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Integrated Rurban Development and Climate Resilience Project (P505241)

ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT GUIDELINE



**Appraisal Version
January 2025**

Ministry of Agriculture, Livestock, Land and Irrigation

Chapter 1 – Project Description

1.1 Project Development Objective

The World Bank is supporting the Integrated Rurban Development and Climate Resilience Project (IRDCRP) with the following development objective - ‘**increase productivity, market access, and climate resilience of agri-food producers in selected areas**’. The proposed project builds on current and recently closed World Bank and other sector engagements to rapidly scale and address the most pressing development challenges, especially as Sri Lanka emerges from economic crisis. The project will increase productivity and value addition for small and medium-scale agri-food producers in project areas. The project will support an enabling environment, boost market linkages, and further invest in coordinated efforts for climate resilience to **bring** greater competitiveness and private sector engagement in the agriculture, livestock, and fisheries sectors. It will support Sri Lanka’s objectives of increasing agriculture exports and ensuring a sustainable and climate-resilient agri-food production system.

1.2 Project Description

1. **Project components.** The project has five components financed through a US\$100 million IDA credit, US\$3 million in contributions from the GoSL, and US\$17 million mobilized from private capital, including from small and medium producers and producer organizations. The GoSL contribution would be used for the payments of government staff salaries, allowances and also the taxes and charges to be paid under the Component 3. The project contributes significantly to climate adaptation and mitigation, with a strong emphasis on adaptation, through a range of interventions in climate-smart agriculture, water management, ecosystem protection, sustainable technology adoption, and enhanced market access. The specific mechanisms for achieving these climate contributions are outlined within the project’s components. The Project is exploring the possibility of using additional financing from the Green Climate Fund (GCF) Cooling Facility already allocated to Sri Lanka, to expand the scope and impact of the Project¹.

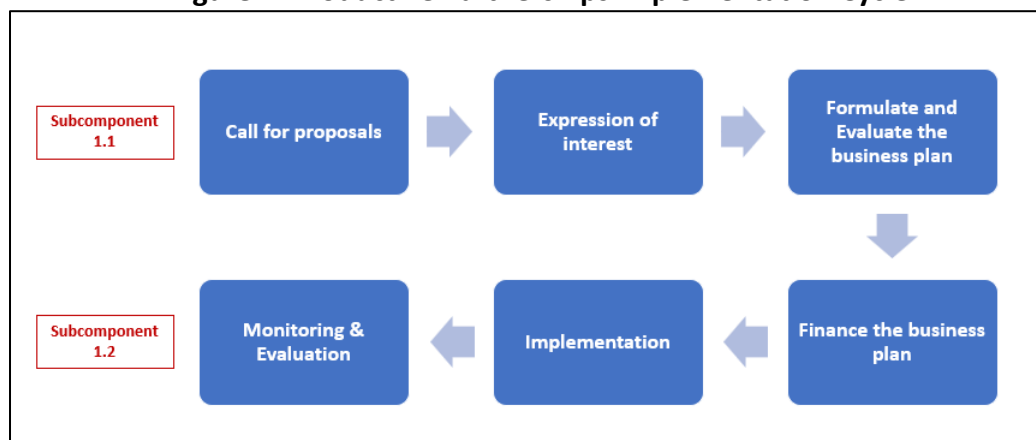
2. **Component 1: Promotion of Climate-Smart Production, Value Addition, and Inclusive Access to Markets (US\$ 45 million: IDA US\$30 million, local beneficiaries US\$15 million).** This component will promote climate-smart agricultural production by supporting growth-oriented small and medium producers to establish and/or upgrade their market linkages with off-takers in a market-driven, profitable, and sustainable way and intensify and add value to their production. The Project will do so by: (i) supporting the strengthening of organized producer groups or producer companies with a particular focus on export orientation and facilitating Productive Partnerships (PPs) between producers and buyers through the preparation of

¹ In October 2021, the GCF Board approved \$36 million for Sri Lanka as part of a larger program named "cooling facility," submitted by the World Bank. The facility is available until the year 2032 for implementation. The GCF funds under the cooling facility can only be used for cooling-related activities.

business plans; and (ii) competitively selecting and facilitating access to blended finance for the most commercially viable, inclusive, and climate-smart business plans. The Project will also spur private sector provision of agri-services targeting innovative youth entrepreneurs through training and business development support. The project will focus on investments for producer groups to build capacity, link effectively to markets, and boost climate resilience by improving cold chain management and adopting climate-smart practices. This will complement ongoing and planned investments and advisory services from IFC focused on agri-businesses and tighten value chains in the agriculture sector, especially for exports.

3. **Productive Partnership involves three core agents: a group of smallholder producers, one or more buyers, and the public sector.** These agents are connected through a business proposition, or “business plan,” which describes the capital and services needs of the producers and proposes improvements that would allow them to upgrade their production capacities and skills to strengthen their linkage with the market, i.e., the buyer(s). The implementation of business plans (Figure 2) through a subproject is typically supported through three core inputs and/or activities directed toward the producers’ needs including business development, technical assistance, and productive investments. Through this approach, the Project will support growth-oriented small and medium producers organized in legally registered companies to establish and/or upgrade market linkages with commercial off-takers².

Figure 2: Productive Partnerships Implementation Cycle



- a. ***Subcomponent 1.1 Capacity building and development of horizontal and vertical alliances (IDA US\$5 million).*** The Project will finance works, goods and services for the upgrading of organized and legally registered producer cooperatives or

² This approach has been successfully supported in Sri Lanka under the IFAD financed *Smallholder Agribusiness Partnership Programme* (2017-2025) (SAPP), where nearly 40 partnerships between buyers and producer groups have been established. The project builds on this experience and incorporates lessons learned from this program as well as from the Bank’s experience globally in financing productive partnerships. The Project also builds on ASMP’s experience through its productivity enhancement and diversification investments and the successful support to vertical and horizontal alliances.

companies³, the facilitation of Productive Partnerships, and the formulation of business plans. Under this subcomponent, the Project will support pre-investment activities for project promotion and business plan identification, including: (i) outreach, awareness raising, communication strategies, seminars, study tours and workshops⁴, and technical assistance in facilitating linkages between small and medium-scale producers with agribusinesses, buyers and off-takers; (ii) training, technical assistance, operational cost, and consulting and non-consulting services to support the selection and preparation of joint business plans, including investment requirements for small and medium producers to upgrade their productive capabilities to meet the commercial agreements. Facilitators and service providers will enable the establishment of Productive Partnerships around fair and transparent commercial agreements that will lead to the formulation of detailed business plans. Business plans will need to be fully market-driven, gender inclusive, environmentally sustainable, and climate smart, this is, they will support producers to adopt sustainable and resilient technologies and practices, for example, through bulk purchases of inputs like drought-resistant seeds and organic fertilizers or providing market access to sustainable eco-friendly or carbon-neutral products, among others. Facilitators and service providers will prepare producer groups for the implementation of their business proposals by strengthening their technical and business capacities, including climate risk management strategies for enhanced adaptation. The business plans will have a particular focus on environmental sustainability (such as pollution mitigation) and carbon neutrality (energy efficiency) and will be screened for such through an independent evaluator under the guideline and regulations of the technical department of Government of Sri Lanka. This component complements ongoing investments/advisory by IFC in agri-businesses by focusing on key value chains where small-scale producers may be organized and strengthened as export-oriented market players in the value chain, meeting downstream requirements of buyers and off-taker agri-businesses.

- b. Subcomponent 1.2 Improved market integration for increased climate smart production and value addition (US\$35 million: IDA US\$20 million, local beneficiaries US\$15 million).** The Project will support works, goods, services, and grants to competitively select productive partnership business plans, and support their implementation, by facilitating small and medium producers to invest in technical assistance, productive assets, fixed capital (such as equipment and minor infrastructure), working capital to finance business expenditure, and inputs. Viable business proposals identified through a competitive process will be financed through a blended financing arrangement consisting of (i) beneficiary contribution;

³ As the project builds on several ongoing programs, the project will, as a first priority, leverage existing organized producer groups, such as Cooperatives, Farmer Groups, Producer Societies, or Public Unlisted Companies (PUCs) established and strengthened under other projects.

⁴ These activities will strengthen the capacity of the institutions leading the pre-investment activities and supporting the formation of partnerships and market access.

and (ii) a credit consisting of a loan at market rates to the legally registered producer group extended by a commercial financial institution, and (iii) contribution from the Project to the Producer Group.⁵ The *project contribution* will serve to de-risk the investment of commercial banks and incentivize the adoption of innovative, climate-smart, and energy-efficient technologies, including those that enhance climate resilience, and promote cold chain investments. Investments in this component complement ongoing and potential IFC engagements in the agri-finance sector that can unlock additional financing on the agri-business and producer side, including advisory services and investments.

- c. **The proposed Project will strengthen commercial and economic inclusion through two windows with different target beneficiaries and different shares of blended finance.** The windows' different conditions will be tailored to the needs of the producer organization with different levels of development, business experience, and readiness for commercial activities. Windows will operate with detailed eligibility criteria and financing caps, which are to be detailed in the Project Operation Manual (POM). Subprojects will be selected via a demand-driven, transparent mechanism that ensures compliance with technical, financial, social, climate smart and environmental parameters detailed in the POM. Additionally, it will identify opportunities to strengthen energy efficiency and cooling in the value chain. Additional consideration will be given to female-headed or organized producers with significant ownership of women in the evaluation process.
- d. ***Subcomponent 1.3 Strengthening private sector provision of agri-services through innovation and entrepreneurship (IDA US\$5 million, local beneficiaries US\$2 million).*** The Project will support works, goods, services and grants to spur private sector provision of agri-services, with a particular focus on promoting business opportunities for women and youth along the value chain. Technical assistance under the project will support the identification and competitive selection of innovative entrepreneurs in the provision of services in the agriculture sector,⁶ including machine services, machine repair services, and business development services, among others. The Project will support training and capacity building, entrepreneurship support (including business development support, mentorship, and skilling), climate risk management and adaptation, and help entrepreneurs obtain blended credit, including facilitating access to credit on market rates together with an investment grant to offset costs of business startup (including working capital for business expenditures, assets, and small

⁵ This support will be provided on a case-by-case basis as some groups might be in a position to afford more than others. This portion of the financing will be disbursed once the beneficiary contribution has been received and/or the credit arranged.

⁶ The activities build on a similar youth entrepreneurship model from the IFAD-financed SAPP, as well as similar programs for skilling along the value chain (Australian High Commission) and World Food Programme (training youth in machine repair) that demonstrated the potential to create jobs in the services sector, especially among women and youth.

infrastructure). The POM will lay out the outreach, selection, oversight, financial disbursement, monitoring, and reporting process. Activities in this component will target women, youth, the disabled, and other under-represented and marginalized populations through outreach and awareness raising to foster entrepreneurship and job creation along value chains and in the rural economy.

4. **Component 2: Integrated Management of Natural Resources for Climate Resilience (IDA US\$ 55 million).** The objectives of this component is to enhance the climate resilience of natural resources through: (i) improving the institutional governance of natural resources in cascades and village tanks through continued strengthening of cascade management committees (CMCs), including strengthening gender equality in leadership; (ii) enhancing water resources management in small, medium, and major irrigation systems to increase water use efficiency and productivity, and; (iii) supporting the accelerated adoption of climate smart agriculture (CSA) practices for improving productivity, strengthen climate adaptation, and increase GHG mitigation and carbon sequestration. The component builds on, replicates and scales several successful models and interventions from the Climate Smart Irrigated Agriculture Project (CSIAP) and the Integrated Watershed and Water Resources Management Project (IWWRMP), and aims to bring improved institutional coordination between both the agriculture and irrigation sectors. The component has the following subcomponents:

- a. ***Subcomponent 2.1 Improving Cascade Management and On Farm Water Use Efficiency (IDA US\$22 million).*** This subcomponent will focus on village tanks cascade systems that come under the mandate of Department of Agrarian Development (DAD) in climate hotspot areas⁷. The objectives of this sub-component are to (i) strengthen integrated management of cascades by applying integrated landscape management principles for climate resilience and carbon sequestration⁸; and (ii) to undertake restoration and rehabilitation of critical small hydraulic infrastructure, including small tanks, ponds in the Jaffna peninsula, agro-wells and access roads using materials that are resilient to extreme weather events such as heatwaves and/or flooding to enhance water availability and productivity. The Project will support CMCs through institutional strengthening and implementation of small-scale interventions identified in Cascade Management Plans (CMPs) (e.g., human-wildlife conflict, degradation of catchments, improvements to drainages) and that capture underutilized opportunities (e.g., community-based aquaculture). Implementation support for landscape management plans will include creating incentives for adopting alternative means of resource use (e.g., multi-purpose soil conservation bunds, conservation farming, reforestation, tree-planting, land leveling and community forestry) in degraded patches of land, and alternative livelihoods for resource users. These interventions build on, replicate, and scale support to 61 CMCs established under the CSIAP and fund priority small-scale interventions identified in CMPs.⁹ All tank

⁷ The ongoing CSIAP is implemented in the 11 climate hotspots in the country.

⁸ Integrated Landscape Management (ILM) is a holistic approach to managing land resources that aims to balance social, economic, and environmental objectives. The principles of ILM focus on collaboration among diverse stakeholders and the sustainable use of natural resources within a landscape.

⁹ This experience was established under the Bank-financed CSIAP IPF, and includes TA to establish CMCs, build CMC capacity, improve evidence-based decision-making by CMCs on management of cascade landscapes. Cascade Management Plans support the integrated management of land, water, wetland, and forest resources in cascade systems. Protecting cascade ecosystems and landscapes from land use conversion enhances climate adaptation by preserving the natural functions that these

rehabilitation and infrastructure development activities will be monitored by DAD together with CMCs. The project will leverage community-based contracting farmer organizations to support the implementation of small-scale maintenance and repair works, creating local opportunities. Additionally, priority will be given to engaging poorer, female-headed, and vulnerable households, particularly in the seasonal works.

- b. *Subcomponent 2.2 Irrigation and Water Resources Management (IDA US\$30 million)*.** The objective of this sub-component is to (i) improve the productivity of irrigated agriculture in major and medium irrigation schemes through improved water resource management as well as to (ii) enhance the adaptive capacity of the local landscape and population from climate-induced droughts and floods. The activities will focus on the same districts where investments in small tanks under subcomponent 2.1 will be carried out according to the selection and prioritization criteria detailed in the POM. The Project will support goods, services, and civil works for the improvement of water use efficiency and productivity, modernization of on-farm and off-farm irrigation and drainage canals and diversion structures, improving watershed management, and strengthening the capacity of farmer organizations, specifically in the water management, operation and maintenance of hydraulic assets. This subcomponent will also finance the goods and services to (i) enhance its data systems and operational models for the Irrigation Department and (ii) develop a joint framework for investment prioritization for all stakeholders, towards improving water use efficiency and water resources management and strengthening coordinated action for improved natural resources management in the designated areas.
- c. *Subcomponent 2.3 Boosting Climate Smart Agriculture Technologies and Practices (IDA US\$3 million)*.** The objective of this component is to promote adoption of climate smart agriculture technologies and practices in the village tank cascade systems and major and medium irrigation schemes where integrated resource management and infrastructure rehabilitation is taking place under subcomponents 2.1 and 2.2, to realize the on-farm benefits of CSA practices will be tailored to the specific agro-ecological context and will focus on promotion and adoption of these practices by farmers. The Project will support goods and services related to research, demonstration, extension of CSA practices to promote adoption, as well as outreach and training, such as through Farmer Field School and Farmer Training School models. The subcomponent will promote customized packages of CSA practices and technologies for village tank cascades systems and major and medium irrigation schemes. These packages are designed to address local climate risks such as droughts, floods, variation in rainfall patterns and extreme events in both paddy command areas (e.g., Alternate wetting and drying (AWD) , drought-resistant varieties, salinity tolerant varieties, inter-season cultivation, and crop diversification) and upland farming areas (e.g., micro irrigation and solar water

pumping, movable rain shelters for off season production, agro-wells, and soil health improvement measures). These interventions aim to improve (i) farmers' adaptability to climate shocks and (ii) productivity, (iii) cropping intensity, and (iv) resource use efficiency in agricultural production.

5. **Component 3: Strengthening the Enabling Environment for Sectoral Growth (US\$ 14 million: IDA US\$13 million, GoSL US\$1 million).** This component supports the enabling environment to boost competitiveness and modernization of the agriculture sector by: (i) improving the quality and availability of sector data for improved evidence-based decision-making; (ii) developing critical quality infrastructure for market access and competitiveness, and (iii) supporting the provision of agricultural insurance.

- a. **Subcomponent 3.1 Better quality and availability of agriculture data (IDA US\$2 million).** The objective of this subcomponent is to improve the availability and quality of public data for improved decision-making in the sector. The Project will finance goods and services for: (i) improving the quality and availability of existing data systems collected by the Ministry and Departments and capacity building; (ii) at least two agriculture surveys to improve the availability of sector-level information, including climate and environmental risks and market information. This sub-component will be supported with additional technical assistance towards the design of data architecture systems and agricultural survey design from the 50x2030 initiative.¹⁰
- b. **Subcomponent 3.2 Quality Infrastructure Improvements (IDA US\$10 million, GoSL US\$1 million).** The objective of this sub-component is to support the national quality infrastructure (NQI) for food safety and trade in food and agriculture products. The Project will finance goods, services and small civil works packages related to: (i) digitize and automate services through for example interoperable workflow management and traceability systems for relevant agencies; (ii) a strategic study on prioritized investments that support improvements in certification, testing, traceability and other laboratories services; and (iii) investments in sustainable capacity building and equipment to meet NQI needs, especially for export sectors and food safety. The project will also look to identified opportunities to strengthen the cold chain performance ensure that the storage, transport and processing of the products meet the necessary standards in terms of temperature to support sustainable cold chain networks. By addressing issues such as phytosanitary standards and disease standards and monitoring that are expected to worsen with climate change (and other non-climate factors), this subcomponent directly builds resilience to climate risks such as climate-driven phytosanitary contamination and temperature-sensitive food safety threats, as well as to support mitigation efforts by reducing cooling energy requirements.

¹⁰ The 50x2030 INITIATIVE is a multi-agency partnership that seeks to transform data systems in 50 countries by 2030 by improving availability of high-quality, relevant agricultural data for policymakers.

- c. **Subcomponent 3.3 Enhancing provision of agricultural insurance (IDA US\$1 million).** The objective of this sub-component is to support the expansion of agricultural insurance provision. The Project will support goods and services to the Agriculture and Agrarian Insurance Board (AAIB) to support operational efficiencies, digitization and expanded coverage for potential beneficiaries. This includes hardware and software upgrades to the AAIB to improve operational efficiencies and complement innovative product developments. These investments to AAIB will complement potential parallel IFC technical assistance to develop crop insurance products, especially targeting beneficiaries of the productive partnerships.

6. **Component 4: Project Management, Monitoring & Learning (US\$ 4 million: IDA US\$2 million, GoSL US\$2 million).** This component will support the overall management, implementation, and supervision of Project interventions, capacity building, as well as monitoring, evaluation, communication, dissemination, and continuous learning throughout the life of the Project. The Project's progress and impacts will be monitored and evaluated, notably through a baseline, mid-term, and end-of-project impact assessment, as well as on-demand quantitative or qualitative studies.

7. **Component 5: Contingent Emergency Response Component (US\$0 million).** This component will support the provision of immediate response to an Eligible Crisis or Emergency, as needed.

1.3 Objective of the Environmental and Social Risk Management Guideline (ESRMG)

Projects and Programs financed with IDA resources need to comply with World Bank Operational Policies. Therefore, all sub-projects and components eligible for funding under IRDCRP will comply with the World Bank's Environment and Social Framework (ESF), in addition to conformity with environmental legislation of the Government of Sri Lanka (GOSL). Since detail designs for the sub-projects under components 1,2 and 3 have not been finalized at this stage, site specific Environmental & Social Assessments and Environment and Social Management Plans will have to be conducted only when specific interventions are identified and confirmed. The finalization of these environmental and social due diligence documents will be completed prior to the commencement of any bidding process for the works.

This document is an early version of the Environmental and Social Risk Management Guideline, where a generic and higher-level assessment of E&S issues that are typically associated with the type of investments the project will support is discussed to inform project stakeholders and the general public.

The main purpose of this document is to (a) carry out a generic assessment of anticipated environmental impacts from IRDCRP and (b) outline a framework for environmental screening, assessment and management, giving details of potential environmental and social issues, screening criteria and guidelines on what type of environmental tools need to be applied for the various investments prior to commencement of activities and (c) technical guidelines and recommended measures to avoid, minimize and mitigate anticipated E&S risks and impacts.

In detail, the ESRMG for IRDCRP will cover the following areas:

- i. Description of the proposed project area in terms of key physical, hydrological and biological features

- ii. Applicable national legislations and World Bank's Environment and Social Framework
- iii. Generic early assessment of anticipated environmental impacts from IRDCRP
- iv. Establishment of clear procedures and methodologies for environmental screening, planning, reviewing, approval and implementation of subprojects
- v. Technical guidelines to avoid, minimize and mitigate anticipated E&S risks and impacts
- vi. Establishment of clear procedures for E&S monitoring and reporting
- vii. Identification of appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental concerns related to subprojects
- viii. Identification of training, capacity building and technical assistance needed to successfully implement the provisions of the ESRMG
- ix. Practical resources for implementing the ESRMG

It is intended that by 30th March 2025, a draft final version of the ESRMG will be disclosed to the public and finalized thereafter.

Chapter 3. Description of the Project Area (one page with a map)

Activities under components 1 will be cover all island and 2 will be implemented in 16¹¹ out of the 25 districts in the country, selected for (i) potential value chain development in high value crops, livestock and aquaculture; (ii) high vulnerability to climate change, especially in changes to rainfall patterns and increasing frequency of drought throughout the country's dry zones; and (iii) need for improvements in irrigation and water use efficiency.

These 16 districts will encompass a large area of the country with varying topographical, bio-physical and socio-economic characteristics, largely covering the dry zone. The project areas will be mostly in rural settings with mixed land use and lower population densities compared to urban areas. The dry zone has primarily a flat terrain with small, isolated mountain ranges and rock outcrops and experiences long dry spells between February and October. Hydrologically, it is dominated by ancient large, medium and small man-made lakes that store rainwater for multiple purposes, irrigation for agriculture being the main. Most notable are the small tank cascade systems that dots the land, which form mini watersheds within larger river basins and which will be a primary subject area of the proposed project.



The land use in the dry zone is dominated by conservation and production areas which are intertwined with a variety of other forms of human influenced land uses. Irrigated agriculture has been a key driver of land use in the dry zone which has also created the human wildlife conflict and is also home to several protected areas with rich biodiversity.

¹¹ Jaffna, Kilinochchi, Mannar, Mulaitivu, Anuradhapura, Polonnaruwa, Kurunegala , Puttalam, Trincomalee , Batticaloa, Ampara, Kandy, Matale, Nuwara Eliya, Moneragala Hambantota

Chapter 4: Preliminary Assessment of Environmental and Social Impacts

4.1 Preliminary assessment of environmental impacts

Positive Impacts

The project is expected to have net positive environmental outcomes through the planned interventions in agri-food value chain development, irrigation infrastructure and cascade catchment restoration and strengthening enabling environment for the growth of rural livelihoods.

- Improved social and environmental resilience to climate shocks in primarily agricultural areas through climate smart water management and cultivation practices.
- Multiple social, economic and environmental benefits from cascade catchment management activities such as contributing to carbon sequestration, protection of biodiversity, combating land degradation, improving soil fertility and land productivity.
- Restoration of natural areas and forests within cascades as well as promotion of agroforestry will also help achieve biodiversity conservation goals and enhance resilience and productivity of paddy and upland farms.
- Increased availability and accessibility of water in the water scarce dry zone through the restoration of many reservoirs in the small tank cascade systems.
- Increased safety of cascade infrastructure reducing risks to downstream users.
- Reduced soil erosion and sedimentation (and a result longer term capacity maintenance of reservoirs within cascades) as a result of specific erosion control measures in cascade watersheds through cascade management plans.
- Improved safety of water infrastructure as a result of technically justified restoration activities.
- Improved livelihood opportunities for the people in the project influence area that will lead to increased on-farm and off-farm incomes and reduced rural poverty.
- Increased awareness and capacity in coping with disasters

Potential adverse impacts

Component 1 will support small and medium producers by adding value to their productions and increasing market access. At this point of project preparation, the nature of these business plans is not known. The business plan preparation process will commence with project implementation via outreach to existing and potential productive partnerships. The project will provide technical assistance to potential productive partnerships for the preparation of business plans which will ensure environmental sustainability and climate smart aspects are well integrated for the plans to be eligible for grant funding.

Through a competitive process, the selected legally established productive partnerships will receive assistance from the project in the form of goods, services and grants to increase climate smart production and value addition in the agri-food sector. As such, activities under this component will be determined by the nature of the selected business plans. It is expected that these activities are likely to include investments in small scale civil works (centers for collection, processing, packaging and storage, last mile infrastructure), food/fish processing plants, aquaculture farms, service centers etc.

While there will be environmental issues arising during the implementation of selected business plans such as from siting, civil works and waste generation in value addition business, they are not expected to be of any serious nature. As said, the business plans will have a particular focus on environmental sustainability (such as pollution mitigation) and carbon neutrality (energy efficiency) and will be screened for such through an independent evaluator under the guidelines/ regulation of the technical departments of government of Sri Lanka.

- Business plans under component 1 that will have implications on environmental pollution through food/fish processing will be eligible for funding only if proper necessary mitigation measures are built in.
- The project will not support any community-based aquaculture projects that will cause irreversible harm to biodiversity and natural resources through siting of such facilities or pollution during operation.
- Investments supported by the project in community-based aquaculture farming will need to be designed and operated within specific waste management guidelines. Business plans for such investments will need to integrate waste management, energy efficiency and climate smart farming methods to be eligible for funding.

Component 2 will finance the rehabilitation of reservoirs within small tank cascade systems and downstream irrigation canals in medium/large irrigation systems, improve institutional governance of cascades (reservoirs connected as a cascade) and scale up climate smart agricultural practices.

The civil works for the restoration of reservoirs in small tank cascades and the rehabilitation of irrigation canals will give rise to a range of construction related environmental issues, which will be site specific. These issues will range from;

- Tree removal from the earthen dam bunds, irrigation canal bunds, access roads and agricultural roads
- Damage to habitats from transportation of construction material, earth and civil work, burrowing
- Water quality deterioration from construction activity, siting of labor camps and limited noise and air pollution
- Soil erosion due to earth works (especially in the monsoonal and inter-monsoonal seasons)
- Disposal of dredge material from desilting reservoirs in small tank cascades
- Solid waste disposal (generated from civil works and labor activity)
- Disturbance to wild fauna from the presence of construction workers and machinery
- Illegal activities such as poaching due to the presence of labor gangs in rural sites (some within forest areas)
- Accidental forest fires
- Inundation of additional catchment areas due to spill level raising of reservoirs within small tank cascades.
- Occupational health and safety (threats from wild animals)
- Safety from structural safety and stability of dams (minor dams)

It is learnt from ongoing projects with similar investments, that none of these issues are expected to cause serious or irreversible environmental impacts and can be managed with careful planning and early screening for E&S risks and designing appropriate mitigation measures.

1. Biodiversity Impacts: Several potential impacts to biodiversity and living natural resources are noted associated with the proposed project activities. While the project will not support any new infrastructure, civil works associated with restoration of reservoirs within small tank cascades located inside or adjacent to protected areas can cause losses to biodiversity due to:

- **Burrowing of material:** Often for small tank rehabilitation projects, earth is excavated from the tank bed or a site close by. These 'borrow pits' are often left abandoned after the construction work leading to fatal accidents for both humans and animals. They may also lead to health risks associated with vector breeding due to stagnation of water, especially during the rainy season. Refer to the Annex on Guidance note on borrow site/pit rehabilitation (to be included) for avoiding adverse impacts during and after burrowing.
- **Tree Removal:** Reservoirs within small tank cascade systems and irrigation canals that have not been maintained for decades have large trees growing on the bund, spill tail and other dam structures, necessitating removal to pave way for rehabilitation activities. In some sites, the numbers of tree removal can be significant. The project will adopt and continue technical protocols developed under CSIAP and IWWRMP for inventorying all trees earmarked for removal on bund and structures and carefully identifying the level of risk from each tree to the bund/structures in order to minimize the number of trees removed to a minimum. A national guideline setting a consistent approach to tree removal in irrigation rehabilitation will be soon published by the IWWRMP and utilized for this project.
- **Spread of invasive plants:** The risk of spread of invasive plants is always present in construction sites where transport of material, labor and constant movement of construction vehicles are involved. Sourcing of material in close proximity to the construction site, inspecting for the presence of invasives in material source sites, keeping construction vehicles clean and washed regularly are some of the good construction practices that the ESMPs will highlight as standard clauses.
- **Spill level raise of reservoirs within small tank cascades:** Increase in spill levels to store more water (where hydrological assessments recommend so) can lead to inundation of land holding important biodiversity, hence need careful planning and the application of the mitigation hierarchy. The project will not support spill level raising of reservoirs within small tank cascades located within protected forest areas unless it can be clearly demonstrated that overall benefits outweigh risks and that biodiversity losses can be offset. This too shall be subjected to clearance from the Forest Department or the Department of Wildlife Conservation. All rehabilitation work within designated protected areas would need to stick to original design parameters of the irrigation infrastructure and require prior written clearance from the Forest Department or the Department of Wildlife Conservation. For reservoirs (within small tank cascades) with spill level raise that are outside protected areas, necessary assessments will be done to identify potential risks to sensitive habitats and ecosystems to inform designs and ESMPs appropriately. All sites within protected areas will be considered 'highly sensitive' and will be subject to government clearance and a set of stringent management measures.
- **Accidental forest fires and poaching:** Presence of labor gangs within and in close proximity to protected areas as well as other sensitive biodiverse areas can be a reason for accidental forest fires, especially in the very dry periods when construction is typically synchronized with. It is noted from experience that night work in irrigation rehabilitation is limited, and labor camps are often offsite. Similarly, some labors may attempt to poach small mammals and birds and set up snares etc. These negative impacts need to be managed with good awareness, implementation of ESMPs and strict monitoring.

Biodiversity impacts will need to be identified & managed through site specific provisions in the ESMPs and strictly monitored. While the preparation of site-specific biodiversity management plans are not envisaged at this point, the necessity of such will be assessed through site level E&S screening and prepared if required.

Desilting: Civil works for cascade restoration will involve reinstating earthen bunds to its original profile, desilting, repairs to sluices and spillways and irrigation distribution system and in some cases raising spill level to increase reservoir capacity. Desilting will result in large volumes of silt/soil to be disposed but the ongoing CSIAP has demonstrated that this is not a issue as there is a high demand for the material from farmers to apply in farmlands as a soil conditioner. Further, the desilted material can also be used onsite for formation of soil erosion bunds or to fill the burrow areas. Assessments will be done for siting and management of temporary storage of material and dewatering.

Pollution: The civil works activities envisaged under the project will give rise to construction related solid waste generation that needs to be collected and disposed properly, especially given that project sites are likely to be rural areas without solid waste collection facilities provided by the local authorities. In addition, some reservoirs (within small tank cascades) will require desilting which will cause temporary water quality issues as well as require careful disposal of silt to pre-planned sites or managed within the site in an environmentally friendly way. Since these reservoirs are rain fed and highly seasonal, targeting all civil works to be completed within the dry spell would minimize any issues around reservoir water quality. Further, only a smaller percentage of these reservoirs are used for domestic purposes as bathing and as such impacts of any water quality deterioration would be limited and highly site specific. Labor camps in project sites will generate grey water and sewage that needs to be managed onsite to ensure that waterways do not get polluted. Since the civil works are expected to be medium to small scale, the requirement for labor at a given time is not expected to be significant.

Under the World Bank funded Agriculture Sector Modernization Project (ASMP) which closed in December 2024, a full assessment of pest management in the agriculture sector was undertaken and recommendations made, some of which have been carried forward under the bank funded CSIAP. Under CSIAP, pesticides free seeds and IPM practices have been promoted and it is expected these measures will be scaled up under the project. Material presented under ASMP will be utilized for the project and adjusted if needed.

Occupational Health and Safety (OHS): Working in remote locations, as many of these water infrastructures are, poses OHS issues especially from snake bites and other wildlife attacks such as elephants, leopard and bear. In addition, the use of construction machinery and certain types of construction activity carry an inherent safety risk although it is not envisaged that any of the project activities would involve the handling of dangerous material or engaging in highly risky activity. Mitigation measures to address OHS issues will be incorporated into the ESMPs and as well bidding documents. Where work inside protected areas is involved, specific training and awareness sessions for labors will need to be organized with the involvement of the relevant conservation department.

Cultural Heritage: It is quite possible that some of the selected sub-project sites are within and adjacent to historical settlements as the country has a vast distribution of ancient sites of cultural interests. Sub-project site identification will take place during project implementation and at that stage known sites of cultural heritage will be identified and appropriate measures taken. In addition, the cascade system popularly referred to as Small Tank Cascades or 'Ellanga' systems are considered as cultural heritage given their origins in the ancient hydraulic civilization in Sri Lanka. The project's efforts at restoring these

systems and bringing in proper governance mechanism (as a long-lasting solution for long years of neglect) will be a positive outcome to preserving its history and heritage. What is more likely is chance finds as has been the experience with similar projects in the past and present. As such, E&S management guidelines of the project will duly incorporate all needed measures to diligently deal with cultural chance finds.

Dam Safety: The dam works that will be supported by the project within cascades are small tanks with earthen dams of several feet in height and storing typically an average volume of about 0.5 MCM. None of them are located in known sensitive geological areas. The type of reservoir rehabilitation activities will be proposed based on a hydrological and structural assessment (as done in CSIAP) of each minor reservoir. The project will hire competent professionals for the design, supervision and quality assurance of the rehabilitation and safety improvement works of dams in cascades to ensure required safety measures are duly incorporated for design, bid tendering, works execution, and operation and maintenance. Also, the project will prepare and implement dam safety plans in a proportionate manner to the size, complexity, and potential risk of the dam.

While the project will not directly fund the rehabilitation of medium to large dams, it will support rehabilitation of selected irrigation canals under medium/large schemes which would require safety of the upstream dam to be ensured. In such cases, the project will engage one or more competent professionals to (i) inspect and evaluate the safety of dams and (ii) review the owner's operation and maintenance procedures of schemes where downstream irrigation canals are selected for rehabilitation. For each such case, a written report of findings and recommendations will be provided to ensure that required dam safety measures are in place or will be adhered to prior to commencement of canal work supported by the project. They may use previously prepared dam safety assessments or recommendations for improvements needed for existing dams if they are sufficient and acceptable to the Bank.

Component 3 are mainly soft interventions, however, minor civil works and procurement of equipment to expand the cold chain through climate smart and energy efficient technology will be supported. As such no major E&S issues are envisaged here.

4.2 Preliminary assessment of social impacts

In terms of social risks and impacts, the project may face: i) livelihood impacts due to disruption of access to water for cultivation when water levels have to be reduced in reservoirs or water distribution is halted in canals during rehabilitation, ii) temporary and/or permanent displacement due to risks of inundation of land and clearance of reservations of irrigation canals, iii) exclusion of vulnerable and disadvantaged groups from decision-making and other project benefits due to a lack of equitable processes for beneficiary selection and elite capture, iv) protests from local communities in case of unsatisfactory quality of construction work and disputes around land tenure rights and v) risks of Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) due to labor influx. The project will seek to avoid adverse impacts by applying a 'negative list' to exclude activities that require land acquisition and involuntary resettlement. Private land acquisitions will be avoided by ensuring civil works are confined within government-owned land boundaries. While the project will not encourage voluntary land donations, if small parcels of land are required and communities choose to donate them, the project will follow the World Bank's Voluntary Land Donation Criteria (VLDC). Additionally, optimal design and engineering solutions will be adopted, building on good practices from recently concluded and ongoing

Bank-financed investments, to avoid and minimize resettlement and livelihood impacts. Any residual impacts will be addressed through the implementation of Livelihood Support Assistance (LSA) plans.

The implementation of the Stakeholder Engagement Plan (SEP) will ensure strategies are in place to engage all parties, address grievances, and avoid risks of community disputes during project implementation. Transparent beneficiary selection criteria and processes will be established to address the exclusion of women and other vulnerable groups from equitably participating in and benefiting from the project. Additionally, Codes of Conduct will be enforced for all project workers to address risks of SEA/SH.

The SEA/SH risk is rated as Moderate, based on assessments through both the Civil Works and Social Protection tools, and in consideration of increased contextual and project risks due to post-economic crisis issues and close interactions between project actors and female entrepreneurs, which elevate the SEA/SH risk factors. Additionally, labor influx during civil works and the risk of misuse of authority during the selection and verification processes of female entrepreneurs, as well as during close interactions between project workers and female beneficiaries, increase the SEA/SH risks. To mitigate these risks, the project will develop a comprehensive SEA/SH action plan. This plan will include training for all project workers and community members on SEA/SH prevention measures, ensuring that everyone involved is aware of the risks and how to prevent them. The plan will also require all project workers to sign a behavioral code of conduct, committing to uphold ethical standards and prevent SEA/SH incidents. Furthermore, the project will implement a survivor-centric Grievance Redress Mechanism (GRM) that respects confidentiality to handle any SEA/SH cases that arise, providing a clear and accessible process for reporting and addressing complaints. Finally, the project will strengthen links with SEA/SH service providers to ensure that survivors have access to the necessary support and resources.

Stakeholder Engagement and Information Disclosure : The project has prepared a Stakeholder Engagement Plan (SEP) describing actions to strengthen citizen engagement (CE), communication and grievance handling throughout the life-cycle of the project and will be implemented by project. Social Audit Committees (SACs) will continue to play a key role in CE to help Implementing Agencies to monitor project interventions especially civil works. Stakeholders currently identified include: stakeholder groups from Irrigation Department, Department of Agriculture, divisional & district authorities, farmer organizations, producer groups, even private sector for marketing of agri-products. SEP includes a mapping and accordingly communications and consultation activities implemented in order to reach all stakeholders and interested parties, and project level GRM. Consultations were held with a variety of farmers groups including: small-holder farmers, poor farmers, women farmers, youth, producer groups, and export oriented farmers. Stakeholder engagement included: evaluating existing programs and identify which services are working well and why; understanding the challenges faced by smallholder, female, and other underrepresented groups in accessing agricultural support services.; presenting possible impacts and risks that may result from a rural development project, and gathering community feedback to design new services and improve agricultural productivity, modernization, and market access, and garner input on mitigation measures which can reduce or elevate risks. Results and recommendations from stakeholder engagement conducted during project preparation informed project design.

Labor and Working Conditions: It is expected that water/irrigation activities will require an influx of labor. Therefore, a Labor Management Procedures (LMP) will be prepared. The LMP will include workers' GRM procedures and a template for a Code of Conduct to be prepared, signed, and followed by all laborers. The Code of Conduct will include measures to prevent SEA/SH, and inform workers of a

zero-tolerance for SEA/SH behaviors. -Types of workers include: 1) direct – PMU and staff directly involved in project preparation and implementation, 2) contracted workers – from civil works contractors, 3) primary supply workers – suppliers of Agri equipment/inputs, 4) community workers which may include social audit committees, producer groups, farmers groups, etc. There are areas in Sri Lanka known to risk of Human Elephant Conflict (HEC), which may cause risk to any person working in an HEC area. If a subproject location is identified with risk of wildlife attack, measures will be put in place to improve safety. As a part of LMP, Codes of Conduct will be enforced for all project workers including addressing risks of SEA/SH. The LMP will also establish a workers' Grievance Redress Mechanism.

Land Acquisition, Restrictions on Land Use and Involuntary Resettlement :While it is unlikely that there will be land acquisition, this project may have impacts on livelihoods. The project will need to emphasize that no new land should be required as projects are expected to only entail rehabilitation, and no activities should cause displacement of people, households, or businesses. Private land acquisitions will be avoided by ensuring civil works are confined within government-owned land boundaries and withing existing footprint of systems to be rehabilitated (ie. irrigation systems, cascade systems, etc.) Although the project will not encourage voluntary land donations, if small parcels of land are required and communities choose to donate them, the project will follow the World Bank's Voluntary Land Donation Criteria (VLDC). Additionally, optimal design and engineering solutions will be adopted, building on good practices from recently concluded and ongoing Bank-financed investments, to avoid and minimize resettlement and livelihood impacts. Any residual impacts will be addressed through the implementation of Livelihood Support Assistance (LSA) plans. As it is possible that there may be slight deviations to project civil works which may require acquiring land outside of existing footprint, a Resettlement Policy Guideline of Procedures, which will serve as the framework, will be prepared for this project. If it is determined that land acquisition is needed, either temporarily or permanently, or impact on livelihoods, The Resettlement Policy Guideline of Procedures will guide the project in preparation appropriate instruments, such as a Resettlement Action Plan (RAP) to ensure proper compensation is provided in a timely and fair manner to ensure standards and requirements of ESS 5 are met. The framework will be prepared in conjunction with ESMF and draft Resettlement Policy Guideline of Procedures disclosed prior to bidding of contracts.

Voluntary Land Donation is allowed only in cases where the Borrower demonstrates that: (a) the potential donor or donors have been appropriately informed and consulted about the project and the choices available to them; (b) potential donors are aware that refusal is an option, and have confirmed in writing their willingness to proceed with the donation; (c) the amount of land being donated is minor and will not reduce the donor's remaining land area below that required to maintain the donor's livelihood at current levels; (d) no household relocation is involved; (e) the donor is expected to benefit directly from the project; and (f) for community or collective land, donation can only occur with the consent of individuals using or occupying the land. The Borrower will maintain a transparent record of all consultations and agreements reached. If the land donation meets World Bank Criteria then ESS 5 does not apply.

Additionally, the Borrower can acquire land in a willing buyer – willing seller basis so long as seller is made aware that refusal is an option, and have confirmed in writing their willingness to proceed with the sale of land. The Borrower will maintain a transparent record of all consultations and agreements reached. In cases of willing buyer – willing seller, ESS 5 does not apply.

Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities: The two main centers of IP (veddah) communities found in the Uva Province are Dambana and Rathugala.

The province is made of Moneragala and Badulla districts. Dambana is accessible from Kandy – Mahiyangana – Ampara road that crosses Dambana junction at a distance of 18 Km east of Mahiyangana, on Ampara road. One has to turn left from Dambana junction and travel about 4 Km to reach Damabana village. Damabana veddah settlement consists of five hamlets at close proximity to each other. They include Dambana, Bimmanamulla, Gurukumbura, Galkadawala and Kotabakini. Together they cover an extent of about 500 acres that form part of Dambana 7A Grama Niladhari (GN) Division of Mahiyangana Divisional Secretariat (DS) Division. The veddah settlements come within Mahiyangana electorate.

Rathugala veddah settlement is located in Madulla DS Division of Moneragala District. It is part of the Galgamuwa GN Division. In terms of electoral districts, Rathugala comes within Bibila electorate. Ampara – Bibila road crosses the village between 27 km post to 31 km post. From Rathugala one has to travel 32 Km to reach Bibila and 50 Km to Madulla. It is the only veddah settlement in the district, and extends over an area of estimated 1000 acres. In addition to Dambana, there are four other villages inhabited by veddah's in the administrative area of authority under Mahiyangana Divisional Secretariat. These include Makulugolla (15 households) and Watawana (20 households) in Thalanganumwa GN Division and Kuduwila and Dehigolla in Wevgampaha GN Division. These settlements are accessible from Mahiyangana – Dehiattakandiya road. The distance from Mahiyangana town to the village is about 7 Km. One has to turn off from the 3rd Km post on this road and travel 5 Km interior.

Chapter 5: Environment and Social Risk Management Procedures

The project has a ESCP which outlines the borrower's responsibilities for E&S due diligence under each Environment and Social Standard under the ESF.

If Contingent Emergency Response Financing (CERC) becomes relevant, the project will amend the Environment and Social Documents, as required, in a form and with substance acceptable to the World Bank, to specifically address the crisis which triggered the emergency, prior to commencement of CERC activities.

Any activities supported with retroactive financing will adhere to this guidelines, and ensure mitigation of risks and impacts meet standards and requirements of the Country and the World Bank.

The project will prepare a E&S risk management procedure, building on the existing guidance and experience of ongoing projects, which will include a

- (i) Negative list/Exclusion criteria
- (ii) Procedure for sub-project screening, type of impact analysis and management tools for each category of investments per component
- (iii) E&S review and clearance procedures (World Bank and National)
- (iv) Procedures and mechanisms for monitoring and reporting,
- (v) Institutional arrangement for E&S risk management within the project
- (vi) Grievance redressal mechanism,
- (vii) Training and capacity building needs and
- (viii) Annexes with screening & monitoring templates, generic E&S codes of practice and ESMPs and additional technical guidance for key E&S issues.

The training and capacity building section of the E&S guideline will outline specific capacity building needs to cover ESF. The E&S guideline will particularly highlight how the country framework can be utilized and the application of the WBG Environment, Health & Safety. In addition, the Operational Manual for Component 1 will complement the E&S Guideline by clearly set out the requirements and process for E&S risk management for business plans to be eligible for funding under the project.

Chapter 6: Environmental and Social Impact Management Procedures

6.1 Environmental and Social Risk Assessment of sub-projects.

6.1.1 E&S screening of sub-projects

6.1.2 E&S risk assessment tools and how to decide on the appropriate level of assessment (ESIA, ESA, ESMP)

6.1.3 Preparation of Environment and Social Management Plans (ESMPs)

6.2 Mitigation of potential environmental and social impacts

6.2.1 Minimizing disturbance to habitats and biodiversity

6.2.2 Disposal of solid waste and dredge material

6.2.3 Management of burrow sites and quarries

6.2.4 Management of impacts from spill level raises to small tanks and dam safety

6.2.5 Guidelines for mitigating and minimizing anticipated adverse impacts on Physical Cultural Resources

6.2.6 Construction site management

6.2.7 Tree removal procedures

6.2.8 Labor management

6.2.9 Livelihood support assistance

6.2.10 Health and Safety Guidelines

Chapter 7: Institutional Framework for Environmental and Social Management

- 7.1 Overall project implementation arrangements
- 7.2 Implementation arrangements for environmental and social risk management
- 7.3 Illustration of the environmental and social due diligence process
- 7.4 Key roles and responsibilities of various parties involved in environmental & social management safeguards
- 7.5 Environmental and social monitoring
- 7.6 Progress Reporting and Mid-term Environmental Audit
- 7.7 Capacity Development Requirements
 - 7.7.1 Short-term training and awareness programs
 - 7.7.2 Technical assistance
 - 7.7.3 Long-term capacity building
- 7.7 Operating requirements - Legislative/Regulatory Considerations
- 7.8 Timeframe for planning and carrying out Environment and Social assessments
- 7.9 Estimation of Environmental and social risk management implementation cost

Chapter 8 – Stakeholder Consultation and Information Disclosure

8.1 Stakeholder consultation and participation within E&S risk management

8.2 Information disclosure requirements for E&S screening and assessments

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Chapter 9 - Grievance Redress Mechanism

9.1 Features of a GRM

9.2 Proposed GRM for the project

ANNEXES

Annex 1 – Environmental and Social Screening Formats

Annex 2 – Sample generic ESMP

Annex3 - Sample Generic Environmental and Social Codes of Practice for low risk activities

Annex 4 - Environmental and social Monitoring Checklist for Construction Activities

Annex 5 - Construction Safety Checklist

Annex 6 – Projects requiring Archaeological Impact Assessment under the Antiquities Act

Annex 7 – Guidelines for the Preparation of Livelihood Plans

Annex 8 : Guidelines for the Preparation of Resettlement Action Plan

Annex 9 – Guidelines for the Consultation & Preparation of a Indigenous People's Plan

Annex 10 : Technical Guidelines for the Removal of Trees in Project Sites

Annex 11 : Technical Guidelines for the Rehabilitation of Burrow Sites

Annex 12 : Technical Guidelines for the Managing Impacts from Spill Raises

Annex 13: guideline for including OHS aspects in Bidding documents

Annex 14: dam safety measures and procedures