Amount ($)		
	Budgeted Amount	Amount Spent To date	Amount Committed
budget	150,000.00		
Consultancy Contract International Consultancy Service (5 consultants)		57,524.95	5,239.62
Climate Risk Assessment Report and Field Survey (International Consultancy Service, with Firm based in Cambodia)		23,750.00	
National Consultancy Services (3 consultants)		43,754.43	
travel cost (international)		16,678.00	
Travel cost (national)		1,308.00	
consultation workshop		1,745.00	
Total	**150,000.00**	**144,760.38**	**5,239.62**

ANNEX E: PROJECT MAP AND COORDINATES

Please provide geo-referenced information and map where the project interventions will take place

Location Name	Latitude	Longitude	GeoName ID
Rolear Bier District	12.36783	104.39195	0,406

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Stoung District	13.27691	104.21050	0,608

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Sandaan District	13.44303	105.07407	0,606

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Peam Chor District	11.22500	105.19469	1,406

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Angkor Borei District	11.10172	104.83257	2,101

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Borei Cholsar District	10.91119	104.85394	2,103

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Moung Ruessei District	13.10031	103.30645	0,206

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Banan District	13.13415	102.83144	0,201

Location Description:

Activity Description:

Please provide any further geo-referenced information and map where project interventions are taking place as appropriate.


Lao People's Democratic Republic
Thailand
Oddar Meanchey
Banteay Meanchey
Siemreap
Preah Vihear
Stung Treng
Ratanak Kiri
Battambang
Pailin
Kampong Thom
Kratie
Mondul Kiri
Pursat
Kampong Chhnang
Tboung Khmum
Phnom Penh
Koh Kong
Kampong Speu
Kandal
Prey Veng
Svay Rieng
Vietnam
Takeo
Kampot
Kep
0
50
100 km
Provinces targeted by CREA

ANNEX F: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

Attach agency safeguard datasheet/assessment report(s), including ratings of risk types and overall project/program risk classification as well as any management plans or measures to address identified risks and impacts (as applicable).

Title

Annex F(b) - CREA -Environment Social Climate Management Plan_ESCMP

Annex F-CREA-SECAP-review note

ANNEX G: BUDGET TABLE

Please upload the budget table here.

Annex G: Budget Tables

Table 1: GEF Budget - Expenditure Accounts by Components and Outputs **(USD '000)**

Expenditure Account	Detailed Description	Component 1				Component 2		Component 3				Sub-Total	M&E	PMC	Total	Responsible Entity
		Out 1.1	Out 1.2	Out 1.3	Out 1.4	Out 2.1	Out 2.2	Out 3.1	Out 3.2	Out 3.3	Out 3.4					(Executing Entity receiving funds from the GEF Agency)[1]
Works												**0.0**			**0.0**	
Goods	Monitoring and research equipment for MAFF research institutes										15.0	**15.0**			**15.0**	MAFF
Vehicles												**0.0**			**0.0**	
Grants/Sub-grants	Grants for CRT providers to install demonstration units for ACs/POs/youth groups			360.0								**2836.0**			**2836.0**	Selected CRT providers (through grant from MAFF) /a
	Climate Adaptation						2000.0									MAFF /b

	Guarantee Facility														
	Conditional transfers to ACs/POs - incentive mechanism for ACs/POs to submit business plans with integration of CRT						176.0								MAFF
	Matching Grant facility						200.0								MAFF
	Innovation Grants for Participatory Applied Research (PAR) on-farm pilots										100.0				MAFF/c
Contractual Services – Company	Costs for in-depth/follow-up meetings with ACs/POs on CRT investment models		30.0									**439.8**			MAFF
	Technical assistance on integrated farming system approach, application of organic fertilizers, and soil and nutrient management activities (for PDAFF)			100.0											MAFF/d
	Training material for PDAFF, CEWs including one-pager briefs on Economic and Financial analysis of CRTs			36.0											MAFF
	Digital user-friendly KM products developed				30.0										MAFF
	Digital marketing agency recruited				75.0										MAFF
	Translation, printing, digitalization and production of user-friendly and accessible materials				35.0										MAFF
	Marketing campaign launched to disseminate benefits of CRT adoption through existing digital agriculture services and relevant social				48.0										MAFF

	media platforms														
	Design blended finance mechanism and associated procedures (fund flow, fiduciary/risk management, operational manual, SECAP etc.)					15.0									MAFF
	Support the consolidation and enhancement of existing MAFF/ASPIRE knowledge management and extension platform								60.0						MAFF
	Research on climate risk and vulnerability for target value chains in agriculture for validating on-farm research pilots									10.8					MAFF
International Consultants	Recruit Consultancy firm for initial assessment of business capacity of selected CRT providers	45.0										**146.0**			**236.0**	MAFF
	Recruit International Consultant to support climate change adaptation in programmatic approach of IFAD in Cambodia								55.0							IFAD
	Consultant/firm for developing methodology for field assessment of CRTs that require optimization									40.0						MAFF
	Expert Evaluators for screening and scoring Innovation Grant proposals										6.0					MAFF
	Mid-term Review (GEF)												45.7			IFAD
	Terminal Evaluation (GEF)												44.3			IFAD
Local Consulta	Recruit national		120.0									**283.0**			**283.0**	MAFF

nts	consultant/firm to support development of AC/PO business plans to integrate CRT														
	Rural Finance Consultant (retainer basis)		52.8												MAFF
	Provision of short term technical assistance support for digtizing KM products				9.0										MAFF
	Green Finance Coordinator					61.6									Selected PFI/e
	Technical support to review and update the Climate Change Adaptation (CCA) Toolkit								39.6						MAFF
Salary and benefits / Staff costs	Travel costs, DSA (provincial and national)									28.5					MAFF
	M&E Officer (GEF)											72.0			MAFF
	Environment, Climate and Social Safeguards Specialist											122.0			MAFF
	Finance and Accounting Officer												72.0		MAFF
	Provincial Coordinators												135.0		MAFF
Trainings, Workshops, Meetings	Business Acceleration program	100.0													MAFF
	Workshop to disseminate results of the Business Acceleration program	5.0													MAFF
	Training for integration of Women's Empowerment Farmer Business School (WE-FBS) (MoWA/PDOWA)		16.5								423.0			423.0	MAFF
	Workshop at provincial level (PDoE, PDoWA, PDAFF)		37.5												MAFF
	Multi-stakeholder platform (MSP) events			40.0											MAFF
	Capacity development			80.0											MAFF

	of lead farmers/youth groups/ACs (technical officer, CEWs, provincial/district staff)														
	National level workshops for CRT providers, fintech and digital extension service companies for onboarding CRT on digital marketplaces				15.0										MAFF
	Orientation workshop for government staff at national level on climate resilient agriculture and project goals/objectives							20.0							MAFF
	Study visits conducted at regional level							40.0							MAFF
	Support to Ministry of Environment on inter-ministerial cooperation with MAFF and other line ministries							28.0							MoE
	Workshop for relevant government staff at national and provincial levels							24.0							MAFF
	Seminar to discuss knowledge gaps in the CCA Toolkit								10.0						MAFF
	Meetings, workshops and dissemination expenses										7.0				MAFF
Travel	Travel costs, DSA (provincial and national)											**0.0**		19.0	**19.0**	MAFF
Office Supplies	Office expenses (PSU and Provincial offices)											**0.0**			**0.0**	MAFF
Other Operating Costs	Launch Competitive Bidding process to select CRT providers	2.0										**167.5**			**178.7**	MAFF
	Validation process of active ACs/POs		70.0													Provin. Departm. of Agricul

																ture, Forestry and Fisheries (PDAFFs)
	Site selection, field visits for assessing demand, willingness to pay for CRTs			76.0												MAFF
	Meetings between selected PFIs and MAFF for validation of blended finance schemes					6.0										MAFF
	Legal costs for signing MoU between PFIs and MAFF					4.0										MAFF
	Support costs for operationalizing the blended schemes (deposit account hosted at Wing Bank)						8.0									MAFF
	Request for Proposal and selection of MAFF research institutes										1.5					MAFF
	Data collection and reporting												6.2			MAFF
	Vehicle hire													5.0		MAFF
Total		**152.0**	**326.8**	**692.0**	**212.0**	**86.6**	**2384.0**	**112.0**	**164.6**	**79.3**	**129.5**	**4338.8**	**290.2**	**231.0**	**4860.0**	

[1] In exceptional cases where GEF Agency receives funds for execution, Terms of Reference for specific activities are reviewed by GEF Secretariat

\a i.e. MAFF will sign MoUs with CRT providers.
\b MAFF will deposit account to be set up in Wing Bank - ownership of MAFF.
\c To be channelled to selected MAFF research institutes.
\d General Directorate of Agriculture (GDA).

\e - Money will be channelled from MAFF to the PFI after signinig of MoU.

Please explain any aspects of the budget as needed here

ANNEX I: RESPONSES TO PROJECT REVIEWS

From GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF.