Environmental and Social Management Framework

Belize Climate Resilient and Sustainable Agriculture Project (P172592)

Ministry of Agriculture, Food Security & Enterprise
GOVERNMENT OF BELIZE

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List of Acronyms

ARAP	-	Abbreviated Resettlement Action Plan
BAHA	-	Belize Agricultural Health Authority
BAIMS	-	Belize Agriculture Information Management System
CERC	-	Contingency Emergency Response Component
CRESAP	-	Climate Resilient and Sustainable Agriculture Project
CSA	-	Climate Smart Agriculture
DFC	-	Development Finance Corporation
DOE	-	Department of Environment
EAP	-	Emergency Action Plan
ECP	-	Environmental Compliance Plan
EHS	-	Environmental, Health, and Safety
EIA	-	Environmental Impact Assessment
ESCP	-	Environmental and Social Commitment Plan
ESF	-	Environmental and Social Framework
ESMF	-	Environmental and Social Management Framework
ESMP	-	Environmental and Social Management Plan
ESMS	-	Environmental and Social Management System
FI	-	Financial Intermediary
GOB	-	Government of Belize
GM	-	Grievance Mechanism
IOA	-	Institute of Archaeology
IPP	-	Indigenous Peoples Plan

LMP	-	Labor Management Procedure
MSDCCDRM	-	Ministry of Sustainable Development, Climate Change & Disaster Risk Management
MGAC	-	Matching Grant Approval Committee
MHDFIPA	-	Ministry of Human Development, Families & Indigenous Peoples' Affairs
MFEDI	-	Ministry of Finance, Economic Development & Investment
MNRPM	-	Ministry of Natural Resources, Petroleum & Mining
MAFSE	-	Ministry of Agriculture, Food Security and Enterprise
NEMC	-	National Emergency Management Committee
NEMO	-	National Emergency Management Organization
NICH	-	National Institute of Culture and History
NMS	-	National Meteorological Service
OPHI	-	Oxford Poverty and Human Development Initiative
PCB	-	Pesticides Control Board
PFI	-	Participating Financial Institutions
PIU	-	Project Implementation Unit
RPF	-	Resettlement Policy Framework
WB	-	World Bank

1. Introduction

Rationale and Scope of the ESMF

The World Bank Environmental and Social Framework (ESF) sets out the World Bank's commitment to sustainable development through a World Bank policy and a set of Environmental and Social Standards (ESS) that are designed to support Borrowers' projects, with the aim of ending extreme poverty and promoting shared prosperity. The ESSs set out the mandatory requirements that apply to the Borrower and projects. They present a set of guidelines and instructions with the objective of fostering efficient and effective identification and mitigation of potentially adverse environmental and social impacts that may occur in the development projects. More information on the ESF can be found at: https://www.worldbank.org/en/projects-operations/environmental-and-social-framework.

The Environmental and Social Management Framework (ESMF) is an instrument under the World Bank's ESF that examines the risks and impacts when a project consists of a program and/or series of subprojects, and the risks and impacts cannot be determined until the program or subproject details have been identified.

Because the proposed project will support several subprojects that will only be identified during the implementation stage, the project has adopted the framework approach to guide the environmental and social risk management of the project and the various subprojects. This ESMF is intended to guide the environmental and social selection and implementation of activities under subcomponent 2.1, component 1, and subcomponent 3. In addition, the financial intermediaries will use this ESMF to guide the development of their own Environmental and Social Management Systems (ESMSs) for the implementation of activities under subcomponent 2.1.

The ESMF sets out the principles, rules, guidelines, and procedures to assess the environmental and social risks and impacts. It highlights relevant general policies, guidelines, codes of practice and procedures to be taken into consideration for integration of environmental and social aspects into the project design. The ESMF contains measures and plans to reduce, mitigate, and/or offset adverse risks and impacts, provisions for estimating and budgeting the costs of such measures, and information on the agency or agencies responsible for addressing project risks and impacts, including on its capacity to manage environmental and social risks and impacts. It includes adequate information on the area in which subprojects are expected to be sited, including any potential environmental and social vulnerabilities of the area; and on the potential impacts that may occur and mitigation measures that might be expected to be used. The ESMF will be made available on the Ministry of Agriculture, Food Security, and Enterprise (MAFSE) website (https://www.agriculture.gov.bz/climate-resilient-agriculture-project-cresap/)

and World Bank website for consultations in appropriate locations in Belize. See the SEP for information about stakeholder engagement and information disclosure.[1]

Objective of the ESMF

The objective of the Environmental and Social Management Framework (ESMF) is to provide guiding principles for the screening and management of the environmental and social risks and impacts of the project and to subsequently guide the appropriate environmental and social assessment of subprojects during implementation and improve the overall environmental and social performance, through a risk- and outcomes-based approach in a manner consistent with the ESF and the relevant provisions under national law.

The main purposes of this ESMF are to:

a) Provide the legal requirements defined in the ESF as well Belize legislation that the project activities will need to comply with during their implementation.
b) Set out the general principles, rules, guidelines, and procedures to assess the environmental and social risks and impacts of subprojects, following the mitigation hierarchy.
c) Contain general measures and plans to reduce, mitigate, and/or offset adverse risks and impacts.
d) Provide information on the agency or agencies responsible for addressing project risks and impacts, including on the capacity to manage environmental and social risks and impacts.
e) Ensure all relevant environmental and social issues are mainstreamed for different phases of subprojects i.e. planning, construction, and operation of the sub-projects.
f) Detail a negative list of activities which will be excluded from project financing.
g) Provide guidance for preparation of various environmental and social assessments and outline the process of determining where and when site specific Environmental and Social Impact Assessments (ESIAs)/Environmental and Social Management Plans (ESMPs) will be required and activities that will only require screening of environmental and social risks.
h) Provide guidance for ensuring stakeholder engagement at various stages of sub-project implementation including grievance redress.
i) Provide guidelines for screening possible activities to be supported under the CERC, list activities not to be supported under the CERC, possible mitigation measures, and monitoring following the World Bank CERC Guidance

It is expected that detailed environmental and social assessments for project sites will be conducted for specific subproject activities, in accordance with this Framework, and reviewed and cleared by the MAFSE PIU, relevant authorities such as the Department of the Environment

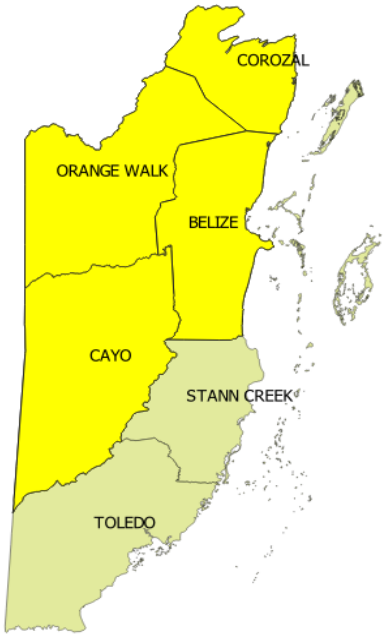
[1] During the ongoing Covid-19 pandemic, consultation activities will comply with Government of Belize regulations for social and health measures as well as the guidelines of the World Bank. Further information on such guidelines and GOB regulations available in the CRESAP SEP.

(DOE) where required, other permitting agencies and in some cases the World Bank. The screening procedures for subprojects are further elaborated in Chapter 7: Screening Procedures and in Annex-6: Belize Environmental Clearance Process.

Project Description

The Government of Belize is preparing a new Investment Project Financing project- the Climate Resilient Agriculture Project (CRESAP), with financing from the World Bank (WB). The Project Development Objectives are to (i) increase agricultural productivity and the adoption of climate-smart agricultural approaches among project beneficiaries; and (ii) respond effectively to an Eligible Crisis or Emergency event.

Figure 1 Project Site
(Priority areas Highlighted)



The target beneficiaries from the infrastructure investments and matching grants will be concentrated in the four northern Districts of Belize (Cayo, Orange Walk, Corozal, and Belize) because the impacts of climate change and climate variability are expected to be stronger on the main agricultural value chains (sugar cane, rice, maize, soybean, vegetables, livestock, fruits) in these four districts than in the two southern districts (Stann Creek and Toledo). Other activities may also benefit value chains, such as the banana value chain, the citrus value chain, and farmers in Stann Creek and Toledo.

The environmental and social risk classification is *Moderate* under the ESF. The beneficiaries of this project would be individual small-, medium- and large-scale farmers, members of farmers' organizations and others associated with the agriculture food systems in the project districts, agricultural families, staff of the several departments of the MAFSE, and students from the Agriculture Department of the University of Belize among others. The Project aims to benefit approximately 7,300 beneficiaries, with more benefiting indirectly. The details of the stakeholders are elaborated in the Stakeholder Engagement Plan.

Project Components

The project will intervene through four components at a total estimated cost of US$45.7 million, of which the WB is financing US$25 million:

1. Component 1 aims to strengthen the capacity of key public institutions (government agencies and academic organizations) to support a more productive and sustainable agricultural sector. The total Cost of US$2.9375 million will be financed by WB.
2. Component 2 aims to (i) Strengthen the capacity of PFIs, individual farmers and farmer organizations participating in the CRESAP matching grants program in support of CSA investments (subcomponent 2.1) (US$1 million will be financed by WB), (ii) Promote of

CSA technologies and practices via matching grants and leveraging of private capital (subcomponent 2.2). Total Cost is US$39.7 million (WB: US$19 million; commercial finance from PFIs US$18.2 million, and beneficiary farmers US$2.5 million), and (iii) Subcomponent 2.3: Provision of selected strategic collective assets to strengthen resilience (WB: US$2 million).

3. Component 3 relates to project management and monitoring and evaluation. The total Cost of US$3 million will be financed by WB.
4. Component 4 is the Contingency Emergency Response Component (CERC) with currently US$0 allocation. The CERC will be triggered only when the GoB has officially declared an emergency and a statement of the facts is provided, justifying the request to activate the use of the emergency funding. The CERC would finance emergency purchases and activities, including goods, works, and technical assistance in the event of a disaster.

The details of the project components are elaborated in **Annex 4**.

Project Activities

Table 1 Summary of Key Project Activities

Components/ Subcomponent	Key Activities	Summary	Scale
Component 1: Institutional Strengthening			
Component 1: Strengthening the capacity of key public institutions (government agencies and academic organizations) to support a more productive and sustainable agricultural sector.	- Support upgrading the Belize Agricultural Information Management System (BAIMS), to improve the management of geo referenced data and increase the ability to manage agro-climatic risks and build resistance to climate change. - Equip PCB to ensure compliance with climate-smart, integrated pest management practices that are proven to be good practices– including to address the climate-induced spread of pests and diseases–and to train extension officers and farmers in these areas. - Strengthen BAHA's capacity to ensure compliance with SPS requirements and improve its surveillance capabilities (especially of zoonotic diseases), via equipment, training, and studies, to ensure food safety and quality, as well as its capacity to inspect animals and certify that they are free of disease.	This component will finance goods, small works, equipment, studies, training, consulting, and advisory services.	key public institutions (government agencies and academic organizations)

	- Support the Agriculture Department of the University of Belize to upgrade its research and training capacity in climate-smart agriculture. -		
Component 2: Investments in Climate-Smart Agriculture			
Subcomponent 2.1: Strengthening the capacity of PFIs, individual farmers and farmer organizations participating in the CRESAP matching grants program in support of CSA investments.	- Capacity building training for stakeholders involved in project implementation to enhance knowledge in new technologies and approaches in climate smart and resilient agriculture.	This subcomponent will finance training courses and advisory services for PFIs, such as Belize's Development Finance Corporation (DFC), the Belize Credit Union League and its member credit unions, commercial banks, and beneficiary farmers and farmer groups applying for grants under Subcomponent 2.2.	PFIs, individual farmers and farmer organizations
Subcomponent 2.2 Promotion of CSA technologies and practices via matching grants and leveraging of private capital.	- Promote the adoption of tested and properly selected CSA technologies, approaches and practices. Agricultural technologies and practices are considered "climate smart" if they enhance food security while addressing at least one of three additional objectives: (1) sustainably increasing agricultural productivity and farmers' incomes, (2) adapting and building resilience to climate change, and (3) reducing and/or	This subcomponent will be implemented by participating financial intermediaries (PFIs). Each PFI will be required to develop and implement an Environmental and Social Management System (ESMS) to	Individual smallholder famers; commercial large- and medium-scale farmers; agroprocessors and those within the value chain

	removing greenhouse gas (GHG). emissions.	screen and manage risks and impacts appropriate to the nature of the subproject activities.	
Subcomponent 2.3: Provision of selected strategic collective assets to strengthen resilience.	- Financing of technical studies, equipment and works to construct strategically selected infrastructure, collectively used, that will contribute to enhancing the climate-smart impacts of on-farm CSA investments.	Provision of Complementary Collective Goods to Strengthen Resilience. This subcomponent will be implemented by the MAFSE.	Collective

2. Legal and Regulatory Framework

The Government of Belize, mainly through the Ministry of Sustainable Development, Climate Change, and Disaster Risk Management (MSDCCDRM) and the Ministry of Natural Resources, Petroleum & Mining (MNRPM), manages and safeguards Belize's environment from impacts associated from development activities. More specifically, the Department of the Environment via the MSDCCDRM's tasks are to recommend national policies which promote improvements in environmental quality, to recommend priorities among environmental programs and to assist in achieving international cooperation in dealing with environmental problems. The MNRPM aims to achieve sustainable development of Belize's national land, water and mineral resources.

The aim is to foster prudent use of the country's natural resources through preservation, protection and improvement of the environment and the control of pollution. Social risk management does not have a specific law to address development impacts as it is for the environmental sector but rather are covered under various and diverse pieces of legislation.

Summary of National Regulations Relevant to the Project

Table 2 Summary of National Regulation and Relevance to the Project

Legislation and Section	**National Requirements**	**Relevance to the Project**	**Responsible Authority**
The Environmental Protection Act, Revised 2000	- prevention of pollution on land, water and air - prohibitions on dumping of waste - environmental impact assessment - the control of nutrients deposited into the environment. - Assessment requirements for project depending on whether they fall into Schedule 1,2 or 3	-May be applicable for Subcomponent 2.2 of the project in the design, construction and operational phases. These may be considered as Schedule 3 according to regulation.	Department of the Environment, Ministry of Sustainable Development, Climate Change and Disaster Risk Management
The Environmental Impact Assessment Regulations, Amended 2007	- Assessment of effects on humans, flora and fauna, water, soil, air, and ecological balance. - The EIA is required to include measures that should be undertaken to mitigate any adverse environmental effects	-Subprojects will be screened under this regulation to determine whether they trigger the need for further studies or a full EIA before proceeding	Department of the Environment, Ministry of Sustainable Development, Climate Change and Disaster Risk Management

Wildlife Protection Act, 1982 (Revised 2000)	- regulations for the use and limitation of use of wildlife and all that is contingent on for its survival	-Construction activities for drainage; land-use intensification; and change of productive systems require consideration of impact on wildlife in accordance with the Act	Forest Department, Ministry of Sustainable Development, Climate Change and Disaster Risk Management
The National Integrated Water Recourse Act, Revised 2011	- monitoring and sustainable use of freshwater resources	-drainage; water harvesting; and irrigation have potential impact on water resources and therefore must be mitigated and monitored in accordance with the Act	Ministry of Natural Resources
Land Utilization Act, Revised 2000	- manage and regulate sustainable use and development of land as well as conservation measures for land resources	-Land used for project and subproject activities must consider allocated and acceptable use of such land in accordance with the Act	Ministry of Natural Resources
Pollution Regulations, Revised 2009	- monitor and govern air, noise, water, and land pollution	- The use of agricultural inputs in the project will need to be monitored and properly governed to avoid pollution in accordance with the Act	Department of the Environment, Ministry of Sustainable Development, Climate Change and Disaster Risk Management
The Forest Act, Revised 2000	- Protection and preservation of trees, forest products as it relates to felling of trees, grazing of cattle, hunting, shooting, clearing for cultivation, burning lime or charcoal, and collecting and removing forest products	-Individual on-farm CSA practices and collective goods must follow regulation as it relates to increasing land-use intensity and agroforestry	Forest Department
The National Parks System Act, Revised 2000	- designation of national parks, wildlife sanctuaries, natural monument, and nature reserves	-Land use intensity activities; value addition and other collective goods that may require land acquisition must ensure it does not violate the Act	Department of the Environment, Ministry of Sustainable

			Development, Climate Change and Disaster Risk Management
The Nuisances Act Chapter 118, Revised Edition 2000	- ability to remove a nuisance where any building or place or any activity of the contractors, whether by land or wate	-Drainage; collective water harvesting; and irrigation construction work must ensure it operates in line with the Act to prevent delays	Court may authorize the City, Village or Town Council in whose district the building, place or way is situated
Disaster Preparedness And Response Act Chapter 145, Revised Edition 2003	- governs disasters and disaster risk management - defines disaster emergency and holds power to proclaim a state of emergency when the Governor-General is satisfied	-The CERC can only be activated when the country declares an emergency in alignment with this Act	National Emergency Management Organization (NEMO)
The Public Health Act and Regulations Chapter 40, Revised Edition 2003	- regulates water supply, drainage, garbage collection and storage, infectious diseases, mosquito destruction, sanitation, and prevention of nuisances in all spaces	-Water harvesting; temporary facilities for contractors must be in line with the Act around the storage of water and the provision of facilities during construction and operations of the project	Ministry of Health, Public Health Department
The Social Security Act Chapter 44, Revised Edition 2003	- stipulates that employers pay social security contributions for employees	-All activities requiring the hiring of staff, including the PIU, must ensure contributions are paid for each employee	Ministry of Finance
Protection Against Sexual Harassment Act 1996, Revised edition 2000	- prohibits sexual harassment at the workplace and at institutions	-All activities requiring the hiring of staff, including the PIU, must ensure it follows procedures for reporting instances of sexual harassment	Labour Department

The Labour Act and Regulations Chapter 297, Revised Edition 2000	- make provisions for recruiting employees, terms and conditions of employment, payment of wages, dispute resolution	-All activities requiring the hiring of staff, including the PIU, must ensure it follows procedures for recruiting and managing employees	Labour Department
The Workmen Compensation Act Chapter 303, Revised Edition 2000	- makes provisions for contractors' liability for compensations in the event of an accident	-All project activities that involve employed personnel must follow the Act in the event of accidents on the job or while being transported to the job	Labour Department
The Family and Children's Act and Regulations Chapter 173, Revised Edition 2003	- prohibits employing any child in a capacity where it is detrimental to his/her health, education, or mental, physical or moral development	-All project activities that involved hiring of personnel must ensure children are protected	Ministry of Human Development
The Village Council Act and Regulations Chapter 88, Revised Edition 2011	- establishes village councils across every village and mandates them with the good governance and improvement of the community including the sanitation of the village, drainage and sewage, the suppression and abatement of nuisances, ensuring sound environmental practices by all persons in the village, etc	-Activities involving construction; uptake of CSA practices and collective goods operating in villages must get approval, whether written or verbal, from village councils to operate	Labour Department, Ministry of Rural Transformation
The Motor Vehicles and Road Traffic Act Chapter 230, Revised Edition 2000	- prohibits persons from driving work vehicles without licenses or authorisations	-All vehicles being operated by project staff must ensure they are properly licensed, and employees have clear authorisations to use vehicles	Department of Transport

The National Institute for Culture and History Act Chapter 331, Revised Edition 2000	- - makes provision with respect to the protection and conservation of ancient monuments and related matters	-Project activities that may result in interaction with ancient monuments and antiquities must not be destroyed and no person should have possession of such antiquities unless provided with a license by the Minister	Ministry of Education, Culture, Science and Technology
Bill for the Occupational Safety and Health Act, 2014	- Act in the pipeline for every employer to ensure, as far as is reasonably practicable, the safety, health and welfare at work of all his workers -	- Over 9000 persons are expected to be employed throughout the project, either directly or indirectly, and therefore Occupational Safety and Health are key concerns, developed further in the CRESAP LMP	Labour Department

World Bank Environmental and Social Framework

The Environmental and Social Framework (ESF) set out the requirements for Borrowers (in this case Government of Belize) relating to the identification and assessment of environmental and social risks and impacts associated with projects supported by the Bank through Investment Project Financing. The ESF requires considering environmental and social issues throughout the preparation, and execution of a project, with emphasis on stakeholder participation and monitoring.

Additionally, it establishes more clearly the functions and responsibilities of the World Bank and its borrowers and proposes a hierarchical risk management approach which is proportionate to the risks and impacts of the projects. The ESF consists of the Environmental and Social Policy and ten Environmental and Social Standards (ESS).

The standards relevant to the CRESAP are as follows:

Summary of ESS and Relevance to the Project

Environmental and Social Standards	Explanation of Relevance to CRESAP
ESS1 - Assessment and Management of Environmental and Social Risks and Impacts	Relevant - Although the project is expected to reap positive environmental and social benefits, some of the project activities may have direct and indirect environmental and social risks. This Environmental and Social Management Framework (ESMF) has been developed to guide subproject implementation and detailed environmental assessments, where required.
ESS2 – Labor and Working Conditions	Relevant – The project will contract direct and contracted workers. Labor Management Procedures (LMP) have been developed to identify the different types of project workers that are likely to be involved and managed and a separate grievance mechanism (GM) for workers.
ESS3 – Resource Efficiency and Pollution Prevention and Management	Relevant – The Uptake of climate-smart agriculture among farmers is likely to promote the efficient use of water and nutrient cycling, promote sustainable livestock systems and reduce greenhouse gas emissions. A Waste Management Plan, Pollution Management Plan, Stormwater Sedimentation and Erosion Control Plan, Integrated Pest Management Plan, and other measures detailed in this ESMF and in the ESCP will be developed as part of subproject ESMPs to manage agricultural waste and integrated pest management strategies to guide subproject implementation. In addition, the ESMF outlines mitigation measures to tackle pollution.
ESS4 - Community Health and Safety	Relevant – Some of the project activities may pose negative risks and impacts to the wellbeing of farmers, workers, and other community members. The ESMF includes potential risks and provides guidelines for mitigation measures, which will be incorporated into a Community Health and Safety Plan, Emergency Preparedness and Response Plan, Traffic and Road Safety Management Plan, Security Plan and other measures, including those in the ESCP, as part of detailed site-specific ESMPs.
ESS5 - Land Acquisition,	Relevant – There is a possibility of land take during infrastructure improvements as well as the management of possible voluntary land donations for community

Restrictions on Land Use, and Involuntary Resettlement	level water harvesting. A Resettlement Policy Framework (RPF) has been developed to guide preparation of Resettlement Action Plans (RAPs) where needed, to establish eligibility criteria for affected persons and use of project level grievance mechanisms.
ESS6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant –Risks relate to degradation of habitats due to eutrophication and salinization from poorly constructed irrigation and drainage systems, modifications to natural habitats to bring more land under cultivation, human-wildlife conflict especially in agroforestry, management of cattle, and planting of invasive alien species. Mitigation measures are outlined in the ESMF which will be included in site-specific ESMPs or in a biodiversity assessment as part of the ESIA / screening and subsequent Biodiversity Management Plans for projects with wider scopes.
ESS7- Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant – The targeted districts proposed for implementation of project activities contain indigenous peoples. Results in the development of the Indigenous Peoples Planning Framework to guide how the project will engage with such communities in the project area and address grievances through the project level GM, as well as a Social Assessment and Indigenous Peoples Plans
ESS8 - Cultural Heritage	Relevant – Belize is home to several well-known Maya sites such as Altun Ha and Lamanai archaeological sites in Northern and Central Belize, as well as numerous smaller chance finds. Results into a Chance Finds procedure, included in this ESMF. The procedure describes the process to follow in case a chance find is discovered and the reporting process to the National Institute of Culture and History.
ESS9 - Financial Intermediaries	Relevant– The implementation of activities under subcomponent 2.2 will be carried out through participating financial institutions (PFIs) who are better suited than MAFSE to handle individual investments and the resulting administrative and fiduciary processes. This ESS results in the review of existing and development of new Environmental and Social Management System (ESMS) for participating Financial Intermediaries (PFIs).
ESS10 - Stakeholder Engagement and Information Disclosure	Relevant – There are several internal and external stakeholders. Results in the development of the Stakeholder Engagement Plan which seeks to strengthen participation of the sectors and stakeholders involved and the development of a project level GM. A draft Social Assessment (SA) has also been prepared that identifies all project affected peoples in the targeted districts and the results will be incorporated in the subproject designs.

World Bank Group Environmental, Health & Safety Guidelines (EHSGs)

The EHSGs are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). These General EHS Guidelines are designed to be used together with the relevant Industry Sector EHS Guidelines which provide guidance to users

on EHS issues in specific industry sectors. Both General EHS Guidelines and Industry-Sector Guidelines specific to Agribusiness and Food Production can be found here:

https://www.ifc.org/en/insights-reports/2000/ehs-guidelines-agribusiness-and-food-production

- Agribusiness and Food Production include Annual Crop Production, Aquaculture, Dairy Processing, Fish Processing, Mammalian Livestock Production, Perennial Crop Production, Poultry Processing, Poultry Production

The applicability of the EHS Guidelines should be tailored to the hazards and risks established for each subproject on the basis of the results of an environmental assessment in which site-specific variables, such as country context, assimilative capacity of the environment, and other project factors, are taken into account.

Comparison of National Regulation and World Bank ESSs

The CRESAP Project will be subject to both domestic law and Bank ESS. This table presents a comparison of the aspects of the environmental and social framework that are covered and shows where there are key gaps as well. Where there are gaps in the domestic legislation, these will be covered by Bank ESS as they will apply.

Table 3 Comparison of National Regulation with Bank ESF

Bank ESSs	Domestic Law	Gaps	Bridging Measures
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	Environmental Protection Act and EIA Regulations	Domestic law focuses mostly on environmental impacts. Social impacts are considered but not in depth.	ESMF provides dedicated information on social impacts and mitigation measures
ESS 2: Labor and Working Conditions	Belize Labour Act, Cap. 297	Domestic law addresses all aspects of labour but limited in aspects of occupational health and safety. Also allows for minors 14 years of age to work.	LMP adopts the General Guidelines for Occupational Health and Safety of the World Bank that addresses OHS, including identifying risk, mitigation options and training on OHS
ESS 3: Resource efficiency and pollution prevention and management	Environmental Protection (Effluent Limitations) Regulations (S.I. 94 of 1995) and the Pollution Regulations (S.I. 56 of 1996). National Integrated Water Resources Act Hazardous Waste Regulations, 2009	Domestic law covers all aspects pollution and contamination on the environment and water resources protection. Does not directly address resource efficiency requirements. The Hazardous Waste Regulations address the overall management of hazardous wastes including storage, transportation, treatment and prohibitions	Local laws adequately cover pollution prevention and management, while the ESMF covers resource efficiency in particular around use of energy

Bank ESSs	Domestic Law	Gaps	Bridging Measures
ESS4: Community Health and Safety	The Public Health Act and Regulations Environmental Protection (Effluent Limitations) Regulations (S.I. 94 of 1995) and the Pollution Regulations (S.I. 56 of 1996). Motor Vehicles And Road Traffic Act, Cap. 230 Pesticides Control Act, Cap. 216 and Regulations	Domestic law is not as broad based or comprehensive as ESS4 in terms of addressing project impacts. Domestic traffic law manages use and operations of vehicles but not specifically traffic management on construction sites. Domestic law controls the manufacture, importation, sale, storage and use of pesticides adequately.	The ESMF and LMP considers the risks and mitigation measures around ensuring community health and safety during construction and when handle hazardous material and flora and fauna
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Land Acquisition Act Land Utilization Act Public Roads Act	Compensation for expropriation of property for public use is provided for in domestic law but support for resettlement is not covered.	RPF outlines that Compulsory land acquisition will be based on provision of the laws of Belize, WB Policy ESS5 and this Framework. GOB policy and practice is that legal acquisition is very often avoided. If unavoidable, compulsory acquisition will be through the participatory and consultative process outlined in this Framework. This is to ensure that affected persons are provided with adequate level support and have the opportunity to provide input and share concerns early on, as necessary.

Bank ESSs	Domestic Law	Gaps	Bridging Measures
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	National Parks System Act Wildlife Protection Act Forest Act Cap. 213 Environmental Protection Act and EIA Regulations	Considerations and conservation of biodiversity and habitats is adequately addressed through the combination of various domestic laws.	The ESMF also ensures the protection and consideration of indigenous flora and fauna by considering risks and mitigation measures
ESS 7: Indigenous Peoples / Sub-Saharan African Historically Underserved Traditional Local Communities	Village Councils Act	There are no specific legislations addressing the needs of indigenous peoples other than the Constitution of Belize which guarantees equal protection of the law and non-discrimination of all forms.	The IPPF provides a comprehensive framework ensures that projects enhance opportunities for Indigenous Peoples to participate in, and benefit from, the development process in ways that do not threaten their unique cultural identities and well-being. It provides opportunity for dedicated consultations to identify impact, mitigation, opportunities and feedback of this group in particular
ESS 8: Cultural Heritage	NICH Act	The NICH Act adequately protects cultural resources.	WB ESS8 reiterates procedures outlined in the NICH Act, including a chance finds procedure which will be followed if previously unknown cultural heritage is encountered during project activities

Bank ESSs	Domestic Law	Gaps	Bridging Measures
ESS9: Financial Institutions	Development Finance Corporation Act Chapter 279 Revised Edition 2011 Banks And Financial Institutions Act Chapter 263, Revised Edition 2000	The DFC Act and the Banks and Financial Institutions Act govern the establishment and functions of banks in Belize. These laws do not specifically mandate consideration for environmental or social impacts as intended by ESS9. However, local investment activities are subject to the environmental and social laws of Belize and the conduct of an EIA if it falls under the required category.	WB ESS9 requires that FIs develop and maintain, in the form of an Environmental and Social Management System (ESMS), effective environmental and social systems, procedures and capacity for assessing, managing, and monitoring risks and impacts of subprojects, as well as managing overall portfolio risk in a responsible manner
ESS 10: Stakeholder Engagement and Information Disclosure	Environmental Protection Act and EIA Regulations	Stakeholder engagement and consultation provided for in the EIA regulations though limited to a few public meetings. Copies of EIA reports are also required to be made available to the general public.	Stakeholder Engagement Plan ensures local communities have meaningful consultation throughout project design, implementation and close out phases, ensuring vulnerable groups represented – even if a full EIA is not required

3. Environmental and Social Baselines

This section provides guidance on the process subprojects should follow to identify the environmental and social baselines, collection of baseline data at the subproject level and monitoring these aspects during implementation.

The sections below provide indicative environmental and social baselines that are likely to be relevant to the Project. However, each subproject will be required to identify additional baselines beyond those discussed below, depending on the specific activities. Subprojects will use the Subproject Screening Form in **Annex 1** to identify such additional baselines and the risks. The stakeholder engagement process will provide input to the selection of the baselines. Thereafter, each of the baselines will require methods for measuring the current state before commencing subproject activities and future changes. To be able to monitor the impact of the subproject activity, the baseline condition of the topography of the subproject site should be measured and monitored. The collection of primary and secondary data for the environmental and social baseline condition in the study area needs to be characterized using both primary and secondary data. Primary data can be collected by the PIU field staff or external experts through rapid rural appraisal (RRA), focus group discussions (FGD), key informant interviews (KII) and public consultations. Secondary data can be collected from maps, databases, and other existing literature.

Diagram showing how subproject activities will identify additional baselines

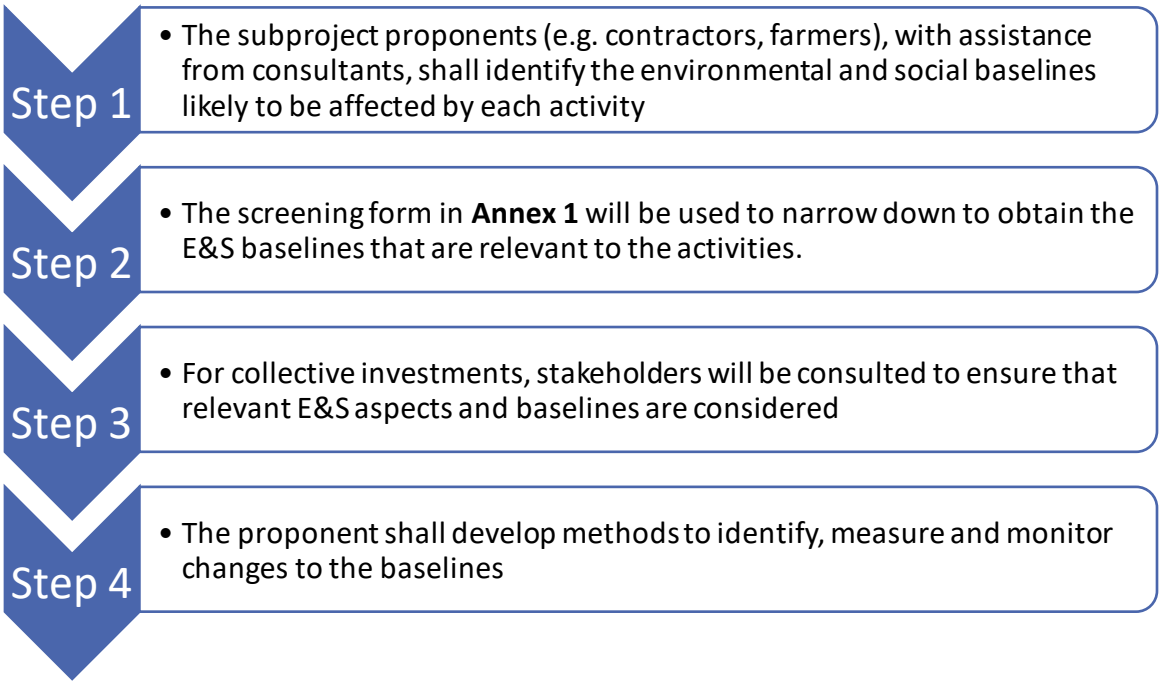


Table 4 Selection and Rationale of the Environmental Baselines

Environmental Baselines	Description and rationale for selection
1. Topography	Outlay of the land, drainage, Land slope, soil. The topography of the project sites is impacted primarily by actions surrounding the drainage project activity, including how drainage systems are designed and planned, as well as resulting increase in use of vehicles and equipment near waterways
2. Water resources	Rivers, watersheds, catchments, groundwater Water resources is a VEC that may be impacted by several project activities, including: irrigation, drainage project activities and rainwater harvesting
3. Forests	Forests and forest cover Forests may be impacted by the following project activity: Change of production system toward more resilient and adaptive practices (agroforestry). It may be impacted by deforestation and invasive species.
4. Biodiversity and Nature protection	Habitats for critically endangered and vulnerable species, protected areas Biodiversity and nature protection is a VEC that may be impacted by several project activities, including Drainage and Irrigation

Table 5 Selection and Rationale of the Social Baselines

Social Baselines	Description
Land tenure	Owners and/or users of land, including government land, displacement, traditional use of land Land tenure may be impacted by several project activities in Component 2, especially in regard to collective goods, including drainage, postproduction, and collective water harvesting
Employment	Labour force, influx/outflows of temporary workers, income and livelihood Employment should be positively impacted by the project activities, but it also can be negatively affected.
Gender equity	Population and sexual demographic, governance structures, job opportunities for women and young people Gender equity is a key component to be considered in the execution of the project and the safeguarding instruments, including the Stakeholder Engagement Plan. Some project activities may impact gender relations and should be considered.
Inclusivity of marginalised groups	Representation of wide range of marginalised stakeholders Stakeholders, including LGBTQ+ community, single mother households, the unemployed, low-income households, those living with disabilities/HIV/AIDS, the elderly, and Indigenous Peoples should be considered in all consultations that feed into project design,

	implementation and evaluation. If excluded, they may be further marginalised and disenfranchised in the communities in which the project operates
Cultural heritage	Tangible (movable and immovable objects, sites, structures, natural features with cultural significance) and intangible heritage (practices, representations, expressions, knowledge and skills that communities and groups recognise as cultural heritage) Cultural Heritage in both tangible and intangible forms have various forms of value, including social and spiritual, scientific, and economic value, that may be at risk from project activities including various forms of works (drainage, water harvesting, irrigation), Promotion of on-farm CSA technologies that may lead to encroachment on tangible heritage or intangible heritage such as traditional farming practices
Healthy and Safety	Health facilities, infrastructure and amenities, crime, RTAs, STD transmission rates Health and Safety is a key component as it relates to working conditions and the potential introduction of risks into communities from migrant workers.
Local Community Culture	Traditions, rituals, ways of life and agricultural methods of local community The risk of disrupting local community culture is considered with the introduction of migrant workers especially as well as potentially adjusting the way land is used that may be interlinked to cultural practices i.e. land that may have been used as a football field may be used for water harvesting; switching from slash and burn agriculture to another form

Table 6 Summary of Environmental and Social Baselines and Rationale for Parameters

Change in Baseline	Subproject Activity	Measurable Baseline Parameter	Rationale for selection of the parameter
Topography			
Change in topography	Drainage	○ Pre-disturbed terrain conditions Measurement methods: pictures, visual observations, digital records, local interviews	Changes to drainage conditions may impact terrain stability or affect creek/stream channels and wetlands
		○ Soil quality Measurement methods: through visual observation, site inspections and laboratory analysis	Implemented field drainage systems may become vehicles for leached nutrients if not properly planned they can also result in waterlogged soil, soil salinization, alkalization, and acidification
Water Resources			
Change in water	Irrigation	○ Depth to groundwater (masl)	Irrigation activities that involve pumping of groundwater may lower the water table.

Change in Baseline	Subproject Activity	Measurable Baseline Parameter	Rationale for selection of the parameter
quantity and quality		Measurement methods: water level meters	
		○ Water quality: • dissolved oxygen, pH, temperature, salinity • nutrients (nitrogen and phosphorus) • toxicants such as insecticides, herbicides and metals Measurement methods: handheld sensors, visual observations	Fertilizers and pesticide application may pollute creeks and rivers.
	Drainage	○ Number of streams, lakes and water level changes ○ Available discharge data Measurement methods: visual observations/counting streams, meteorology data	Change in stream/river flow through drainage activities
	Rainwater Harvesting	○ Overflow ○ Leakage ○ Water quality: • dissolved oxygen, pH, temperature, salinity • nutrients (nitrogen and phosphorus) • toxicants such as insecticides, herbicides and metals Measurement methods: handheld sensors, visual observations, laboratory tests etc	If these factors are not considered, the water harvested will be of poor-quality causing changes in the soil's composition including salinity and acidity which can be damaging for crops.

Change in Baseline	Subproject Activity	Measurable Baseline Parameter	Rationale for selection of the parameter
Forests			
Change in forests	Change of production system toward more resilient and adaptive practices (agroforestry)	○ Invasive species ○ Vegetation type by locations Measurement methods: observations, photographs, local data, counting species, interviews	Invasive alien tree species can replace valuable indigenous species which are comparatively less aggressive
	Improved yield seed varieties	○ Deforestation (net forest cover loss) Measurement methods: observations, records, photos, counting trees/vegetation	This can have the effect of making agriculture even more profitable relative to leaving the land as forests, which can lead to agricultural expansion into forested areas and hence deforestation
Biodiversity and nature protection			
Change in biodiversity and nature protection	Drainage	○ Eutrophication ○ Measurement methods: water transparency, laboratory testing, odour, remote sensing, aquatic fauna health e.g., number of healthy fish	Improperly planned and constructed drainage systems can cause damage through flooding and as a vehicle for eutrophication of certain areas which can degrade habitats especially of amphibians and reptiles
	Irrigation	○ Siltation Measurement methods: Visual water transparency ○ Mammals, bird, fish populations Measurement methods: Count, local wildlife surveys ○ Protected Areas ○ Measurement methods: Ensuring no intrusion, reports to protected area authorities, monitoring by local conservation authorities	Hydrological alterations may cause siltation which can be harmful to wildlife.

Table 7 Summary of Social Baselines and Rationale for Parameters

It is important to note that the social baselines tend to be affected primarily by the overall project activities and less so by specific, individual subproject activities as with the environmental baselines.

Change in Baseline	Measurable Parameter	Rationale for selection of the parameter
Land Tenure		
Change in land tenure	Ownership/use of land in project area, including government land Traditional uses of land	For the purpose siting of important agricultural infrastructure investments, it may be necessary to expropriate private property or there may be voluntary land donation by farmers and community residents. This can result in loss of land and other properties such as buildings, fences, driveways, signs etc.) from removal, acquisition, and demolition
	Access to properties	Access to properties and businesses can be impeded during construction works.
Employment		
Change in employment	% of population in the community employed by industry sector	Outside workers may be brought in a by a contractor, removing opportunities from local communities.
	Labor intensity	Increasing the complexity of fields and the resulting field layouts can further negate the possibility of using farm machinery for land preparation, planting, and harvesting. This can all result in the need for additional labour input and labor costs. Labour intensity may be met by increasing the work burden of women and children
Gender Equity		
Change in gender relations	Existing roles of women in the project areas Employment rate by gender	It is possible that job opportunities whether in the constructing irrigations and draining systems, water harvesting facilities and related CSA training can side-line women who are often not able to participate due to their social roles.

Change in Baseline	Measurable Parameter	Rationale for selection of the parameter
Inclusivity of Marginalised groups		
Change in representation of marginalised groups	Representation in consultations Existing roles in project area Employment rate by group	Marginalised groups must be represented and provided with the opportunity for consultations early on that determine project design, implementation and evaluation. Job opportunities can side-line women and men that may require additional support and therefore are side-lined on the project. Parameters can only be measured if data is explicitly collected on representation of marginalised groups in the project. Annex 8 provides suggested questions to include when registering farmers at Agricultural offices and during the matching grant application process.
Cultural Heritage		
Change in cultural heritage	Location and status of community structures	Disturbances to historical and archaeological sites arising from works are possible
	Presence of Indigenous People	Indigenous People might become displaced, losing connections to traditional lands holding cultural significance. They may also be marginalized and not have access to project benefits.
Community Health and Safety		
Change in community health and safety	Number of reports of significant noise disruption from communities	Noise pollution will be emitted from heavy machinery and equipment
	Number of workers facing work-related injuries	Increased chances of work-related accidents, injuries, and illnesses during construction
	Number of water-related incidents	Open pits, ponds, and large drains can threaten safety of small livestock and children
	Rate of infectious disease and STDs within the community	Temporary, migrant workers alongside stagnant ponds can facilitate the transmission of vector-borne and sexually transmitted diseases to local communities

Change in Baseline	Measurable Parameter	Rationale for selection of the parameter
Local Community Culture		
Change in local community culture	Changes in traditional agricultural methods	Climate-resilient measures may not always be consistent with local methods for agriculture

4. Potential Environmental and Social Risks and Impacts

This section addresses the potential environmental and social risks and impacts of the project. This includes the environmental and social risks and impacts specifically identified under the World Bank ESS and other environmental and social risks and impacts arising as a consequence of the specific nature and context of the project. Project activities that are likely to produce varying level of environmental and social risk and impacts which are outlined below for the planning, construction and operation phases.

Table 9 in section 5 (Environmental and Social Mitigation Measures) outlines the responsible parties for mitigation actions suggested in this section.

Potential Environmental Risks and Impacts

a) Planning/Design Phase

Sensitive Areas and Habitats

There are many sensitive areas throughout the project site such as habitats for critically endangered and vulnerable species. Improperly planned and constructed drainage systems can cause damage through flooding and as a vehicle for eutrophication of certain areas which can degrade habitats especially of amphibians and reptiles.

Mitigation Measures:

- Do not enter or source material from any protected area or biological corridors.
- Do not fill in or otherwise damage any wetlands.
- Do not remove any riparian forests.

Degradation of soil, watersheds, and ground water

When planning irrigation and drainage systems many factors such as, soil type, crop type, water table level, quantity of water, quality of water and land slope must be considered to ensure the most efficient solution is applied. Improper planning is likely to result in poor usage of resources, possibly rendering the project short lived. Implemented field drainage systems may become vehicles for leached nutrients if not properly planned they can also result in waterlogged soil, diminished water sheds and ground water reservoirs. The quality of water drained must be up to par with where it is returned, and areas for discarded water must be allocated so as to not disrupt freshwater ecosystems. The level of technology used, and operational cost must be assessed prior to implementation as well, data from similar projects, their potential yield along with improvements must be considered to ensure efficiency.

- The soil of the allocated land will be tested to determine what type of irrigation and drainage system is most effective.
- The soil will be tested to determine any predisposition to becoming waterlogged, saline, acidic etc.
- Data on the best applicable water quality will be used to design the irrigation system.

- Data on average water table levels and rainfall will be used to determine efficiency of drainage needed.
- Determine best possible streams/channels for drainage prior to construction.

Slow replenishment of ground water reservoirs

Water harvesting is used to reduce the cost of irrigation and ensure water availability in times of scarcity. However, poorly planned water harvesting methods can contribute to the lowering and slow replenishment of ground water reservoirs rendering shallow wells useless, and resulting in arid soil over time, and also contribute to loss of plant and animal life.

Mitigation Measures:

a) Data regarding natural ground levels will be determined so as not to disrupt replenishment.
b) Possible periods of drought will be determined to ensure water availability.
c) Sustainable water harvesting measures such as rain collection will be used primarily.
d) Use of other water bodies for collection will be kept to a minimum when possible.

Low yield and harvest

Competition for water, sunlight and nutrients often occur in agroforestry systems and may affect crop yield and total biomass of agricultural crops. The positive effects for some tree species are accrued over a longer period of time while the negative effects such as competition for resources are immediately apparent.

Mitigation Measures:

a) Ensure the appropriate mix of tree and crop species used in an agroforestry system.
b) Ensure that short term crops are part of the mix of species utilized.

Invasive species

Invasive alien tree species can replace valuable indigenous species which are comparatively less aggressive. Many agroforestry systems, particularly those that rely on tree planting in or near treeless landscapes, rely heavily on alien plant taxa. As is the case in all endeavours based largely on non-native species, problems arise when these organisms spread from sites of introduction and cultivation to invade areas where their presence is, for various reasons, deemed inappropriate. In some areas, problems caused by the spread of agroforestry trees from sites set aside for this land use pose a serious threat to biodiversity that may reduce or negate any biodiversity benefit of the agroforestry enterprise.

Mitigation Measures:

a) Ensures proper Species-Site Matching.
b) Exclude known invasive alien species (or, ideally, all alien species) from agroforestry plots.
c) As much as possible, use only local tree species.

Construction Phase

Several potential impacts in the construction and operations phase would be caused by improper waste management. A key overall mitigation measure is the development of a Waste Management Plan to manage waste and hazardous materials. In addition, contractors and FIs will include appropriate measures in the ESMPs, including obtaining required permits.

Damage to Cultivable Command Area

Construction of irrigation and drainage systems when done improperly can damage cultivable command area and diminishing maximum yield. There are numerous issues which can arise during construction, including leakage, waterlogging, and pollution of water ways with construction waste.

Mitigation Measures:

a) Regular testing of system's functionality will be done during construction.
b) Cultivations maps will be used to mark areas, to prevent damage of plottable land.
c) Any construction waste will be stored away from any waterways and will be regularly removed.

Construction Noise

Noise will be emitted by vehicles and various types of equipment which may disturb wildlife and nearby residents especially if works are being near residences especially during construction of draining systems. Currently, there are no guidelines regulating noise emission into the environment for works, however noise levels and abatement guidelines for premises established by DOE, can be adapted.

Mitigation measures:

a) Maintain equipment and work vehicles in proper running conditions and ensure that they have the adequate muffling devices installed.
b) Avoid having heavy machinery turned on (idle) when not in operation.
c) Restrict work activities to the daytime and avoid work during the night-time.
d) Work personnel should wear hearing protection.

Pollution of Soil and Water Resources

Spillage of oil, gas and/or lubricants from equipment and vehicles can also pollute soil and water, negatively affecting plants and wildlife. Spills will need to be quickly and effectively rectified.

Mitigation Measures:

a) Minimize stockpiles of construction debris near waterways.
b) Do not wash or clean equipment and machinery in waterways.
c) Service all equipment and machinery in designated areas and dispose of used oil and lubricants safely at designated disposal site.
d) Maintain equipment and machinery in proper running order.

Vegetation and Soil Debris

Works for drainage systems will require the removal of soil and vegetation to allow the free flow of water which may lead to erosion and siltation if not reconstituted in some matter of rehabilitation.

Mitigation Measures:

a) Minimize removal of vegetation to areas where it is absolutely necessary.
b) Re-vegetate areas where possible to prevent soil exposure and erosion.
c) Slopes and drainage systems should be constructed at recommended angles to prevent collapse.
d) Avoid earthworks and monitor areas of exposed soil during periods of heavy rainfall.

Disturbing Waterways

Hydrological alterations may cause siltation which can be harmful to wildlife. Improper drainage of water channels can also result in stagnation, allowing invasive plants to flourish, and further impeding drainage leading to rehabilitation being necessary.

Mitigation Measures:

a) Minimize material and waste debris stockpiles and locate away from drainage systems.
b) Keep waterways clean and free flowing at all times.
c) Re-vegetate areas where possible to prevent soil exposure.
d) Ensure retaining walls along embankments are properly constructed according to design specifications.

Poor water quality

Construction of water harvesting systems require keen attention to detail to prevent overflow, leakage and to ensure good water quality. If these factors are not considered, the water harvested will be of poor-quality causing changes in the soil's composition including salinity and acidity which can be damaging for crops.

Mitigation Measures:

a) Water pressure will be regularly evaluated.
b) Structural integrity and waterproofing of material used will be regularly tested throughout construction.
c) Functionality and durability of filters will be regularly tested throughout construction.
d) Quality of stored water will be evaluated before use.

Operations Phase

Poor Maintenance

Neglecting regular maintenance of irrigation and drainage systems can lead to undetected leaks, use of poor-quality water and over drainage. These can result in soil salinization, alkalization, acidification, and waterlogging, destroying plants not able to adapt to extreme conditions, as well as significant disruption to the ecosystems the water is redirected from.

Mitigation Measures:

a) Field drainage systems will be inspected and maintained in tandem with irrigation systems to ensure optimal efficiency and prevention of water source depletion or flooding.
b) Poor quality drainage water to be discarded in evaporation ponds away from entries to other water ways.
c) Soil will be regularly tested to swiftly identify and rectify any pH changes through drainage.

Vectors and diseases

Water storage containers and ponds must be properly constructed as they can attract vectors for diseases such as mosquitoes given the stagnant nature of the water.

Mitigation Measures:

a) Containers and ponds must be checked regularly for any pests and vectors.

Source of nuisance

Forest patches used in agroforestry systems can become a source of "nuisance" to nearby farms and farmers as they can attract other wildlife that can destroy their crops.

Mitigation Measures:

a) Provide training to farmers in wildlife-farm management techniques.
b) Provide training in integrated pest management for farmers.

Agricultural Expansion and Deforestation

The use of improved yield seed varieties reduces the land area needed to grow the same amount of food in aggregate. However, this can have the effect of making agriculture even more profitable relative to leaving the land as forests, which can lead to agricultural expansion into forested areas and hence deforestation.

Mitigation Measures:

a) Use of improve yield varieties should only be allowed on already cultivated land.
b) Ensure that there is no net forest cover loss as a consequence of farming intensification.

Threat to landrace varieties

Improved seed varieties may threaten the maintenance of genetic diversity in landrace varieties. Genetic variation among crop varieties is vitally important to the future development of new seed varieties. Traditional landrace seeds have adapted over time to local conditions, developing resistance to certain pests or weather conditions, for instance.

Mitigation Measures:

a) Create a community seedbank of landrace varieties.
b) Provide training to farmers in proper seed storage methods.

Excessive energy use

Post-production and value-adding activities such as processing require energy-intensive equipment and facilities powered by fossil fuels. Similarly, the transportation of finished products market also contributes to this process. As a result, processing can contribute to CO2 emissions.

Mitigation Measures:

a) Install and use energy efficient light bulbs and equipment.
b) Use natural light and ventilation in facilities as much as possible.

Excessive consumption of water

Water use for processing varies by processing method and water availability. In many facilities, water is an essential resource for one or more processing steps and may be used in great quantities. Depending on water availability, the ground or surface water diverted for processing may threaten the supply of water for other natural or human uses.

Mitigation Measures:

a) Install and use water efficient fixtures.
b) Ensure plumbing systems are free of leakages.

Pollution and waste generation

Water used for processing can become polluted with chemicals or heavy metals from all stages of the production cycle. Effluent from processing plants may contain traces of pesticides and fertilizers applied to raw crops or heavy metals from corrosion of the plant's machinery. Garbage and other form of waste maybe also be produced.

Mitigation Measures:

a) Use engineering and administrative measure to contain and prevent spillage and leakage of wastewater and other contaminants into the environment.
b) Dispose of all solid and organic waste properly
c) Reuse or salvage waste materials.
d) Convert organic waste into compost.

Natural Hazards

Belize is prone to hurricanes and flooding and as such new installations and facilities can be damaged or destroyed by these natural hazards resulting in a loss of investment.

Mitigation Measures:

a) Construct facilities with hurricane resistant design features.
b) Construct facilities away from flood prone areas.
c) Insure facilities and installations as appropriate.

Livestock risks

Livestock may cause infectious animal diseases, zoonoses, pose a threat to public health, especially to vulnerable communities, and affect biodiversity through diffusion of pathogens to wildlife. Poor welfare of livestock may also reduce their health and productivity.

Mitigation measures:

a) Select livestock breeds with the least environmental impacts.
b) Conduct hazard identification related to animal health, and risk characterization.
c) Offer practical guidance and training to farmers and MAFSE PIU on good livestock management strategies.
d) Ensure proper animal care through veterinary treatment, appropriate shelter and nutrition, and humane handling and slaughter.
e) Ensure proper waste management practices.

Potential Social Risks and Impacts

a) Planning/Design Phase

Limited knowledge of farmers of environmental and social permitting processes

Environmental and social management of subproject activities is generally a technical most farmers are unaware of. There is limited knowledge among farmers regarding the relevant agencies that manage environmental impacts and their requirements.

Mitigation Measures:

a) Provide mobilization and familiarization training workshops to farmers that details relevant aspects of subproject implementation.
b) Provide mobilization and familiarization training workshops to IFIs and other participating agencies that details relevant aspects of subproject implementation.
c) Assign project staff and staff of MAFSE that are readily accessible to be first-line responders to queries from farmers regarding subproject implementation.

Risk of exclusion of farmers based on their credit worthiness

Farmers, especially women in agriculture, often have limited access to credit due to traditional requirements and risk analysis by financial intuitions.

Mitigation Measures:

a) Technical assistance support should be provided to farmers in the preparation of their request for the funding of sub-projects and downstream support for sub-projects' implementation.
b) Pay special attention to women farmers by promoting gender-sensitive CSA technologies, in particular labor-reducing technologies for women that are affordable, accessible, and based on their needs.
c) Reduce risk associated with farmers through matching grants to support inclusion of more farmers.

Limited oversight of subproject activities due to spatial scale and disparate location

Subproject activities will be carried out across four districts in remote rural areas among various partner organizations and numerous farmers. Given this, the volume of workload for project staff can become overwhelming especially since subprojects will be at various stages at any given time.

Mitigation Measures:

a) Develop clear and specific annual work plans for subproject implementation.
b) Ensure that PIU is properly staffed and trained.
c) MAFSE to provide backstop support to PIU.

Construction Phase

Health, Safety and Security

Noise pollution will be emitted from heavy machinery and equipment, and there is increased chances of work-related accidents, injuries, and illnesses during construction. Open pits, ponds, and large drains can threaten safety of small livestock and children. Lastly, temporary, and migrant workers and stagnant ponds can facilitate the transmission of sexually transmitted and vector-borne diseases to local communities. Community health and safety procedures, such as enclosures or fencing, to protect the community during works may impact livelihoods of people outside the direct working area.

Mitigation Measures:

a) Comply with all environmental regulations pertaining to air, noise, water, and soil.
b) Contractor is to ensure that all workers use adequate PPEs during construction activities.
c) Contractors are to prepare an occupational, health and safety plan for physical works.
d) All workers are to sign the Code of Conduct presented in the Labour Management Procedures as condition of employment.
e) Ensure communities are informed of project Grievance Mechanism.
f) Safety measures for the water reservoirs and ponds should include fences and controlled access to prevent drowning.
g) Include measures to prevent water-borne diseases e.g siting away from homes, clearing potential breeding grounds and bushes, etc.
h) Carry out construction work only in the daytime.
i) Pits and drains are to be cordoned off or clearly marked and strictly forbid children near worksites.
j) Contractors in partnership with local health authorities are to provide health information and training to their workers especially relating to sexually transmitted infections.
k) Adopt the Bank's EHS Guidelines as presented in the Labour Management Procedure.
l) Abide by all national labour and social security laws.

m) Ensure compliance with country regulations as well as World Bank guidelines of World Bank regarding Covid 19, by contractors. Further details of World Bank guidelines can be found in the accompanying Labour Management Procedure.
n) Those whose livelihoods are impacted due to community health and safety procedures for work must be fully compensated in accordance with ESS1 as it can be considered a residual impact.

Cultural, Historical and Archaeological Resources and Chance Finds Procedure

Given the widespread occurrence of ancient Maya archaeological sites in the project area, there may be a chance encounter of sites or items of high archaeological value during earthworks and excavation. Consequently, disturbances to historical and archaeological sites arising from works are possible.

If any person discovers tangible or intangible heritage through the subproject activities, such as archaeological sites, historical sites, burial sites, spirits and others, during excavation or construction, the Contractor shall follow the below Chance Finds Procedure.

Chance Finds Procedure:

a) Contractors must have all necessary permits and licenses for vegetation removal and water diversions.
b) Works Site Supervisor or Environmental, Health and Safety Technician visits to include visits to excavation works during regular inspection visits.
c) Report all potential historic and archaeological findings to the ICA by following the project's chance finds procedure shown below.
d) If the Contractor discovers archaeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:
    - Stop the construction activities in the area of the chance find;
    - Clearly delineate the discovered site or area;
    - Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the Institute of Archaeology is able to take over;
    - Notify the supervisory Project Environmental, Social, Health and Safety Officer and Project Engineer and environmental and social officer of the PIU;
    - Responsible site authority to notify the Institute of Archaeology immediately;
    - If required, the Institute will conduct a preliminary evaluation of the findings with requisite expertise such as archaeology. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage such as the aesthetic, historic, scientific or research, social and economic values in Belize;
    - Depending on the country laws, the archaeology findings to be handled appropriately;
    - Report findings in the regular environmental and social reporting/performance of the subproject.

Outside Workers

In some of the works activities, it is possible that outside workers may be brought in a by a contractor. These workers may be unfamiliar with local practices or take liberties of being an outsider and harass or otherwise create conflict with local residents.

Mitigation Measures:

a) Source all labour as much as possible from target communities.
b) Take all reports of worker misbehaviour seriously and investigate.
c) All workers are to sign the Code of Conduct presented in the Labour Management Procedures as condition of employment.
d) Ensure communities are informed of project Grievance Mechanism (see section 10 below sections for more details on the GM and Gender Based Violence).

Loss of Land and Assets

For the purpose siting of important agricultural infrastructure investments, it may be necessary to expropriate private property. There may also be works on government land in use by those without legal rights to such land but that will be impacted. This can result in loss of land and other properties such as buildings, fences, driveways, signs etc.) from removal, acquisition, and demolition. Similarly, access to properties and businesses can be impeded during construction works.

Mitigation Measures:

a) Implement measures specified in the project's Resettlement Policy Framework for any expropriate of private property, land donation, or use of government land where there are users of land
b) These measures in the RPF, including compensation, also apply to those that would temporarily be impacted due to works or enclosure of the area, impacting properties and businesses
c) Ensure that legally entitled rights and rights detailed in the RPF are fully respected in any incidence of displacement and relocation.
d) Property owners should be given at least one month's notice of impeded access to properties and businesses during construction works. Disruption of access to properties by works should be minimized and made temporary as much as possible. If works directly impact people's properties or livelihood (stores, kiosks, street vendors, etc.), impacts will be addressed under ESS5. If the measures to ensure community health and safety (such as enclosures or fencing) will impact people's livelihoods (people outside the working area), impacts will be addressed under ESS1. In all cases, the project will ensure all impacts are fully compensated.

There may be voluntary land donation by farmers and community residents, without payment of full compensation. Subject to prior Bank approval, this may be acceptable providing the MAFSE PIU demonstrates, as per ESS5 footnote 10, 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 MAFSE PIU will maintain a transparent record of all consultations and agreements reached.

Gender Relations

Agriculture is all too often seen as the domain of men even though there are some women who are fully involved in these sectors. It is possible that job opportunities whether in the construction irrigations and draining systems, water harvesting facilities and related CSA training can side-line women who are often not able to participate due to their social roles. This could lead to women being marginalized under the project gender disparities are further entrenched.

Mitigation Measures:

The Project has developed a Gender Action Plan, detailed in the Project Appraisal Document, that has specific gender actions associated with each component of the proposed project. They include:

a) Setting a quota of 30% women beneficiaries for irrigation activities
b) Including training on irrigation that is specifically targeted for women.
c) Establishing and enforcing a policy of gender equity in salaries for construction work on irrigation schemes/other infrastructure
d) The Borrower will encourage the contractor to promote the hiring of women in their workforce, preferably aiming to have at least 20% of staff as women.
e) Ensure that there is gender-equitable participation in consultation meetings and activities.
f) Facilitate in the inclusion of women on worksites with through various measures such as transportation to worksite and having separate bathrooms for men and women and so on.
g) Provide childcare services to enable women to attend meetings and training workshops.

Selection of PAPs

In the selection of Project Affected Parties, vulnerable and marginalised groups may often be left behind as they may require special support to attend consultations and become active participants in the project. If omitted, the project may result in further marginalization of this group and a missed opportunity for them to benefit from project objectives.

Mitigation Measures:

a) Identification of marginalised groups from research and expert advice/experience.
b) Outlined protocols to ensure inclusion in consultations and access to information on the project.

c) Identify methods and additional support required by groups to actively participate in consultations and project work.

Use of Security Forces

CRESAP is not expecting to use national security forces in project implementation. However, where private security personnel are involved for protection of project related assets/activities, the ESIA or screening will review the appropriate requirements for management of use of security forces.

Mitigation Measures:

a) Screening to confirm that security personnel have not engaged in past unlawful or abusive behaviour, including sexual exploitation and abuse (SEA), sexual harassment (SH) or excessive use of force;
b) Adequate instruction and training, on a regular basis, on the use of force and appropriate behaviour and conduct (including in relation to SEA and SH); and
c) Deployment of forces in a manner consistent with applicable national law.

Operation Phase

Labour Intensification and Labour Costs

Monocropping allows for uniform plantings which allows farmers to reduce the amount of work needed to manage a field, further assisted through a variety of mechanized tools. On the other hand, intercrop and agroforestry systems run contrary to this standard approach by increasing the complexity of fields, and the resulting field layouts. This can further negate the possibility of using farm machinery for land preparation, planting, and harvesting. This can all result in the need for additional labour input and labor costs. This inherent inefficiency can make the adoption of some CSA methods such as intercropping be slow as a result. Furthermore, labour intensity can be met by increasing the work burden of women and children.

Mitigation Measures:

a) Ensure proper input and consultation of farmers prior to establishing agroforestry plots.
b) Provide long term extension support services to farmers to assist with productivity and efficiency of CSA methods.

Occupational Health and Safety

Quality control in post-production and value adding processing demands that certain standards in food, sanitation and hygiene be met. It is also possible that workers will be working with equipment with moving parts which can result in serious injury.

Mitigation Measures:

a) Adopt the World Bank's EHS Guidelines as presented in the Labour Management Procedure.
b) Abide by all national labour and social security laws.
c) Workers must be provided with PPEs appropriate for the work activity they are carrying out.

d) Provide opportunities for rest and recreation for workers.
e) Provide training to workers in First Aid.
f) Provide training to farmers in handling farm machinery and inputs.

5. Environmental and Social Mitigation Measures

The Environmental and Social Mitigation Measures outlined in this section consists of a set of measures to be undertaken during planning, design, procurement, construction, and post-construction stages of works to be financed under CRESAP to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels.

Environmental Mitigation Measures

Table 8 Summary of Environmental Mitigation Measures

Effect on Baseline	Associated Subproject Activities	Impact	Mitigation Measure	Responsible	Mitigation Cost (estimated costs included where available)
PHASE: Planning/Design					
Sensitive Areas and Habitats	• Drainage • Irrigation • Agroforestry	• Improperly planned and constructed drainage systems can cause damage through flooding and as a vehicle for eutrophication of certain areas which can degrade habitats especially of amphibians and reptiles.	• Do not enter or source material from any protected area or biological corridors. • Do not fill in or otherwise damage any wetlands. • Do not remove any riparian forests.	Contractor	Contractor compliance only
Degradation of soil, watersheds, and ground water	• Drainage • Irrigation	• Implemented field drainage systems may become vehicles for leached nutrients if not properly planned they can also result in waterlogged soil, diminished water sheds and ground water reservoirs. Neglecting regular maintenance of irrigation and drainage systems can lead to undetected leaks, use of poor-quality water and over drainage. These can result in soil salinization, alkalization, acidification, and waterlogging, destroying plants not able to adapt to extreme conditions, as well as significant disruption to the ecosystems the water is redirected from.	• The soil of the allocated land will be tested to determine what type of irrigation and drainage system is most effective. • The soil will be tested to determine any predisposition to becoming waterlogged, saline, acidic etc. • Data on the best applicable water quality will be used to design the irrigation system. • Data on average water table levels and rainfall will be used to determine efficiency of drainage needed. • Determine best possible streams/channels for drainage prior to construction.	BSIF PIU FIs	Subsidiary to Technical Assistance Costs Estimate: BZ$200/day * 2 days = BZ$400
Slow replenishment of ground	• Water harvesting	• However, poorly planned water harvesting methods can contribute to the lowering and slow replenishment of ground water reservoirs rendering shallow wells useless, and resulting in arid soil over	• Data regarding natural ground levels will be determined so as not to disrupt replenishment. • Possible periods of drought will be determined to ensure water availability.	BSIF PIU FIs	Subsidiary to Technical Assistance Costs

Effect on Baseline	Associated Subproject Activities	Impact	Mitigation Measure	Responsible	Mitigation Cost (estimated costs included where available)
water reservoirs		time, and also contribute to loss of plant and animal life.	• Sustainable water harvesting measures such as rain collection will be used primarily. • Use of other water bodies for collection will be kept to a minimum when possible.		Included in previous row estimate
Low yield and harvest	• Change in production system towards more resilient and adaptive practices (agroforestry)	• Competition for water, sunlight and nutrients often occur in agroforestry systems and may affect crop yield and total biomass of agricultural crops. The positive effects for some tree species are accrued over a longer period of time while the negative effects such as competition for resources are immediately apparent.	• Ensure the appropriate mix of tree and crop species used in an agroforestry system. • Ensure that short term crops are part of the mix of species utilized.	Extension Officer Farmer	Subsidiary to Technical Assistance Costs Estimate: BZ$200/day * 1 day = BZ$200
Invasive species	• Improved yield seed varieties	• Invasive alien tree species can replace valuable indigenous species which are comparatively less aggressive. Many agroforestry systems, particularly those that rely on tree planting in or near treeless landscapes, rely heavily on alien plant taxa. As is the case in all endeavours based largely on non-native species, problems arise when these organisms spread from sites of introduction and cultivation to invade areas where their presence is, for various reasons, deemed inappropriate. In some areas, problems caused by the spread of agroforestry trees from sites set aside for this land use pose a serious threat to biodiversity that may reduce or negate any biodiversity benefit of the agroforestry enterprise.	• Ensures proper Species-Site Matching. • Exclude known invasive alien species (or, ideally, all alien species) from agroforestry plots. • As much as possible, use only local tree species.	Extension Officer Farmer	Subsidiary to Technical Assistance Costs Included in previous row estimate
PHASE: Construction					

Effect on Baseline	Associated Subproject Activities	Impact	Mitigation Measure	Responsible	Mitigation Cost (estimated costs included where available)
Damage to Cultivable Command Area	• Irrigation • Drainage	• Construction of irrigation and drainage systems when done improperly can damage cultivable command area and diminishing maximum yield.	• Regular testing of system's functionality will be done during construction. • Cultivations maps will be used to mark areas, to prevent damage of plottable land. • Any construction waste will be stored away from any waterways and will be regularly removed.	Extension Officer BSIF PIU Farmer Contractor	Subsidiary to Technical Assistance Costs Estimate: BZ$200/day * 3 day = BZ$600 Subsidiary to Works Contract
Construction Noise	• Irrigation • Drainage	• Noise will be emitted by vehicles and various types of equipment which may disturb wildlife and nearby residents especially if works are being near residences especially during construction of draining systems.	• Maintain equipment and work vehicles in proper running conditions and ensure that they have the adequate muffling devices installed. • Avoid having heavy machinery turned on (idle) when not in operation. • Restrict work activities to the daytime and avoid work during the night-time. • Work personnel should wear hearing protection.	Contractor	Subsidiary to Works Contract
Pollution of Soil and Water Resources During Construction	• Drainage	• Spillage of oil, gas and/or lubricants from equipment and vehicles can pollute soil and water, negatively affecting plants and wildlife.	• Minimize stockpiles of construction debris near waterways. • Do not wash or clean equipment and machinery in waterways. • Service all equipment and machinery in designated areas and dispose of used oil	Contractor	Subsidiary to Works Contract

Effect on Baseline	Associated Subproject Activities	Impact	Mitigation Measure	Responsible	Mitigation Cost (estimated costs included where available)
			and lubricants safely at designated disposal site. • Maintain equipment and machinery in proper running order.		
Vegetation and Soil Debris	• Drainage	• Works for drainage systems will require the removal of soil and vegetation to allow the free flow of water which may lead to erosion and siltation if not reconstituted in some matter of rehabilitation	• Minimize removal of vegetation to areas where it is absolutely necessary. • Re-vegetate areas where possible to prevent soil exposure and erosion. • Slopes and drainage systems should be constructed at recommended angles to prevent collapse. • Avoid earthworks and monitor areas of exposed soil during periods of heavy rainfall.	Contractor	Subsidiary to Works Contract
Disturbing Waterways	• Irrigation • Water Harvesting	• Hydrological alterations may cause siltation which can be harmful to wildlife. Improper drainage of water channels can result in stagnation, allowing invasive plants to flourish, and further impeding drainage leading to rehabilitation being necessary.	• Minimize material and waste debris stockpiles and locate away from drainage systems. • Keep waterways clean and free flowing at all times. • Re-vegetate areas where possible to prevent soil exposure. • Ensure retaining walls along embankments are properly constructed according to design specifications.	Contractor	Subsidiary to Works Contract
Poor water quality	• Water harvesting	• Construction of water harvesting systems require keen attention to detail to prevent overflow, leakage and to ensure good water quality. If these factors are not considered, the water harvested will be of poor-quality causing changes in the soil's	• Water pressure will be regularly evaluated. • Structural integrity and waterproofing of material used will be regularly tested throughout construction.	BSIF PIU Contractor Farmer	Subsidiary to construction costs

Effect on Baseline	Associated Subproject Activities	Impact	Mitigation Measure	Responsible	Mitigation Cost (estimated costs included where available)
		composition including salinity and acidity which can be damaging for crops.	• Functionality and durability of filters will be regularly tested throughout construction. • Quality of stored water will be evaluated before use.		
PHASE: Operations Phase					
Slow replenishment of ground water reservoirs	• Water harvesting	• Poorly planned water harvesting methods can contribute to the lowering and slow replenishment of ground water reservoirs rendering shallow wells useless, and resulting in arid soil over time, and also contribute to loss of plant and animal life.	• Data regarding natural ground levels will be determined so as not to disrupt replenishment. • Possible periods of drought will be determined to ensure water availability. • Sustainable water harvesting measures such as rain collection will be used primarily. • Use of other water bodies for collection will be kept to a minimum when possible. • Regular testing of water harvesting contraptions will be conducted to prevent leakage.	BSIF PIU Extension Officer Farmer	Subsidiary to operations costs Included in previous rows estimates
Poor water quality	• Water harvesting	• Construction of water harvesting systems require keen attention to detail to prevent overflow, leakage and to ensure good water quality. If these factors are not considered, the water harvested will be of poor-quality causing changes in the soil's composition including salinity and acidity which can be damaging for crops.	• Water pressure will be regularly evaluated. • Structural integrity and waterproofing of material used will be regularly tested throughout construction. • Functionality and durability of filters will be regularly tested throughout construction. • Quality of stored water will be evaluated before use.	BSIF PIU Extension Officer Farmer	Subsidiary to operations costs

Effect on Baseline	Associated Subproject Activities	Impact	Mitigation Measure	Responsible	Mitigation Cost (estimated costs included where available)
Vectors and diseases	• Water harvesting • Irrigation	• Water storage containers must be properly constructed as they can attract vectors for diseases such as mosquitoes given the stagnant nature of the water.	• Containers and ponds must be checked regularly for any pests and vectors.	BSIF PIU Extension Officer Farmer	Subsidiary to operations costs Estimate: BZ$200/day * 5 days = BZ$1000
Source of nuisance	• Change in production system towards more resilient and adaptive practices (agroforestry)	• Forest patches used in agroforestry systems can become a source of "nuisance" to nearby farms and farmers as they can attract other wildlife that can destroy their crops.	• Provide training to farmers in wildlife-farm management techniques. • Provide training in integrated pest management for farmers.	BSIF PIU Extension Officer Farmer	Subsidiary to technical assistance costs Estimate: BZ$500/day * 2 day = BZ$1000
Agricultural Expansion and Deforestation	• Improved yield seed varieties	• The use of improved yield seed varieties reduces the land area needed to grow the same amount of food in aggregate. However, this can have the effect of making agriculture even more profitable relative to leaving the land as forests, which can lead to agricultural expansion into forested areas and hence deforestation.	• Use of improve yield varieties should only be allowed on already cultivated land. • Ensure that there is no net forest cover loss because of farming intensification.	BSIF PIU Extension Officer Farmer	Subsidiary to operations costs Estimate: BZ$200/day * 3 day = BZ$600

Effect on Baseline	Associated Subproject Activities	Impact	Mitigation Measure	Responsible	Mitigation Cost (estimated costs included where available)
Threat to landrace varieties	• Improved seed yield varieties	• Improved seed varieties may threaten the maintenance of genetic diversity in landrace varieties. Traditional landrace seeds have adapted over time to local conditions, developing resistance to certain pests or weather conditions, for instance.	• Create a community seedbank of landrace varieties. • Provide training to farmers in proper seed storage methods.	BSIF PIU Extension Officer Farmer	Subsidiary to technical assistance costs Included in previous row estimates
Excessive energy use	• Post-production investment • Value addition	• Post-production and value-adding activities such as processing require energy-intensive equipment and facilities powered by fossil fuels. Similarly, the transportation of finished products market also contributes to this process. As a result, processing can contribute to CO2 emissions.	• Install and use energy efficient light bulbs and equipment. • Use natural light and ventilation in facilities as much as possible.	BSIF PIU Farmer	Subsidiary to Works Contract
Excessive consumption of water	• Value addition	• In many facilities, water is an essential resource for one or more processing steps and may be used in great quantities. Depending on water availability, the ground or surface water diverted for processing may threaten the supply of water for other natural or human uses.	• Install and use water efficient fixtures. • Ensure plumbing systems are free of leakages.	BSIF PIU Farmer	Subsidiary to Works Contract
Pollution and waste generation	• Value addition	• Water used for processing can become polluted with chemicals or heavy metals from all stages of the production cycle. Garbage and other form of waste maybe also be produced.	• Use engineering and administrative measure to contain and prevent spillage and leakage of wastewater and other contaminants into the environment. • Dispose of all solid and organic waste properly • Reuse or salvage waste materials.	BSIF PIU Farmer	Subsidiary to operations costs

Effect on Baseline	Associated Subproject Activities	Impact	Mitigation Measure	Responsible	Mitigation Cost (estimated costs included where available)
			• Convert organic waste into compost.		
Natural Hazards		• Belize is prone to hurricanes and flooding and as such new installations and facilities can be damaged or destroyed by these natural hazards resulting in a loss of investment.	• Construct facilities with hurricane resistant design features. • Construct facilities away from flood prone areas. • Insure facilities and installations as appropriate.	BSIF PIU Farmers	Subsidiary to Works Contract Subsidiary to operations costs
Increased water use, changes to land use, threats to the public and on biodiversity	Livestock management	• Livestock farming may lead to infectious animal diseases, zoonoses, pose a threat to public health, especially to vulnerable communities, and affect biodiversity through diffusion of pathogens to wildlife. Poor welfare of livestock may also reduce their health and productivity.	• Select livestock breeds with the least environmental impacts • Conduct hazard identification related to animal health, and risk characterization • Offer practical guidance and training to farmers and MAFSE PIU on good livestock management strategies. • Ensure proper animal care through veterinary treatment, appropriate shelter and nutrition, and humane handling and slaughter. • Ensure proper waste management practices	BSIF PIU Farmers	Subsidiary to Works Contract Subsidiary to operations costs

Social Mitigation Measures

Table 9 Summary of Social Mitigation Measures

Category	Impact	Mitigation Measure	Responsible	Indicative Cost
PHASE: Planning/ Design				
Limited knowledge of farmers of environmental and social permitting processes	• Environmental and social management of subproject activities is generally a technical most farmers are unaware of. There is limited knowledge among farmers regarding the relevant agencies that manage environmental impacts and their requirements.	• Provide mobilization and familiarization training workshops to farmers that details relevant aspects of subproject implementation. • Provide mobilization and familiarization training workshops to IFIs and other participating agencies that details relevant aspects of subproject implementation. • Assign project staff and staff of MAFSE that are readily accessible to be first-line responders to queries from farmers regarding subproject implementation.	BSIF PIU MAFSE Extension Officer	Subsidiary to technical assistance costs Estimate: BZ$500/day * 2 day = BZ$1000
Limited oversight of subproject activities due to spatial scale and disparate location	• Subproject activities will be carried out across four districts in remote rural areas among various partner organizations and numerous farmers. Given this, the volume of workload for project staff can become overwhelming especially since subprojects will be at various stages at any given time.	• Develop clear and specific annual work plans for subproject implementation. • Ensure that PIU is properly staffed and trained. • MAFSE to provide backstop support to BSIF PIU.	BSIF PIU MAFSE	Subsidiary to project management costs
Risk of exclusion of farmers based on their credit worthiness	• Farmers, especially women in agriculture, often have limited access to credit due to traditional requirements and risk analysis by financial intuitions.	• Technical assistance support should be provided to farmers in the preparation of their request for the funding of sub-projects and downstream support for sub-projects' implementation • Pay special attention to women farmers by promoting gender-sensitive CSA technologies, in particular labor-reducing technologies for women that are affordable, accessible, and based on their needs • Reduce risk associated with farmers through matching grants to support inclusion of more farmers	FIs	Subsidiary to technical assistance costs Estimate: BZ$500/day * 5 day = BZ$2500

Category	Impact	Mitigation Measure	Responsible	Indicative Cost
Excluding marginalised groups	• In the selection of Project Affected Parties, vulnerable and marginalised groups may often be left behind as they may require special support to attend consultations and become active participants in the project. If omitted, the project may result in further marginalization of this group and a missed opportunity for them to benefit from project objectives.	• Identification of marginalised groups from research and expert advice/experience. • Outlined protocols to ensure inclusion in consultations and access to information on the project. • Identify methods and additional support required by groups to actively participate in consultations and project work. • FIs to provide additional support to farmers starting from the application process, considering limitations such as language, ability to read/write, and age. • Ensure specific questions regarding vulnerable groups are included into registration processes at the Agriculture offices, such as those included in Annex 8.	BSIF PIU FIs	Outlined in the CRESAP Stakeholder Engagement Plan
PHASE: Construction				
Health, Safety and Security	• Noise pollution will be emitted from heavy machinery and equipment, and there is increased chances of work-related accidents, injuries, and illnesses during construction. Open pits, ponds, and large drains can threaten safety of small livestock and children. Lastly, temporary, and migrant workers and stagnant ponds can facilitate the transmission of sexually transmitted and vector-borne diseases to local communities. • Community health and safety procedures, such as enclosures or fencing, to protect the community during works may impact livelihoods of people outside the direct working area	• Comply with all environmental regulations pertaining to air, noise, water, and soil. • Contractor is to ensure that all workers use adequate PPEs during construction activities. • Contractors are to prepare an occupational, health and safety plan for physical works. • All workers are to sign the Code of Conduct presented in the Labour Management Procedures as condition of employment. • Ensure communities are informed of project Grievance Mechanism. • Safety measures for the water reservoirs and ponds should include fences and controlled access to prevent drowning. • Include measures to prevent water-borne diseases e.g siting away from homes, clearing potential breeding grounds and bushes, etc. • Carry out construction work only in the daytime.	BSIF PIU Contractor	Subsidiary to works contract

Category	Impact	Mitigation Measure	Responsible	Indicative Cost
		• Pits and drains are to be cordoned off or clearly marked and strictly forbid children near worksites. • Contractors in partnership with local health authorities are to provide health information and training to their workers especially relating to sexually transmitted infections. • Adopt the Bank's EHS Guidelines as presented in the Labour Management Procedure. • Abide by all national labour and social security laws. • Ensure compliance with country regulations as well as World Bank guidelines of World Bank regarding Covid 19, by contractors. Further details of World Bank guidelines can be found in the accompanying Labour Management Procedure. • Those whose livelihoods are impacted due to community health and safety procedures for work must be fully compensated in accordance with ESS1 as it can be considered a residual impact		

Cultural, Historical and Archaeological Resources	• Given the widespread occurrence of ancient Maya archaeological sites in the project area, there may be a chance encounter of sites or items of high archaeological value during earthworks and excavation. Consequently, disturbances to historical and archaeological sites arising from works are possible.	• Contractors must have all necessary permits and licenses for vegetation removal and water diversions.
		• Works Site Supervisor or Environmental, Health and Safety Technician visits to include visits to excavation works during regular inspection visits.
		• Report all potential historic and archaeological findings to the ICA by following the project's chance finds procedure shown below.
		• If the Contractor discovers archaeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:
		  • Stop the construction activities in the area and follow the chance find procedure;
		  • Clearly delineate the discovered site or area;
		  • Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities
			Contractor
			BSIF PIU
				Subsidiary to works contract

Category	Impact	Mitigation Measure	Responsible	Indicative Cost
		or sensitive remains, a night guard shall be arranged until the Institute of Archaeology is able to take over; • Notify the supervisory Project Environmental, Social, Health and Safety Officer and Project Engineer who in turn will notify the Institute of Archaeology immediately.		
Outside Workers	• In some of the work's activities, it is possible that outside workers may be brought in a by a contractor. These workers may be unfamiliar with local practices or take liberties of being an outsider and harass or otherwise create conflict with local residents.	• Source all labour as much as possible from target communities. • Take all reports of worker misbehaviour seriously and investigate. • All workers are to sign the Code of Conduct presented in the Labour Management Procedures as condition of employment. • Ensure communities are informed of project Grievance Mechanism, including how to address GBV and SEA/SH issues.	BSIF PIU Contractor	Subsidiary to work contract
Loss of Land and Assets	• For the purpose siting of important agricultural infrastructure investments, it may be necessary to expropriate private property or there may be voluntary land donation by farmers and community residents. This can result in loss of land and other properties such as buildings, fences, driveways, signs etc.) from removal, acquisition, and demolition. • Similarly, access to properties and businesses can be impeded during construction works. • Those living/using government land for livelihoods may also experience loss of land and assets that will be needed to be considered and compensated	• Implement measures specified in the project's Resettlement Policy Framework for any expropriate of private property or land donation, including for those using government owned land for livelihoods and/or live on government land. • These measures in the RPF, including compensation, also apply to those that would temporarily be impacted due to works or enclosure of the area, impacting properties and businesses. • Disruption of access to properties by works should be minimized and made temporary as much as possible, with owners given at least a month's notice. • Ensure that legally entitled rights are fully respected in any incidence of displacement and relocation.	BSIF PIU Contractor	Subsidiary to works contract

Category	Impact	Mitigation Measure	Responsible	Indicative Cost
Gender Relations	• Agriculture is all too often seen as the domain of men even though there are some women who are fully involved in these sectors. It is possible that job opportunities whether in the construction irrigations and draining systems, water harvesting facilities and related CSA training can side-line women who are often not able to participate due to their social roles. This could lead to women being marginalized under the project gender disparities are further entrenched.	• Promote the hiring of women in the contractor(s) workforce, preferably aiming to have at least 20% of staff as women. • Setting a quota of 30% women beneficiaries for irrigation activities • Including training on irrigation that is specifically targeted for women. • Establishing and enforcing a policy of gender equity in salaries for construction work on irrigation schemes/other infrastructure • Ensure that there is gender-equitable participation in consultation meetings and activities. • Facilitate in the inclusion of women on worksites with through various measures such as transportation to worksite and having separate bathrooms for men and women and so on. • Provide childcare services to enable women to attend meetings and training workshops.	BSIF PIU Contractor	Subsidiary to works contract Subsidiary to technical assistance costs
PHASE: Operation				
Labour Intensification and Labour Costs	• Monocropping allows for uniform plantings which allows farmers to reduce the amount of work needed to manage a field, further assisted through a variety of mechanized tools. On the other hand, intercrop and agroforestry systems run contrary to this standard approach by increasing the complexity of fields, and the resulting field layouts. This can further negate the possibility of using farm machinery for land preparation, planting, and harvesting. This can all result in the need for additional labour input and labor costs. This inherent inefficiency can make the adoption of some CSA methods such as intercropping be slow as a result. Furthermore, labour intensity can be met by increasing the work burden of women and children.	• Ensure proper input and consultation of farmers prior to establishing agroforestry plots. • Provide long term extension support services to farmers to assist with productivity and efficiency of CSA methods.	BSIF PIU Extension Officer	Subsidiary to technical assistance costs Estimate: BZ$500/day * 3 day = BZ$1500

Category	Impact	Mitigation Measure	Responsible	Indicative Cost
Occupational Health And Safety	• Quality control in post-production and value adding processing demands that certain standards in food, sanitation and hygiene be met. It is also possible that workers will be working with equipment with moving parts which can result in serious injury.	• Adopt the World Bank's EHS Guidelines as presented in the Labour Management Procedure. • Abide by all national labour and social security laws. • Workers must be provided with PPEs appropriate for the work activity they are carrying out. • Provide opportunities for rest and recreation for workers. • Provide training to workers in First Aid. • Provide training to farmers in handling farm machinery and inputs.	BSIF PIU Contractor	Subsidiary to works contract
Use of Security Forces	• Security personnel may have engaged in past unlawful or abusive behavior, including sexual exploitation and abuse (SEA), sexual harassment (SH) or excessive use of force	• Screening to confirm that security personnel have not engaged in past unlawful or abusive behaviour • Adequate instruction and training, on a regular basis, on the use of force and appropriate behaviour and conduct (including in relation to SEA and SH); and • Deployment of forces in a manner consistent with applicable national law	BSIF PIU Contractor	Subsidiary to works contract

6. Analysis of Alternatives

Improvements in agricultural production and increase in farm income does not necessarily occur in a linear way. There are often alternatives to actions that promote enhancement of agricultural productivity whether through engineering, administrative measures, or technology. There is always a need to ensure that interventions that seek to improve agricultural productivity are not undermined by environment damages or in unintended social consequences. This is the reason why an Analysis of Alternatives is necessary in the implementation of subprojects under CRESAP. Environmental and social assessments conducted as part of the screening process under the project will analyse alternatives in the following way:

- **Step 1: Site Description** - Briefly summarize the environmental investigations that have occurred at the proposed subproject site. Characterize the environmental and social risks identified. Develop site-specific mitigation measures which can eliminate or mitigate these risks.

- **Step 2: Types of Alternatives**. This should include:
  a) Zero alternative or 'do nothing' alternative: This alternative compares the future conditions without the project as a baseline and the future condition with the project activity.
  b) 'Alternatives to': on-farm and irrigation systems, water harvesting systems, CSA interventions and post-production and value adding. The discussion can include the context from the viewpoint of environmental enhancement and socio-economic benefits. E.g., an alternative to using existing surface water sources/drilling subsurface wells is rainwater harvesting.
  c) 'Alternative means' of developing on-farm and irrigation systems, siting/constructing water harvesting systems, CSA interventions and post-production and value adding. This refers to developing alternative ways of achieving the same project activity. E.g., an alternative means of building a catchment platform for rainwater harvesting is to use the roof of an existing building and upgrade to meet needs of rainwater harvesting.

  It is important to take note of Section 7.3 that details activities that would be ineligible for financing under CRESAP and would therefore not be considered as suitable alternatives.

- **Step 3: Assessment of Alternatives.** A qualitative and quantitative initial assessment of the alternatives can be performed based on the selected environmental and social indicators or parameters especially those specified in the ESSs and their requirements.

- **Step 4: Recommended Action**. Provide a recommendation based on the ecological, environmental, social, and economic benefits and the intervention activities are then finalized.

It is important to note that the project cannot support projects of substantial or high risk.

7. Screening Procedures

Each sub-project shall be appraised through primary environmental and social screening. These procedures should be included in the Project's Operational Manual.

Screening Process

Table 10 Screening Process for Individual Farmers under Subcomponent 2.1

Actions	Responsible
▪ Step 1: Environmental and Social Screening of Identified Physical Subprojects, including analysis of alternatives.	▪ PFI (with Consultant support))
▪ Step 2: Determine risk classification and subsequent assessment, instruments and plans that would be needed.	▪ PFI (with Consultant support)
▪ Step 3: Submit CSA investments to the DOE for screening under the EIA Regulations, that: o received a E&S Risk Categorization of Moderate or Substantial, o have associated activities (poultry rearing, pig rearing, agro-processing, etc.) that did not previously receive Environmental Clearance from the DOE, o require conversion of forest land above 100 acres, and o have a "Yes" response to any of those featured questions under the various Issues in the Screening Form.	▪
▪ Step 4: Preparing Environmental and Social Assessments and required ESF documents, Management and Monitoring Instruments.	▪ PFI (with Consultants to work with the farmers), approved by MAFSE E&S Focal Point and BSIF PIU E&S Specialist
▪ Step 5: Concurrence and Clearance of the loan package by Matching Grant Approval Committee (MGAC).	▪ BSIF PIU E&S Specialist
▪ Step 6: Inclusion of Environmental and Social Management Specifications and ESF required documents (e.g., ESMPs), including DOE's Environmental Compliance Plans, in bid documents.	▪ MAFSE E&S Focal Point, BSIF PIU E&S Specialist, and Procurement Specialist

▪ Step 7: Approval of Environmental and Social Management Compliance Plans and other required ESF documents for individual projects developed for Farmers or Contractors.	▪ BSIF PIU E&S Specialist
▪ Step 8: Compliance Monitoring and Reporting.	▪ BSIF PIU E&S Specialist

Table 11 Process for Collective Goods under Subcomponent 2.3

Actions	**Responsible**
▪ Step 1: Environmental and Social Screening of Identified Physical Subprojects, including analysis of alternatives	▪ BSIF PIU E&S Specialist
▪ Step 2: Determine risk classification and subsequent assessment, instruments and plans that would be needed	▪ MAFSE E&S Focal Point and BSIF PIU E&S Specialist
▪ Step 3: Preparing Environmental and Social Assessments, Management and Monitoring Instruments	▪ Subproject applicant
▪ Step 4: Clearance by PIU	▪ BSIF PIU E&S Specialist
▪ Step 5: Inclusion of Environmental and Social Management Specifications and Environmental Management Plan, including DOE's Environmental Compliance Plans, in bid documents.	▪ MAFSE E&S Focal Point, BSIF PIU E&S Specialist, and BSIF PIU Procurement Specialist
▪ Step 6: Approval of Environmental and Social Management Compliance Plans for individual projects by Contractors.	▪ BSIF PIU E&S Specialist
▪ Step 7: Compliance Monitoring and Reporting	▪ BSIF PIU E&S Specialist

Screening Criteria and Checklist

Environmental and social screening is a useful tool in identifying safeguard issues in investment projects consisting of many sub-projects. The main objective of environmental and social screening of sub-projects is to (a) determine the anticipated environmental/social impacts, risks and opportunities of the sub-project, and (b) determine if the anticipated impacts and public concern warrant further environmental/social analysis, and if so to recommend the appropriate type and extent of assessments needed. Screening should go hand in hand with project concept development. This way environmental and social opportunities and risks can be appropriately and easily integrated into subsequent design stages, rather than being brought in at the last minute.

As part of the BSIF PIU's environment and social due diligence, subproject proposals submitted to CRESAP will be screened with the environmental and social screening form included in Annex 1. At the individual farmer level, the environmental and social screening is to be completed by consultants hired by the FIs to work with farmers upon receipt of the subproject concept or proposal and its general eligibility determined. At the collective and Ministry level, screening is to be completed by the MAFSE E&S Focal Point and BSIF PIU E&S Specialist.

The screening will help to determine the classification of the subproject. Overall compliance with national laws and regulations and World Bank ESF, is required for all projects and activities financed by CRESAP. All screening reports are subject to World Bank review and clearance prior to the preparation of identified instruments.

Note that to be considered for the project, farmers will need to be registered at their respective district offices. FIs will verify this as part of the screening and will support farmers to register if they have not.

a) Classification of Subprojects for Social and Environmental Assessment

As per the World Bank ESF, projects (including those involving FIs) are categorized based on four environmental and social risk classifications:

- High Risk: A proposed subproject is likely to have significant adverse environmental and social impacts that are sensitive, diverse, or unprecedented large scale. Such project would fall under Schedule 1 of the DOE's classification requiring a full EIA. This project is ineligible for funding under CRESAP.
- Substantial Risk: A proposed subproject is likely to have considerable adverse environmental and social risks on a broad scale, but alterations caused disappears with the time and are reversible. Impact may be assimilated by natural processes over the medium terms or can be mitigated with specifically designed measures.
- Moderate Risk: A proposed subproject is likely to have moderate potential adverse impacts on environment, human population or nature protected areas. These impacts however are site-specific; and in most cases mitigation measures can readily be designed.
- Low Risk: A proposed subproject is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EIA action is required.

In determining the appropriate risk associated with subproject activities, the farmers/proponents and their consultants (e.g., those hired by the FI to work with farmers) will take into account relevant issues, such as the type, location, sensitivity, and scale of the project; the nature and magnitude of the potential environmental and social risks and impacts; and the capacity and commitment of any other entity responsible for the implementation of the project to manage the environmental and social risks and impacts in a manner consistent with the ESSs. Other areas of risk may also be relevant to the delivery of environmental and social mitigation measures and outcomes, depending on the specific project and the context in which it is being developed.

The CRESAP will not be financing high risk projects i.e., those with significant adverse environmental and social risks; long term, permanent and/or irreversible adverse impacts; and/or may give rise to significant social conflict. Even substantial risk project will require Bank

approval and is not guaranteed to proceed. Therefore, it is unlikely that a full EIA will be necessary for any subprojects. The screening will therefore determine moderate or low risk subprojects. Subprojects with low or negligible risks can proceed with activities after the screening has been completed.

Subprojects with moderate risks will need to develop an ESMP, proportionate to the risks and potential impacts and following the requirements of the ESF and actions in the ESCP. The moderate-risk subprojects will also be submitted to the Department of Environment for further screening and clearance. Section 20 of the Belize Environmental Protection Act categorizes projects into three schedules as follows:

a) Schedule I: Full EIA is required.
b) Schedule II: A full EIA or LLES (Limited Level Environmental Study) may be required depending on the location and size of the project and other considerations by the NEAC.
c) Schedule III: Guidelines provided. No EIA or LLES required but measures can be stipulated in an Environmental Compliance Plan.

The Department of Environment will determine what level of assessment is needed in compliance with national law. The completion of an ESMP is likely to comply with the requirements of an LLES for lower risk projects as specified in the Environmental Protection Act.

Project activities likely to fall under Schedule 3 may be construction of water harvesting systems and drainage.

Annex 6 provides further information on the environmental clearance process of Belize as well as the likelihood of risk categorisation of projects. Relevant publications and checklists can also be found on the Department of Environment website: (e.g. EIA Manual Belize Final July 2011, Checklist for Agriculture, Checklist for Light Industry).

Negative List of Activities

The following activities are ineligible for financing under CRESAP:

a) Any activity where no environmental and social screening was done.
b) Any activity that may cause significant adverse environmental and social risks; long term, permanent and/or irreversible adverse impacts; and/or may give rise to significant social conflict including substantial or high-risk projects.
c) Any activity that may pose risks to natural forests and habitats, critical habitats, ecologically sensitive areas, legally protected and/or internationally recognized areas of high biodiversity value.
d) Any activity that may have a high probability of causing serious adverse effects to human health and/or the environment not related to COVID-19 treatment.
e) An activity involving the purchase and/or use of pesticides included in the Food and Agriculture Organization's (FAO) highly hazardous pesticides (HHP) identification tool.
f) An activity involving the purchase and/or use of any pesticide classified as prohibited use pesticide by the Belize Pesticide Control Board (PCB).

g) Any activity that would cause damage or destruction of tangible and intangible cultural heritage.
h) Any action which requires the removal of people from land (permanently or temporarily), the loss of land, loss of assets or access to assets, or any action which would put limitations or prohibitions on land under use.

Beyond this negative list and risk screening, all forms of climate-smart agricultural commodities will be considered for Subcomponent 2.2.

Contingent Emergency Response Component (CERC)

The MAFSE and BSIF PIU shall ensure that the CERC Manual prepared for the Project incorporates the environmental and social management arrangements and requirements detailed below.

Identification of Potential Activities
Once activated the CERC will have to follow similar environmental and social assessment processes as other project components. The activities to be carried if the CERC Component is activated include goods, services, and works. The location of the contingency activities will be nationwide when needed. Activities or subprojects that will be financed by the CERC Component should avoid activities or subprojects with complex environmental and social aspects (for example resettlement), because the CERC objective is to support immediate priority activities (less than 18 months). The subprojects with more environmental and social complexity, could be financed with other specific sources of financing.

Negative List of Activities
The negative list of activities that cannot be funded under the CERC as subprojects is similar to that detailed in Section 7.3 above.

Potential Environmental and Social (ES) Impacts of CERC activities
Implementation of the activities will be positive and urgently needed therefore proposed works and other activities should be limited to small and medium scale works, or the immediate provision of essential goods and services. The potential negative impacts to be expected should be moderate, localized, and temporary and can be mitigated through the implementation of the existing safeguards instruments of the project and close supervision by the relevant personnel or external expert. The required mitigation measures will be included as part of the Environment and Social Management Plan (ESMP) to be prepared when if a specific subproject is identified.

If small-scale land acquisition as a result of contingency activities cannot be eliminated as a possible impact then, abbreviated resettlement action plans (ARAPs) will be prepared in line with the resettlement policy framework (RPF) of the project, taking into account the nature and flexibility of the emergency case. Furthermore, if activities impact or directly benefit communities of ethnic groups considered indigenous under ESS7, then an Indigenous People's Plan (IPP) will be prepared in line with the Indigenous People's Framework (IPPF) for the project. Due consultation and broad community support must be documented and confirmed

prior to the commencement of the activities for all activities directly benefitting or impacting ethnic groups.

In addition, workers contracted to conduct civil or other works for contingency activities will have to sign a worker's code of conduct, which covers issues such as preventing gender-based violence, as well as sexual assault and abuse. In addition, construction works or uses of goods and equipment involving forced labor, child labor, or other harmful or exploitative forms of labor are prohibited.

Environmental and Social Management Framework Process

Under Section 9 of the EIA Regulations as amended by SI 24 of 2007, the following projects are not required to carry out an EIA:

a) Educational and health projects (except building construction);
b) Computer processing projects; and
c) Projects to be carried out during a declared national emergency for which temporary measures have been taken by Government.

Even though it would be legally permissible according to Belizean law to proceed with CERC subprojects under the c) classification above (State of Emergency), the activities will be executed following the requirements of the World Bank ESF and this ESMF. At a minimum, subprojects will be screened for and address potential environmental and social impacts as specified above. An environmental and social screening form has been prepared and included in the **Appendix 1**.

When the CERC component is activated, the MAFSE along with the BSIF PIU will carry out the following steps:

Step 1: Application of the ES Screening Form**.** This ESMF includes a template to screen the subprojects from the ES point of view (**Appendix 1**). These forms will be used also for the CERC subprojects. The negatives activities for CERC listed above will also be applied. Given that the CERC objective is to support immediate priority activities (18 months), the activities or subprojects with resettlement issues will be avoided.

Step 2: Identification of ES issues and preparation of mitigation plans. Based on the results from Step 1, BSIF PIU will prepare an ESMP for the CERC subprojects describing the works/activities and mitigation measures to be conducted during detailed design, bidding/ contract, repair/restoration, and closure plans, taken into account the magnitude, scope, and nature of the emergency. Consultation with local authorities and communities will be made during this stage, prior to activities starting. If land taking and/or ethnic groups are involved, an abbreviated RAP, and/or IPP will be prepared in close consultation with NEM, Ministry of Human Development, Families & Indigenous Peoples' Affairs (MHDFIPA) and the World Bank (WB) ESF specialists, taking into account the flexibility for the case of emergencies. Budget and entities responsible for implementation of the ESMP/ARAP/IPP will be discussed and agreed as part of the plans.

Step 3: Government of Belize approval and World Bank no-objection. The ESMP, ARAP, and/or IPP will be approved by the Government of Belize, in consultation with MAFSE, the BSIF PIU and DOE, and shared with the World Bank for review and no-objection.

Step 4: Implementation and Monitoring and Evaluation**.** The approved ESMP, RAP, and/or IPP will be implemented according to the agreed implementation arrangement. MAFSE and the BSIF PIU will monitor the implementation on the ground and report the results to NEMO and MFEDI. Continuous stakeholder engagement will occur during implementation to identify additional impacts and update plans accordingly.

Step 5: Completion and Evaluation. Once the CERC subproject has been completed, BSIF PIU will monitor and evaluate the results before closing the contract. Any pending issues and/or grievance must be solved before the subproject is considered fully completed. BSIF PIU will submit the completion report to the World Bank, copying in MAFSE describing the compliance of safeguard performance.

Institutional Arrangement for Project Implementation

In the event of flooding and hurricanes: As mentioned above, the MAFSE and BSIF PIU will lead the implementation at subproject level while NEMO will provide assistance. MAFSE and BSIF PIU will report to the CERC Implementing Agency (i.e. The National Emergency Management Committee (NEMC) which is responsible for guiding and coordinating all CERC activities and is chaired by the Prime Minister. The NEMC will determine the list of goods and works to be included in the Emergency Action Plan (EAP) for the country.

In the event of droughts**:** The MAFSE and BSIF PIU will lead the implementation at subproject level and will also serve as the CERC Implementing Agency.

Technical Assistance

The Project may finance Technical Assistance activities under Components 1, 2 and 3 including capacity building activities to farmers, studies, diagnosis, technical assistance in the event of a disaster. The Technical Assistance activities shall integrate environmental and social objectives, promote stakeholder participation, and promote environmental and social capacity building as per the requirements in paragraphs 14–18 of ESS1. The terms of reference, plans, studies, training material, reports and other forms of technical assistance shall be reviewed by the BSIF PIU and subsequently submitted for the World Bank's review and approval, copying in MAFSE.

Permitting

While the environmental screening of projects is fully under the mandate of the DOE, the official permitting of resource use falls within the mandates of three different permitting agencies: Forest Department, Hydrology Unit and Geology and Petroleum Department, respectively. The DOE has no role in permitting resource use but has jurisdiction over the environmental soundness of project activities regarding national resources. All subprojects must comply with the legal requirements of permitting especially for water abstraction, waterways diversion, drainage, land clearing and mining.

8. Environmental and Social Management Plan

An environmental and social management plan will be needed for approved subprojects. This section provides guidelines on Environmental and Social Management Plans (ESMPs) for the different sub-projects. An ESMP focuses on several phases of sub-projects (design/pre-construction, construction, operation & maintenance, and decommissioning) and ensures that the project impacts are reduced to acceptable levels within the project of area influence. The ESMP ensures that all the preceding baseline and impact analysis is used to preserve or improve overall environmental quality or social well-being within subproject's areas of influence.

Elements of an ESMP

The ESMP consists of the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation of a project to eliminate adverse environmental and social risks and impacts, offset them, or reduce them to acceptable levels. The ESMP also includes the measures and actions needed to implement these measures. The ESMP preparation process will (a) identify the set of responses to potentially adverse impacts; (b) determine requirements for ensuring that those responses are made effectively and in a timely manner; and (c) describe the means for meeting those requirements. The ESMP should be specific, clearly and concisely describing adverse impacts, selected mitigation measures to bring it to an acceptable level and timelines for implementing these measures. The ESMP should aim to ensure that the compliance of all activities undertaken during implementation with the environmental and social requirements of the World Bank ESF and GOB.

The structure of an ESMP is based on:

a) Potential adverse impacts and mitigation measures to be adopted, together with conditions within which one or other measure would apply and their integration with phases – Pre-construction, Construction, Operation & Maintenance and Decommissioning.
b) Enhancement plans for positive impacts.
c) Monitoring Plan with monitoring objectives, indicators, mechanisms, frequency, locations, and process for reporting.
d) Cost estimates and sources of funds for all the above activities.
e) Institutional arrangements and identifies which party is responsible for carrying out the mitigation and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training).
f) Implementation schedule for measures that must be carried out, showing phasing and coordination with overall project implementation, and the cost estimates and sources of funds for implementing the ESMP.
g) Capacity development and training is conducted to increase the capacity of small and medium contractors, farmers and BSIF PIU to manage environmental and social requirements and implement ESMPs as detailed in the ESCP.

h) Reporting procedures, including for redressing grievances related to environmental and social issues.

The following plans will be included in the ESMP depending on the outcome of the E&S screening or assessment:

a) Biodiversity Management Plan (BMP) - Any subproject activities with a wide scope will be required to conduct a biodiversity impact assessment as part of the ESIA or screening. Based on the findings of potential biodiversity impacts, mitigation and any enhancement measures will be detailed in a BMP.
b) Waste Management Plan (WMP) – To be developed for subprojects with agricultural waste and any hazardous and non-hazardous materials to ensure that operations mitigate and manage waste aspects.
c) Pollution Management Plan (PMP) - To mitigate and manage air, soil, water, and noise pollution in subproject activities with pollution impacts such as sugarcane plantations, irrigation activities, and construction works.
d) Integrated Pest Management Plan (IPMP) - CRESAP will promote the uptake of best-fit climate-smart agriculture technologies and practices that reduce inefficient use of purchased inputs, including pesticides and other agrochemicals. Subprojects focused on crop production and planning will develop an IPMP to ensure that farm operations integrate ecologically sound integrated pest management strategies. Annex 3 of the ESMF contains a guideline on IPMP.
e) Stormwater Sedimentation and Erosion Control Plan – To develop actions that ensure irrigation, drainage, and construction activities mitigate stormwater contamination, sedimentation, and erosion during and after construction.
f) Community Health and Safety Plan - To assess and manage specific risks and impacts to the community arising from Project activities, including in relation to behaviour of Project workers and any risks of labour influx.
g) Emergency Preparedness and Response Plan as part of the occupational, health and safety measures for the workers and communities to enable them to be prepared for and respond to emergency situations.
h) Traffic and Road Safety Management Plan.
i) Security Plan - Where private security personnel are involved for protection of project related assets/activities, the ESIA or screening will review the appropriate requirements for management of use of security forces and develop appropriate mitigation measures as part of the subproject ESMP.

Bidding Documents and Management of Contractors

The BSIF PIU staff, including the procurement and environmental and social officer(s), will be responsible to ensure that requirements on environmental and social specifications, ESMP and Labor Management Procedures are incorporated into bidding documents, in subprojects where bid documents will be prepared. This should be done prior to commencement of the bidding process. The provisional sum for the ESMP actions will be included as part of the Bill of Quantities for those mitigation measures that are not captured as part of the technical aspects.

For more complex or larger subproject activities, such as the collective investments in Subcomponent 2.3, the contractor will need to demonstrate that they have identified suitable and specific actions to address and manage the environmental, social, health and safety risks. To do so, the Borrower will identify the top environmental and social risks and request bidders to submit the Contractor's Management Strategies and Implementation Plans (MSIPs) that set out the specific actions and costs that they will take to deliver the outcomes specified in the ESMF/ESMP. The MSIPs will then be assessed as part of the bid evaluation process. Once the contract is awarded, the contractor will prepare MSIPs for all other environmental and social risks and impacts as part of the C-ESMP and implement it from the start of the works. Bidding documents will include non-compliance penalty clauses. During subproject implementation, the BSIF PIU will (i) ensure that the contractor complies with the C-ESMP, (ii) ensure that a separate Grievance Mechanism is maintained and functioning for contractor and subcontractor workers, (iii) ensure contractors provide details on the performance of environmental, social, health and safety aspects and prepare monthly performance reports.

Compliance and Monitoring

The monitoring section of the ESMP should provide the following:

a) a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions and adaptive management actions; and
b) monitoring and reporting procedures, including a simple explanation of the processes involved, to (i) ensure early detection of conditions that necessitate particular mitigation measures, (ii) furnish information on the progress and results of mitigation, and (iii) track incidents and accidents.

The MAFSE E&S Focal Point will be responsible for conducting environmental compliance monitoring.

Capacity Development and Training

The ESMP should also identify the parties responsible for implementation and monitoring, the training of staff, and any additional measures that may be necessary to support implementation of mitigation measures and any other recommendations of the environmental and social assessment.

The capacity of small and medium contractors, farmers and PIU will be increased to manage environmental and social requirements and implement ESMPs as detailed in the ESCP.

Table 12: Training and Capacity Building Activities

Type of activity	Target Group	Timeline
• Capacity development and training • Training on Bank Environmental and Social Standards • Training on preparation and implementation of E&S instruments • Grievance Mechanism including a database • Conducting community awareness meetings during Covid-19	• MAFSE • BSIF PIU	Within the first quarter after the PIU has been put in place and training plan developed.
• World Bank Guidelines on Occupational Health and Safety, including measures to be taken during Covid-19 • MAFSE Environmental Health and Safety Standards and Guidelines for investment Projects • Emergency preparedness and response • Code of Conduct • Relevant aspects of environment and social compliance	• Project workers • Farmers	Before and during subproject implementation
• Capacity development and training to address environment and social risks as per the developed ESMS.	• FIs	Before FIs disburse their first funds to FI subprojects and continued throughout implementation.
• Technical and awareness trainings on safe environmental and social practices	• Farmers.	Project implementation.

Environmental and Social Management Capacities of MAFSE

Policy Level**:** The MAFSE currently does not have a Ministry-specific and written environmental, social and gender policy. As a government institution, the Ministry however is expected to comply with all laws governing environmental, social and gender issues.

Procedures**:** Established environmental and social regulations are implemented through practice in compliance with laws and regulation and through the Public Service Regulations.

Trained Personnel**:** MAFSE has limited internal environmental and social capacity and experience in implementing World Bank projects and this will be its first project to be prepared under the ESF. During the project preparation, MAFSE assigned an agricultural officer as the MAFSE E&S Focal Point. The MAFSE E&S Focal Point attended a Bank-led ESF training workshop

in Barbados in February 2020 and has coordinated the preparation of environmental and social instruments. However, considering the capacity constraints, MAFSE has further engaged consultants to assist in drafting the required environmental and social instruments for the project. During implementation, the agricultural officer will be MAFSE's full-time E&S Focal Point of the project working in close coordination with the environmental and social specialist of the BSIF PIU.

Contingency Plans

For those plans that the MAFSE doesn't have, the relevant processes outlined in the CRESAP ESMF will apply.

a) Environmental Health and Safety – The MAFSE currently does not have an EHS Plan or Guidelines for its operational programmes and projects.
b) Fire – The MAFSE currently does not have a Fire Management and Response Plan for its operational programmes or projects.
c) Hurricane Preparedness Plan – The MAFSE has a Hurricane Preparedness Plan for operations.
d) Natural Hazards – The MAFSE currently does not have a Natural Hazards Management and Response Plan for its operational programmes and projects.

The following capacity development and training activities will be carried out to enhance the capacity of the BSIF PIU to address environment and social risks under this project and to enhance project outcomes.

a) Provide training on Environmental and Social Management for CRESAP subprojects.
b) Provide training on Environmental Health and Safety Standards and Guidelines for CRESAP subprojects.
c) Prepare an Emergency Response Plan for CRESAP subprojects.
d) Establish a Grievance Redress Mechanism including a database for CRESAP.
e) Provide training to MAFSE and BSIF PIU staff on World Bank Environmental and Social Standards.
f) Provide training to MAFSE and BSIF PIU on preparation of environmental and social instruments (e.g., ESMP).

9. Institutional Arrangements

Roles and Responsibilities

In order to effectively manage the implementation of the ESMF, it is necessary to identify and define the responsibilities and authority of the various organizations that will be involved in the various aspects of the project. The following entities will be involved in the implementation of the mitigation measures at various levels and times.

a) At the national level, a Project Steering Committee (PSC) will be set up to act as a higher-level guidance body that will meet semi-annually. It will oversee the project, approve the Annual Work Program and Budget (AWPB), as well as the project's progress reports, and

ensure that the project objectives are being met. The PSC will ensure coherence between the project and other projects, funded by the World Bank or other development partners, in the sector. The PSC will be chaired by the Chief Executive Officer of MFASE and will comprise representatives of the public sector entities involved in implementing the Project (BAFSE, BSIF, NMS, BAHA, PCB, BMDC, and the Agricultural Department of the University of Belize), as well as of the Ministries of Finance, Economic Development and Investment and of Sustainable Development, Climate Change and Disaster Risk Management.

b) MAFSE - MAFSE will maintain overall responsibility for the implementation of CRESAP, but will be assisted by the Belize Social Investment Fund (BSIF). MAFSE has assigned one agricultural officer to be the fulltime environmental and social focal point of the project to work closely with the environmental and social specialist of the BSIF PIU. The MAFSE also works alongside other relevant Ministries to help advocate for additional support for farmers, for example improving roads used by farmers to get produce to market – although such support is not guaranteed by the MAFSE.

c) Belize Social Investment Fund (BSIF) PIU – BSIF will establish and maintain a PIU for the Project to coordinate and manage all Project activities, manage the Designated Account to cover all eligible expenditures, generate technical and financial reports and submit such reports and withdrawal requests to the Bank. BSIF will assign technical and fiduciary staff (involved in procurement, FM, accounting, reporting, environmental and social risk management, and M&E) with clear responsibilities for these areas during CRESAP's entire implementation period. This BSIF PIU will be directly responsible for implementing all components of the Project. In the case of Subcomponent 2.2, the PIU will select and enter into agreements (the PFI Agreements) with highly qualified Participating Financial Institutions (PFIs) with experience and current penetration in the rural sector to provide resources to project beneficiaries for financing CSA investment subprojects.

d) Climate Smart Matching Grant Approval Committee (MGAC) – It will consist of ex officio technical specialists representing MAFSE and other relevant public agencies as needed, the BSIF PIU environmental and social specialist, as well as a representative of the PFIs. The MGAC will have overall responsibility for reviewing the proposals for technical soundness and for approving the matching grant requests. The work of the MGAC will be supported by BSIF and participating PFIs. The MGAC will meet at regular intervals, together with the relevant PFIs, to evaluate proposals; assess the technical merits of the proposal; confirm the amount of financing that PFIs are ready to provide and determine the matching grant amount.

e) Financial Intermediaries (FIs) – Prior to submitting subprojects to the Climate Smart Matching Grant Approval Committee for approval, FIs will need to review subproject applications and ensure that environmental and social standards have been applied and addressed.

f) Department of the Environment (DOE) – The DOE will need to be consulted on all subprojects to ensure that they do not experience unnecessary delays due to environmental issues during implementation. The DOE also has monitoring

responsibilities over all development projects. The DOE is also responsible for assessing the risk of subprojects and approving EIAs/ESMPs where required.

g) Institute of Archaeology (IOA) – The IOA is responsible for all historic and physical cultural resources in the country. Any encounter with ancient objects or monuments must be reported to the IOA.
h) Ministry of Natural Resources (MNR) – If lands need to be expropriated for public use, this will have to go through the MNR. They manage the land tenure system of the country and so any activity having to do with land use or acquisition must be cleared with the MNR. They Hydrology Department is also under the responsibility of the MNR.
i) Contractor(s) – Contractors will be the persons actually carrying out the works and so have a significant responsibility to ensure that mitigation measures are implemented and followed.
j) The World Bank - The World Bank project task team, specifically the environmental and social specialists, will provide implementation support to the project on an on-going basis.

Sub component 2.2 Financial Intermediaries

a) Coordination and Approval of Subprojects

Financial Intermediaries (FIs) participating in the project will develop their own internal Environmental and Social Management Systems (ESMS), which includes a risk categorization system for subprojects. FI subprojects with minimal or no adverse E&S risks or impacts will apply national law, if the FI is assessed to have good capacity to do so. Prior to submitting subprojects to the Climate Smart Matching Grant Approval Committee (MGAC) for approval, FIs will need to review subproject applications and ensure that environmental and social standards have been applied and addressed through the following process:

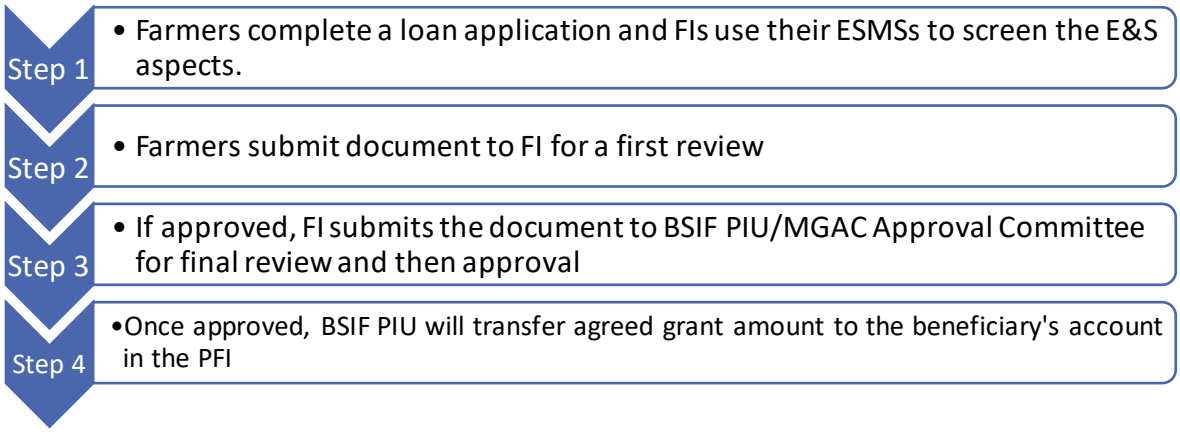
Step 1: Farmers complete a loan application and the FIs conduct the Environmental and Social (E&S) screening using the screening tool in their ESMS.

Step 2: Farmers submit document to FI for a first review.

Step 3: Following the screening, the FIs will send the eligible subprojects to the BSIF PIU and then MGAC for approval.

Step 4: After approval by the MGAC, the PFI will sign a Participation Agreement with the beneficiary and open an account for the beneficiary for the CSA investment subproject, and BSIF PIU will transfer the agreed grant amount to the beneficiary's account in the PFI, at which point the resources will become available to the beneficiary (a portion of the grant element could be released after the beneficiary has established a repayment track record with the PFI). The PFI will be responsible for executing loan/grant disbursements, monitoring and collecting loans, and, if required in case of a default, the matching grants as well.

Figure 3 Approval Process for a subproject under subcomponent 2.2 (FI-led)



Once the BSIF PIU receives the E&S forms:

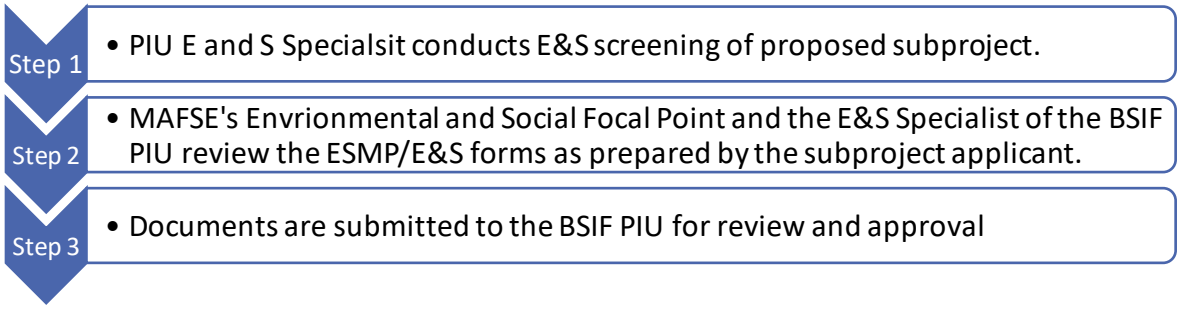
Step 1: Contractor conducts E&S screening and prepares ESMP.

Step 2: MAFSE E&S Focal Point and BSIF PIU E&S Specialist will lead in the review of the environmental and social aspects of the proposal and recommend to the Matching Grant Approval Committee on whether the project is sound on the Environmental and Social safeguards.

Step 3: The BSIF PIU will then transmit them to the MGAC. The Committee will review other aspects of the proposals such as financial and technical and consider the environmental and social review conducted by the BSIF PIU E&S Specialist. In addition to the BSIF PIU, the first set of subprojects will be reviewed by the World Bank task team to ensure that the approved projects are consistent with Bank requirements. The BSIF PIU will then give the authorization to the FIs to provide matching grants from the CRESAP to the proposals which receive financial, technical, and environmental and social approvals.

Sub component 2.3

Figure 4 Approval Process for a subproject under subcomponent 2.3 (MAFSE/BSIF PIU-led)



Reporting and Monitoring

Participating FIs will be required to submit all environmental checklists and E&S instruments including ESMPs to the BSIF PIU along with submissions for approval of matching grants. FIs will also submit quarterly monitoring reports on subprojects ESMPs to the BSIF PIU until the subprojects are fully implemented.

Monitoring

The BSIF PIU will monitor the environmental and social performance of the project in accordance with the legal agreement (including the ESCP). Monitoring will normally include recording information to track performance and establishing relevant operational controls to verify and compare compliance and progress. Monitoring will be adjusted according to performance experience, as well as actions requested by relevant regulatory authorities and feedback from stakeholder communities.

MAFSE and the BSIF PIU will be responsible for the implementation of the ESMF. The MAFSE and BSIF PIU will also ensure that contract technical specifications include environmental and social mitigation measures and the associated indicative parameters which will then be monitored as well. The ESMP developed for subprojects will identify the parameters to be monitored, measurement (including methods and equipment), frequency of measurement, responsibilities, and cost. Aside from this administrative mechanism, the project will also be monitored through active stakeholder engagement with project beneficiaries including farmers and farmers groups so that their feedback on the implementation of the project is included in the decision-making process.

Regular Reporting

BSIF PIU will provide the World Bank with regular biannual reports of the results of the monitoring, copying in MAFSE, as set out in the Environmental and Social Commitment Plan (ESCP). The BSIF PIU will coordinate the reporting requirements for the FIs by developing an overall reporting structure for FIs to allow for efficient consolidation by the BSIF PIU. FIs will be required to submit all screening reports on subprojects to the BSIF PIU as well as E&S reports to the BSIF PIU every quarter during implementation of subprojects. Contractors for any civil works implemented by BSIF PIU shall provide monthly monitoring and compliance reports to BSIF PIU. THE BSIF PIU, through the MAFSE Environmental and Social focal point, will review the reports from contractors and FIs, consolidate them, and submit them to the Bank in the biannual E&S reports, copying in MAFSE, as outlined in the ESCP. Such reports will provide an accurate and objective record of project implementation, including compliance with the ESCP and the requirements of the ESSs. Furthermore, those reports will include information on stakeholder engagement conducted during project implementation in accordance with ESS10 and the Stakeholder Engagement Plan (SEP) as well as the functioning of the grievance redress mechanisms.

World Bank Supervision

World Bank staff or consultants acting on the World Bank's behalf will conduct periodic site visits to the project. The BSIF PIU will facilitate such site visits and provide any necessary support.

Accident and Incident Notification

In addition, the BSIF PIU will notify the World Bank promptly (within 48 hours), copying in MAFSE, of any incident or accident relating to the project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers. The notification will provide sufficient detail regarding such incident or accident, including any fatalities or serious injuries. The Borrower will take immediate measures to address the incident or accident and to prevent any recurrence, in accordance with national law, the ESCP and the ESSs.

Process for Reporting Material Adverse Events in CSA Investments

The incident management and reporting process may comprise the following steps:

- **Step 1 Initial Communication:** The Beneficiary notifies the relevant authorities and the PFI as soon as possible, preferably within 24 hours of learning of the incident or accident.
- **Step 2 Notification to BSIF PIU and MAFSE:** The PFI informs the BSIF PIU and MAFSE within 24 hours of learning of the incident or accident.
- **Step 3 Classification:** The PFI, with assistance from the BSIF PIU, identifies how serious the incident or accident is.
- **Step 4 Investigation:** The PFI, with assistance from the BSIF PIU, conducts a root cause analysis (RCA) and identifies a corrective action plan (CAP) which are the necessary set of measures to appropriately address the root causes. A detailed report shall be submitted in writing, for the BSIF PIU's approval.
- **Step 5 Response:** The Beneficiary, with assistance from the PFI and if necessary, the BSIF PIU, implements the corrective actions.
- **Step 6 Follow Up:** The Beneficiary completes corrective actions, and with assistance from the PFI and/or the BSIF PIU, develops necessary preventive actions to prevent similar incidents or accidents from occurring in the future.
- **Step 7 Record Keeping:** The PFI keeps a record of the incident, actions taken, and resolution.

Flow chart and timeline of reporting of material adverse events

The initial communication (Step 1 and 2) shall address the following questions:

1. What was the incident or accident? What happened? To what or to whom?
2. Where and when did the incident or accident occur?
3. What is the information source? How did you find out about the incident?
4. Are the basic facts of the incident or accident clear and uncontested, or are there conflicting versions?
5. What were the conditions or circumstances under which the incident or accident occurred?
6. Is the incident or accident still ongoing or is it contained?
7. Is the loss of life or severe harm involved?
8. How serious was the incident or accident? How is it being addressed?

An Root Cause Analysis (RCA) (Step 4) reports the sequence of events and factual circumstances. The analysis identifies what issues led to the accident, what safety measures were in place, and what were the risk information and training provided to workers on site. The level of supervision of unskilled labor should also be assessed, if relevant.

Below is a sample corrective action plan template (Step 4):

Root Cause	**Corrective Action**	**Preventive Action**
Reason(s) for the accident.	Immediate and long-term actions taken; where; when; to whom; by whom to correct the action/root cause. E.g., driver refresher training.	Immediate and long-term actions taken; where; when; to whom; by whom to prevent the accident or similar near misses from occurring or recurring. E.g., H&S training, training on proper usage of PPE, placing warning signs in appropriate/local languages.

Definition and Classification of Adverse Incidents to be reported by Beneficiaries and PFIs

The Beneficiary should notify the PFI if impacts occur which could result in irremediable harm. Examples of material E&S incidents which must be reported immediately by the Beneficiary to the PFI, and by the PFI to the PIU, include the following:

- Any work-related fatalities (including PFI employees, contractors, or any other project affected party).
- Injury or occupational illness that results in a worker requiring 3 or more days off work, or an injury or release of substance that results in a member of the community needing medical treatments.
- Complaints or cases of sexual abuse or sexual harassment.
- Disease outbreaks in excess of normal expectancy of number of cases.
- Acts of violence/protest such as strikes or significant employee disputes.
- Displacement Without Due Process: The permanent or temporary displacement against the will of individuals, families, and/or communities from the homes and/or land which they occupy without the provision of, and access to, appropriate forms of legal and other protection and/or in a manner that does not comply with an approved resettlement action plan.
- An incident of child labor or forced labor.
- Unexpected Impacts on heritage resources.
- Unexpected impacts on biodiversity resources.
- Environmental pollution incident: Exceedances of emission standards to land, water, or air (e.g., from chemicals/toxins) that have persisted for more than 24 hours or have resulted in harm to the environment.
- Any other incident or accident that may have a significant adverse effect on the environment, the affected communities, the public, or the workers, irrespective of whether harm had occurred on that occasion. Any repeated non-compliance or recurrent minor incidents which suggest systematic failures that the task team deems needing the attention of Bank management.

Adaptive Management

Based on the results of ongoing monitoring, the BSIF PIU will identify any necessary corrective and preventive actions and will incorporate these in an amended ESCP or the relevant management tool, in a manner acceptable to the World Bank. The BSIF PIU will implement the agreed corrective and preventive actions in accordance with the amended ESCP or relevant management tool and monitor and report on these actions accordingly.

Budgeting and Resources

Implementing the mitigation measures identified in this ESMF and other related activities for the purpose of reducing project risks and enhancing project benefits will invariably carry costs and require material resources. Costs for the various aspects of the ESMF will be financed in the following ways:

a) **Mitigation Measures Costs:** Most of the cost of mitigation measures identified in this ESMF can be added on as subsidiary costs to subproject activities. This means that once clear specifications for environmental and social mitigation measures are included in the contract, bidders are expected to provide their own estimates to those activities. More specifically, for subcomponent 2.3, contractors will budget for E&S mitigation measures in the bidding process. For subcomponent 2.2, farmers are not expected to include the cost of mitigation measures in their loan applications but would be supported by project funds under Component 3; therefore, it will be a separate line item in the budget for the proposed activity. Indicative costs for technical support have been provided in the Summary of Mitigation Measures table that would be taken from the project budget.

*Full breakdown available in the Summary of Mitigation Measures in Sections 5.1 and 5.2.

** These costs are also incorporated into the Table 15 sample overall budget below.

b) **ESMP Costs:** To prepare environmental and social assessments and ESMPs for subprojects, the costs for these activities are to be allocated from general project management costs. These costs are likely to paid to external experts who will prepare these instruments on behalf of the project.

c) **Capacity Building and Training Costs:** Capacity building and training costs for the BSIF PIU and MAFSE E&S Focal Point is also to be allocated from general project management costs. This will be carried out to the maximum budget allocation given in the global project budget.

d) **Stakeholder Engagement Costs:** Budget estimates for consultations during the three phases of the project are outlined in the CRESAP Stakeholder Engagement Plan. These costs to be allocated from general project management costs.

e) **Grievance Redress Mechanism Costs:** Training on the GRM and Gender-based violence topics are included in the SEP budget. Additional items relevant to GRM included in the budget below:

Table 13 Budget Estimate for the Project-level Grievance Redress Mechanism

*Excluding costs included in the SEP budget

Item	Units	Unit Cost	Total (BZD)	Total (USD)
Development and maintenance of secure log system	1	10000	10000	5000

Training of district officers on GM	1	2000	2000	1000
Computer	1	2500	2500	1250
Telephone	1	800	800	400
Printer	1	1000	1000	500
TOTAL			**16300**	**8150**
Recurrent costs				
Stationary (paper/ink)		300/month	300/month	
Human resources (part-time support (2))	2	2500/month	5000/month	
TOTAL			**5300/month * 60 months = 318,000**	**159,000**
GRAND TOTAL			**$334,300**	**$167,150**
Training*	2	1500	3000	

Table 14 Budget Estimate for additional costs related to the LMP Grievance Mechanism

Item	**Units**	**Unit Cost**	**Total (BZD)**	**Total (USD)**
Development and maintenance of separate section of the log system for labor related grievances, and a separate logbook in physical form	1	2500	2500	1250
Training of Human Resource Manager and district level staff	1	2000	2000	1000
TOTAL			**4500**	**2250**
Recurrent costs				
Stationary (paper/ink)		300/month	300/month	

TOTAL			**300/month * 60 months = 18,000**	**9,000**
GRAND TOTAL			**$22,500**	**$11,250**

*Included in the Stakeholder Engagement Plan budget

Table 15 Overall Budget Estimate

Capacity Building and Training	BZD	USD
1. Training BSIF PIU and MAFSE E&S focal point on World Bank Environmental and Social Standards, preparation/implementation of ESF instruments during implementation, Grievance Mechanism, conducting community awareness meetings during Covid-19, Emergency Response Planning. 2. Training to contractors and other project workers on occupational health and safety, including measures to be taken during Covid-19, Emergency preparedness and response, Code of Conduct, and on relevant aspects of environment and social compliance (i.e., ESMF, LMP, RPF, GM, GBV etc.). 3. Capacity development and training activities to participating FIs to enhance the capacity to address environment and social risks as per the developed ESMS 4. Prepare and deliver technical and awareness trainings to farmers and their workers on safe environmental and social practices	20,000	10,000
Development of E&S Documents and other Tools		
1. Additional consultants e.g., developing ESMSs, RAP, IPPs, ESMPs, ESIAs	50,000	25,000
Monitoring, inspection, evaluation, and reporting		
1. Periodic training activities 2. Regular monitoring of contractor, FI and farmers' compliance including OHS and community health and safety 3. Supervision missions with WB team 4. Biannual reporting of E&S compliance for all project components	30,000	15,000
Grievance Redress Mechanism		
1. Implementation of the GRM, including a database for MAFSE's GRM Contact and E&S Focal Point, and the BSIF PIU E&S Specialist, including travel costs.	10,000	5,000
Stakeholder Engagement		
1. SEP implementation (details in SEP), excluding trainings	77,750	38,875

Overall total budget for ESF capacity building, implementation, monitoring, and reporting	**187,750**	**92,875**

This budget encompasses the LMP budget.

10. Stakeholder Engagement and Grievance Redress Mechanism

Stakeholder Engagement

As set out in the projects SEP, the BSIF PIU will continue to engage with, and provide sufficient information to stakeholders throughout the life cycle of the project, in a manner appropriate to the nature of their interests and the potential environmental and social risks and impacts of the project. This is described in more details in the project's SEP. The BIF PIU will provide to the World Bank and disclose final or updated documentation and safeguard instruments. All environmental and social safeguard instruments will be published on the MAFSE website here https://www.agriculture.gov.bz/climate-resilient-agriculture-project-cresap/ and will also be made public by the World Bank, once approval and clearance are granted.

ESMF Disclosure

All subprojects will also include a strategy for public information disclosure, in order to keep the general public and/or the actors involved in the subproject informed about its purpose and the potential environmental impacts. The disclosure of information will be done in a manner that will provide meaningful engagement and dissemination with the local community, including local media and the internet. The information being disclosed should be in a language or languages that the targeted stakeholders understand. In general, the information that will be published should contain: i) basic information on the sub-project; ii) environmental categorization; iii) terms of reference for the required environmental studies; iv) the summary and the results of the community consultations; v) the environmental studies developed; viii) the announcement of the contractors; and ix) the environmental and social specifications to be followed by the contractors during construction. To ensure proper and adequate participation of stakeholders and communities, they must be given information package prior to any meeting and be given sufficient notice time for any meetings to be held. This is to ensure that they are able to participate meaningfully in the consultations.

Grievance Redress Mechanism

Background and Aims of GRM

The Grievance Redress Mechanism (GRM) is designed and established to receive and respond to complaints about the impacts of the project. Both this project-level GRM and the separate LMP GRM include a special channel for Gender Based Violence (GBV) issues to ensure these types of issues are dealt with appropriately. GRMs are intended to be accessible, collaborative,

expedient and effective in resolving concerns through dialogue, joint fact finding, negotiation, and problem solving. This is required by the World Bank policy and standards.

The GRM is described in more detail in the Stakeholder Engagement Plan (SEP) for this project, a summary and contact details are below.

Table 16 Summary of steps in the GRM

Step 1: Clear system to report grievances	Members of the public can inform the MAFSE BSIF PIU Staff or personnel at any of the MAFSE offices in the districts. Respective Chairpersons of the various Village Councils may also make a report on behalf of a villager. Complaints can also be lodged directly here: GRM Contact Agriculture Department National Agriculture and Trade Show Grounds Hummingbird Highway City of Belmopan Telephone: 611-1753 Email: CRESAP.GRM@sifbelize.org
Step 2: Register and Acknowledge	Within 48 hours, the GRM Contact will acknowledge its receipt in a correspondence to the complainant that outlines the grievance process, with timeframes, and provides contact details for the E&S Specialist at the BSIF PIU. The GRM Contact records the complaint in the GRM intake form.
Step 3: Follow up	The BSIF PIU E & S Specialist in collaboration with the MAFSE E&S Focal Point will formally respond and acknowledge the issue within 7 working days. Periodic updates will be provided to the complainant on the status of the grievance.
Step 4: Evaluate, Investigate and Take Action	The BSIF PIU E&S Specialist in collaboration with the MAFSE E&S Focal Point will make efforts to resolve a grievance within 30 days of the original receipt date. If this is not possible, clear steps being taken to address the grievance will be communicated to the complainant.
Step 5: Grievances that cannot be solved within 30 days of receipt	Grievances that cannot be resolved by the GRM at the Project Management level will be referred to the Project Steering Committee for an update and guidance where required.
Step 6: Next steps if unsatisfied with project GRM	The complainant has the option of seeking redress through the national judicial system or the Office of the Ombudsman at their own cost and at any time.

Definition of Grievance

Grievance is defined for the purpose of this mechanism as an issue, concern, problem, claim (perceived or actual) or complaint that an individual or group wants the project to address and

resolve, anonymous complaints will be accepted by the mechanism. When community members present a grievance, they generally expect to receive one or more of the following:

- Acknowledgment of their problem
- An honest response to questions about project activities
- An apology
- Compensation
- Modification of the conduct that caused the grievance
- Some other fair remedy

Addressing Gender-Based Violence (GBV)

The United Nations defined Gender-based violence as harmful acts directed at an individual based on their gender. It is rooted in gender inequality, the abuse of power and harmful norms. The various forms of GBV include sexual, physical, mental, and economic harm inflicted in public or in private; threats of violence, coercion and manipulation, including trafficking in persons and commercial sexual exploitation. Belize's National Gender-based violence Action Plan 2017-2020 also highlights that Gender-based violence' and 'violence against women' are terms that are often used interchangeably as most gender-based violence is inflicted by men on women and girls.

Common forms of GBV in Belize that may therefore be social risks associated with the project include:

- Domestic violence
- Physical and emotional abuse
- Rape
- Sexual Abuse
- Carnal Knowledge
- Trafficking in Persons
- Commercial Sexual Exploitation

Steps to address reports of such gender-based violence must uphold the principles outlined in the GM, particularly confidentiality. The MAFSE E&S Focal Point in collaboration with the BSIF PIU E&S Specialist that review the reports of GBV must include such cases in the monthly report whereby all identifiable information be made anonymised.

Such reports must be flagged as high priority and acknowledged immediately (within 24hours).

If the victim is a child, according the to the Child Abuse Reporting Regulations, it is mandatory for all family members, teachers, social workers, school administrators and all other persons to report all suspected cases of child abuse to the police. Regarding adults, the MAFSE E&S Focal Point, BSIF PIU E&S Specialist and the Women's Department must respect the privacy of the complainant and are not obligated to report the case.

If the complainant would like to pursue a criminal case against the offender, the MAFSE E&S Focal Point in collaboration with the BSIF PIU E&S Specialist will support the complainant by providing information on the process to make such a report with the Belize Police Department and what can be expected regarding steps forward.

There are two main units within the Belize Police Department that respond to issues that relate to sexual or domestic violence:

- The Domestic Violence Unit (DVU) responds to allegations of domestic violence within the family which may include sexual violence.

- Criminal Investigations Branch (CIB) responds to allegations of sexual violence outside of the home setting and related crimes classified as indictable offences in the Supreme Court.

As part of the reporting process, a gynaecologist or General Practitioner with experience will conduct the medical examination. Complaints against police officers, medical personnel or other public officers in relation to sexual violence where a survivor is dissatisfied with the response can be made by:

- Utilizing the Complaints Form that may be obtained at the Office of the Ombudsman or any of the Women's Department offices countrywide.
- The Ombudsman, upon receiving the complaint of the survivor, should take statements from the survivor.

In both cases whether a criminal case is to be pursued or not, the MAFSE E&S Focal Point in collaboration with the BSIF PIU E&S Specialist will also ensure that victims and survivors of sexual violence are made aware during their initial response to the complainant that they can seek support at the Women's Department in each district. The Women's Department is a key referring agency for services to survivors of sexual violence. It will follow the following procedures[2]:

- Screening – Intake process will be conducted to determine whether the services requested by the survivor are provided by the Women's Department. If the services are not available at the Department the Women Development Officer (WDO) will make the necessary referrals.
- Assessment and Attention - If the services needed are offered by the Department the Women's Development Officer will discuss different options available with the client and make recommendations on what may be helpful.
- Interviewing – Interviews will be conducted in a confidential setting and the WDO will be sensitive to the emotional state of the survivor and maintain a non-judgmental attitude.
- Counselling – Counselling services should focus on providing emotional support to the victim, providing them with important information and guiding them in the process of

[2] Women's Department. (2012). Handbook on Sexual Violence, Belize.

making their own decisions. While the Department offers basic counselling in terms of information sharing, counselling beyond this would be referred.
- Documentation - A National Gender-based Violence Surveillance Form will be completed and the service being provided documented.

Trafficking in Persons

In regard to trafficking in persons, additional considerations are made due to immigration status of victims. According to the Trafficking in Persons (Prohibition) Act, 2013, the court must ensure the privacy of victims is a priority, with various provisions being made to ensure so. The Director of Public Prosecution is also mandated to provide information to victims regarding safely returning to their country of citizenship or applying for permanent residency or citizenship of Belize.

Once the Social Assessment is finalized and the risk is determined for GBV in the CRESAP project, the World Bank will work with the BSIF PIU to ensure that the GBV system is survivor centric and focuses on not retraumatizing the victim and ensuring the proper support (legal, psychological, etc).

Monitoring and Reporting of the GRM

The MAFSE E&S Focal Point in collaboration with the BSIF PIU E&S Specialist should submit monthly internal reports to the Monitoring and Evaluation Specialist at the BSIF PIU and included in the progress reports submitted to the World Bank every six months, copying in MAFSE. These reports should outline the following:

- Number of grievances
- Issues raised
- Common trends
- Causes of grievances
- Remedial Actions
- Redress provided
- Recommendations to prevent future recurrences

The E&S Focal Point will be based in MAFSE, and BSIF has included an Environmental and Social Specialist in the PIU who will work in collaboration with the MAFSE E&S Focal Point. The draft version of this document was disclosed on Oct. 6th, 2021 on the MAFSE website at https://www.agriculture.gov.bz/climate-resilient-agriculture-project-cresap/. This disclosure was to support the first round of consultations on the ESF documents.

11. Annex

Annex 1 - Environmental and Social Exclusion List

All proposed activities should be screened to ensure that they are within the boundaries of the Project's eligible activities, and they are not considered as activities listed on the E&S Exclusion List.

The following activities shall be excluded from financing:

- No environmental and social screening was done.
- An activity that may cause significant adverse environmental and social risks; long term, permanent and/or irreversible adverse impacts; and/or may give rise to significant social conflict.
- An activity that may pose risks to natural habitats, critical habitats, ecologically sensitive areas, legally protected and/or internationally recognized areas of high biodiversity value.
- An activity that may have a high probability of causing serious adverse effects to human health and/or the environment not related to COVID-19 treatment.
- An activity involving the purchase and/or use of pesticides included in the Food and Agriculture Organization's (FAO) highly hazardous pesticides (HHP) identification tool.
- An activity involving the purchase and/or use of any pesticide classified as restricted use pesticide (RUP) by the Belize Pesticide Control Board (PCB).
- An activity that would cause damage or destruction of tangible and intangible cultural heritage.
- Any action which requires the removal of people from land (permanently or temporarily), the loss of land, loss of assets or access to assets, or any action which would put limitations or prohibitions on land under use.

Annex 2 - Subproject Environmental and Social Screening Form

This Screening Form is to be used by the PFI, and consultants hired by the CRESAP, to review the potential environmental and social risks and impacts of activities in a farmer's proposed CSA investment. To manage E&S risks and impacts, the national regulations under the Belize Environmental Impact Assessment (EIA) and relevant Environmental and Social Standards (ESS) of the World Bank will apply. In addition, the PIU will submit CSA investments to the DOE for screening under the EIA Regulations, that:

- received a E&S Risk Categorization of Moderate or Substantial,

- have associated activities (poultry rearing, pig rearing, agro-processing, etc.) that did not previously receive Environmental Clearance from the DOE. (Environmental Clearance could be in the form of a letter of no objection, letter with conditions, letter with an ECP, or requires that a LLES or EIA be completed),
- require conversion of forest land above 100 acres, and
- have a "Yes" response to any of those featured questions under the various Issues.

Given the above, the PFI should nevertheless proceed with the processing of those farmers' CSA applications up to the point of approval, so that once Environmental Clearance from the DOE is obtained, the next step would be to disburse the grant funds to the farmers along with the required E&S measures that they would need to take.

		ANSWER			
	ISSUE	**Yes**	**No**	**Provide explanation / Actions Required**	**Relevant ESS**
1	**Exclusion List: These activities ineligible for financing**				ESS1
	Does the CSA Investment fall under any of the following categories? • Any activity where no environmental and social screening was done. • An activity that may cause significant adverse environmental and social risks; long term, permanent and/or irreversible adverse impacts; and/or may give rise to significant social conflict. • An activity that may pose risks to natural habitats, critical habitats, ecologically sensitive areas, legally protected and/or internationally recognized areas of high biodiversity value. • An activity that may have a high probability of causing serious adverse effects to human health and/or the environment not related to COVID-19 treatment. • An activity involving the purchase and/or use of pesticides included in the Food and Agriculture Organization's (FAO) highly hazardous pesticides (HHP) identification tool.				

	• An activity involving the purchase and/or use of any pesticide classified as prohibited use pesticide by the Belize Pesticide Control Board (PCB). • An activity that would cause damage or destruction of tangible and intangible cultural heritage. • Any action which requires the removal of people from land (permanently or temporarily), the loss of land, loss of assets or access to assets, or any action which would put limitations or prohibitions on land under use.				
2	**Water and Soil**				ESS1 ESS3 ESS6
2.1	Is there a suitable location more than 1km away from waterways where equipment and machinery can be washed and cleaned, and construction debris disposed of?				
2.2	Will the CSA Investment lead to contamination of ground and surface waters by herbicides and/or pesticides?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
2.3	Will the CSA Investment lead to an increase in suspended sediments in streams, decline in water quality and increased sedimentation downstream?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
2.4	Will the CSA Investment lead to the creation of stagnant water bodies in borrow pits, quarries, ponds, etc., encouraging for mosquito breeding and other disease vectors?				
2.5	Does the CSA Investment involve significant new investments for extraction, diversion or containment of surface or ground water?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
2.6	Will the CSA Investment involve the drilling or digging of a new well?				
2.7	Will the CSA Investment involve the use of an existing well?				
2.8	Will the well for the CSA Investment be combined with energy/water efficiency measures, including solar pumps, efficient irrigation, water quality monitoring, water level monitoring, etc.?				

2.9	Is the well less than 500 meters from the nearest source of surface water, including a wetland, stream, or spring?				
2.10	Are there many existing wells in the area?				
2.11	Has there been any instances of saltwater intrusion in the groundwater in the area?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
2.12	Will the CSA Investment have appropriate health and safety measures in place for workers during well drilling or digging, including personal protective equipment (PPE), etc.?				
2.13	Has the CSA Investment Beneficiary obtained a Water Abstraction License or Permit to Drill a Well from the National Hydrological Service?				
2.14	Has the CSA Investment Beneficiary obtained a Water Abstraction License from the National Hydrological Service to use water from natural surface water bodies, including a river, creek or pond?				
3	**Noise and Air Pollution Hazardous Substances**				ESS3 ESS4
3.1	Will the CSA Investment release harmful air emissions from vehicle/equipment/other processes?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
3.2	Will the CSA Investment increase ambient noise levels?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
3.3	Will the CSA Investment involve the storage, handling, or transport of hazardous substances, including mercury, cadmium, arsenic, crude oil and its wastes, refined petroleum products, high-level radioactive matter, etc.?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
4	**Fauna and Flora**				ESS6
4.1	Does the CSA Investment consist of converting lands that support the conservation of valued land and aquatic ecosystems, flora and fauna (e.g., protected areas, wild habitats, forest reserves, critical habitats, and endangered species)?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
4.2	Will the CSA Investment involve the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?			If the answer is Yes, the CSA Investment to be submitted to the DOE	

4.3	Will the CSA Investment lead to the disruption/destruction of wildlife through interruption of migratory routes disturbance of wildlife habitats, livestock-wildlife interactions, and noise-related problems?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
5	**Destruction/Disruption of Land and Vegetation**				ESS6
5.1	Will the CSA Investment lead to the introduction of alien species?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
5.2	Will the CSA Investment lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
5.3	Will the CSA Investment lead to the interruption of subsoil and overland drainage patterns (in areas of cuts and fills)?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
5.4	Will the CSA Investment lead to erosion of lands receiving concentrated outflow carried by covered or open drains?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
6	**Land Use**				ESS6
6.1	Is the CSA Investment located in an area falling within 500 meters of national forests, protected areas, wilderness areas, sensitive areas, wetlands, biodiversity, critical habitats, or sites of historical or cultural importance?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
6.2	Is the CSA Investment located in an area of tourist importance?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
6.3	Is the CSA Investment located near a waste dump?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
6.4	Does the CSA Investment require the conversion of significant land areas (e.g., >100 acres)?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
6.5	Does the CSA Investment require clearing or levelling of large areas of land (e.g., >200 hectares), or land with steep slope (e.g., >5%?)			If the answer is Yes, the CSA Investment to be submitted to the DOE	
6.6	Does the CSA Investment involve silvopasture or livestock management within 500m of natural or protected areas?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
7	**Cultural Resources**				ESS8

7.1	Does the CSA Investment consist of converting lands that contain sites of cultural/religious/ historical importance?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
7.2	Would the proposed CSA Investment produce a physical "splintering" of a community?				
7.3	Have the prepared Chance Finds procedures been adopted for use in the CSA Investment?				
8	**Expropriation and Land Use Restrictions**				ESS5
8.1	Will the proposed CSA Investment involve land expropriation/acquisition or demolition of structures not owned by the Beneficiary?				
8.2	Will the proposed CSA Investment result in dislocation or resettlement of population/s temporarily or permanently?				
8.3	Will the proposed CSA Investment require the removal of crops or productive trees not wholly owned by the beneficiary?				
8.4	Will the proposed CSA Investment restrict the access to assets, land, or natural resources for any group or individual?				
9	**Climate Change**				ESS3
9.1	Will the proposed CSA Investment result in significant greenhouse gas emissions from the burning of fossil fuels?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
9.2	Is the proposed CSA Investment likely to directly or indirectly increase environmental and social vulnerability to climate change now or in the future (maladaptive practices)?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
10	**Indigenous People**				ESS7
10.1	Will the proposed CSA Investment operate on land which is owned by or is used by indigenous people?				
10.2	Will the proposed CSA Investment operate in an area which could impact indigenous people?				
10.3	Will the proposed CSA Investment be in an area that has cultural significance for Indigenous people?				

10.4	If the answer to 10.1, 10.2 or 10.3 above is “yes” has the CSA Investment Beneficiary communicated with the IP about the potential impacts?				
11	**Demographics and Labour**				ESS2 ESS4
11.1	Will the proposed CSA Investment cause uncontrolled in-migration likely to: a) Affect environmental and social sustainability of the project? b) Overload social infrastructure in the project area (e.g., health facilities, schools, water supply)?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
11.2	Will the proposed CSA Investment have access to the necessary safety equipment?				
11.3	Will the proposed CSA Investment engage children over the minimum age but under 18 in any hazardous work or interfere with their education?				
11.4	Will the proposed CSA Investment engage children under the minimum age?				
12	**Health and Safety**				ESS4
12.1	Will the proposed CSA Investment be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding, or extreme climatic conditions?			If the answer is Yes, the CSA Investment to be submitted to the DOE	
12.2	Will the proposed CSA Investment cause increase in public health risks to contagious diseases or transmission (e.g., HIV/AIDS, Malaria, etc.) for project workers or communities in the project area, as a result of a change in living and working conditions?				
13	**Analysis of Alternatives**				ESS1
13.1	Did the CSA Investment examine alternatives to avoid or minimize environmental and social impacts?				
13.2	Did the CSA Investment select the most feasible alternative based on technical, economic, environmental, and social factors?				
14	**Pesticides**				ESS1 ESS3

14.1	Does the CSA Investment include the purchase or use of synthetic pesticides?			If the answer is No, skip questions 14.2-14.4. If the answer is Yes, go to question 14.2.	
14.2	Does the CSA Investment follow an Integrated Pest Management (IPM) approach?			If the answer is No, refer the beneficiary to the District Agriculture Office in his/her area for technical advice and information on Integrated Pest Management for the actual or forecasted pest problem before financing the specific activities that include the purchase or use of pesticides. If the answer is Yes, go to question 14.3.	
14.3	Does the CSA Investment application list the specific synthetic pesticide(s) as indicated in the attached partial list of approved pesticides for the CRESAP eligible subsectors?			If the answer is No, this aspect of the proposal will be discussed with PCB and MAFSE and advice provided to the beneficiary.	
14.4	Does the CSA Investment include the purchase or use of synthetic pesticides for those CRESAP eligible subsectors for which there are no approved pesticides in the partial list of pesticides attached?			If the answer is Yes, this aspect of the proposal will be discussed with the PCB that is developing a full list of approved pesticides by eligible sub-sectors for CRESAP and has mechanisms that could allow for pesticide use in certain circumstances. Also, refer the beneficiary to the District Agriculture Office in his/her area for technical advice and information on Integrated Pest Management for the actual or forecasted pest problem.	
15	**Stakeholder Engagement**				ESS10

15.1	Has the CSA Investment Beneficiary communicated to their neighbour(s) about their proposed CSA Investment?			If the answer is Yes, go to question 15.2. If the answer is NO, the PFI to inform the potential beneficiary that if their CSA Investment receives a Moderate E&S Risk Classification, they will be provided support to conduct stakeholder engagement about the potential risks and negative impacts of their CSA Investment activities and the avoidance and/or mitigation measures that would be put in place.	
15.2	Has any of the neighbours raised any issues or concerns?			If the answer is Yes, describe the issues or concerns raised and go to question 15.3.	
15.3	Will the CSA Investment Beneficiary need help to resolve any of the issues or concerns raised by the neighbour(s)?				

Environmental and Social Risk Classification	**Low Risk**	**Moderate Risk**	**Substantial**	**High Risk**
Justification	*[provide justification for risk level selected]*	*[provide justification for risk level selected]*	*[provide justification for risk level selected]*	*[provide justification for risk level selected]*

Avoidance and/or Mitigation Measures to Be Taken	Proceed to Implementation, following the requirements of national laws.	PFI to identify required avoidance and/or environmental and social mitigation measures (e.g., preparing an environmental and social assessment such as an ESMP), including that the potential beneficiary will be provided support to conduct stakeholder engagement. In addition, the relevant standards of the World Bank Environmental and Social Framework will apply to manage risks and impacts.	CSA Investment shall be discussed with the PIU and the World Bank prior to taking action. Relevant standards of the World Bank Environmental and Social Framework will apply to manage risks and impacts.	Reject CSA Investment and inform the PIU. High risk CSA Investments are not eligible for funding.

Project Categorization prepared by (name and position at the PFI): _____

Signature: _____

Date: _____

Guidance on assigning an environmental and social risk classification and requirements

The following table serves as a guide on how sub-projects can be categorized according to Environmental and Social risk. This overview should be accompanied by a case-by-case analysis that dives further into considerations such as sub-project location, environmental and social context, scale and magnitude of impacts.

Belize EIA Classification	FI E&S Risk Categorization	Description	Belize Legal Requirements
Schedule I	High or substantial risk	**High risk CSA Investments would be ineligible for funding.** **Adverse risk or impacts on indigenous peoples, or significant risks or impacts on the environment, community health and safety and working conditions, biodiversity or cultural heritage must be categorized as either "high risk" or "substantial risk".** Significant environmental and social risk means (a) any significant social, labor, health and safety, security, or environmental incident, accident, or circumstance relating to the CSA Investment, including, without limitations: explosions; spills; any workplace accidents that result in death, serious, or multiple injury; material pollution; or any violent labor unrest or dispute between the FI, the FI CSA Investment or security forces (assigned to protect the CSA Investment), and local communities and/or indigenous people; or (b) any other event or circumstance having, or which could reasonably be expected to have, a material adverse effect on the implementation or operation of the CSA Investment in accordance with the ESSs and the Environmental Health and Safety Guidelines (EHSGs); or (c) involves land expropriation, involuntary resettlement or loss or damage to assets. Substantial risk CSA Investmentsmay have risks that are not as complex as high risks outlined above but could still cause negative impacts. The difference is that these risks would require substantial investment and resources to be able to avoid or mitigate those risks, making it infeasible to proceed with.	EIA or LLES is required

Schedule II	Moderate risk	Moderate risk CSA Investments may have activities that could potentially cause limited adverse environmental and/or social impacts. “Limited” refers to a small number of impacts, that are likely site-specific, reversible and can be relatively easily addressed through mitigation measures outlined in an ESMP. The ESMP would also fill the national requirement to have an LLES.	Full EIA or Limited Level Environmental Study may be required
Schedule III	Low risk	Low risk CSA Investmentshave activities that have minimal or negligible environmental and social risks. Majority of CSA Investmentsthat fall in this low risk category will proceed past the screening phase.	No EIA, LLES or ECP required

Annex 3 - SIRDI

Under CRESAP Component 2.3, the Sugar Industry Research and Development Institute (SIRDI) capacity will be strengthened to provide integrated pest management services of the Fusarium fungal disease in sugarcane and to enhance resilience of the sugarcane sector. The allocation will finance an integrated pest management unit, research and development, awareness and capacity building to strengthen extension services, production of biological agents, upgraded mechanical services and innovative technologies such as drones, and expansion of SIRDI biological lab.

Recommended E&S Measures for Activities in SIRDI's Proposal for CRESAP Support

ACTIVITIES, EQUIPMENT & SUPPLIES	E&S RISKS and CATEGORY	RECOMMENDED E&S MEASURES	COMMENTS
Integrated Pest Management Unit (Establishment of a Pest Surveillance System)			
PPE to protect technical field staff when conducting field activities	• Contamination of field staff Low	**For PPE for general field work activities** 1. Provide appropriate PPE for workers, including gloves, goggles, dust mask, ear plugs, boots, coveralls, etc. and ensure that the equipment is used. **See the E&S measures below for PPE for pesticide and quaternary ammonium compounds use.**	• SIRDI responsible for implementing measures • CRESAP PIU E&S Specialist will monitor implementation of measures
Application Equipment			
1 Tractor (195 HP) to help with land preparation for replanting and construction of drainage ditches 2 High clearance sprayers and 2 Cannon sprayers for	• Runovers and rollovers • Crush injuries • Noise-induced hearing loss • Poor operator skills	**For tractor and sprayer use** 1. Use rollover protection structures and seat belts when operating tractor. 2. Provide training for operators and workers about tractor controls and attachments.	• Training for tractor operators to be provided prior to land preparation, replanting and construction of drainage ditches. • Training for workers on how to handle and

application of different pest controls, including biological controls and fungicides	• Pesticide drift • Poor applicator skills • Contamination of people, animals and environment • Improper disposal of used pesticides and empty pesticide containers Low	3. Properly calibrate the sprayers to deliver the right amount of liquid and to prevent over-application and reduce chemical drift. 4. Avoid spraying in windy conditions to prevent chemical drift. 5. Maintain a safe distance from people, animals, and sensitive areas, such as water bodies. 6. Maintain tractor and spraying equipment in good working condition, and inspect hoses, nozzles and pumps for signs of wear, damage or malfunction. 7. Operate tractor at the recommended speed to prevent uneven coverage. 8. Adjust the height of the sprayer to suit the crop and reduce drift. 9. Triple-rinse sprayers to remove any remaining chemicals from the tank, hose and nozzles. Apply the rinsate along the crop borders. 10. Store the sprayers in a designated area to prevent unauthorized access and protect it from the elements. 11. Provide the appropriate PPE for tractor operators, including hardhat, dust mask, safety glasses and goggles, earplugs/earmuffs, sturdy gloves, rubber boots, composite-toe boots, plus the other PPE listed for pesticide use below. **For pesticide use (if applicable)** 1. Use pesticides in an IPM approach and only as a last resort. 2. Use only those pesticides on the Pesticide Control Board (PCB) approved partial list for the CRESAP eligible subsectors or consult the PCB that is developing a full list	apply pesticides correctly and maintain pesticide equipment in safe working condition to be provided prior to pesticide use. • SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures. • PCB to provide guidance for pesticide users and disposal of used pesticides and empty pesticide containers. • Sugarcane farmers in four sugarcane associations (PSCPA, NSCPA, BSCFA, BSI/ASR) are presently practicing triple-rinsing and recycling of their empty pesticide containers as part of the associations' compliance with Fairtrade standards. The rinsate is sprayed

		and has mechanisms that could allow for pesticide use in certain circumstances. 3. Ensure to certify and acquire a pesticide applicator license from PCB for restricted pesticide use. 4. Purchase pesticides that are in their original, sealed containers with an original and complete product label. Containers that are damaged or appear to have been opened previously should not be bought. 5. Avoid transferring pesticides from the containers in which they were supplied into any other container. 6. Only buy as much pesticides as needed to avoid having to store unused pesticides. 7. Avoid accepting free pesticides from a supplier since the use of pesticides in situation for which they are not intended can be dangerous. 8. Store pesticides in their original packaging and in a suitable designated, well ventilated, storage area that can keep them dry and out of direct sunlight, away from flames or heat sources, control spills and be locked and identified with signs. 9. Do not store or transport pesticides with food (human or livestock foodstuffs) or beverages (including drinking water). 10. Ensure that animals and unauthorized people are not present in the areas where pesticides are handled, stored, or applied. 11. Do not burn, bury or dump pesticide containers or use for storing other materials such as fuel, chemicals, or food or water. 12. Triple-rinse pesticide containers by adding clean water until ¼ full, then replace the cap and shake the container for 30 seconds, making sure that all the inner surfaces are well rinsed. Remove the cap and empty the rinsate into the	along the borders of the farmers' fields. • Farmers deposit their triple-rinsed, perforated containers into designated bins located throughout the sugar belt, and the containers are collected by the associations and sent to Agrochema in Guatemala for further recycling and disposal.

		spray tank. Rinse two more times. Spray the rinsate along crop borders. 13. Return triple-rinsed containers to supplier, if allowed. 14. Washed and emptied containers that a supplier does not intend to reuse should be punctured or rendered unusable for any other purpose. 15. Store empty rinsed perforated containers safely and in a secure area to prevent access by unauthorized persons or animals, and ready for disposal. 16. Dispose of empty containers at the Collecting Units (trailers) for the respective Sugarcane Farmers Associations. 17. Unidentified or unusable pesticides should not be kept or used for any purpose. Neither should pesticides that are out of date nor stored in damaged containers. 18. Materials such as shelving, soil, clothing or cleaning materials that have been contaminated with pesticides should be disposed of safely according to guidance from the PCB and DOE. 19. Provide training for workers on how to handle and apply pesticides correctly and maintain pesticide equipment in safe working condition. 20. Provide appropriate PPE (chemical resistant or waterproof hat with wide brim, long-sleeved shirt, long pants, apron, chemical mask or respirator, face shield, safety glasses and goggles, earplugs, chemical-resistant gloves, chemical-resistant boots, etc.) for pesticide handlers and ensure the equipment is used. 21. Ensure farm workers follow decontamination practices to avoid exposure of family members to pesticides residues. PPEs should never be taken home and should be decontaminated and cleaned in a dedicated area.	

48 PPEs to protect extension officers, pest unit and field workers applying and exposed to pest controls, and to reduce contamination	• Pesticide drift • Contamination of people, animals and environment with pesticides Low	**See recommended E&S measures above for PPE for general field work and pesticide and quaternary ammonium compounds use.**	• SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures.
2 multi-spectrum drones for aerial monitoring of pests within the sugar belt	• Injuries from drone blades and rotating parts • Collision with buildings and people • Loss of control • Surveillance and intrusion • Poor operator skills • Improper drone battery waste disposal Low	1. Ensure that an approval (drone permit) to operate the drones in Belize is obtained from the Belize Department of Civil Aviation (https://civilaviation.gov.bz/index.php/drones). 2. Ensure that drone requirements are followed, including not operating drones within 3 miles of an aerodrome (airstrips). 3. Provide training for operators on how to use drone properly and maintain the equipment in safe working condition. 4. Operate drone at a safe distance from people, animals and property. 5. Avoid flying the drone in bad weather conditions. 6. Avoid taking pictures of neighboring properties without consent from farmers and residents. 7. Ensure operator utilize proper operational and safety attire. 8. Implement routine inspections. 9. Ensure that used batteries are disposed of properly.	• Training for drone operators to be provided prior to aerial monitoring of pests. • SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures.
3 Heavy duty disc cultivator to incorporate sugarcane residues into soil	• Poor operator skills • Injury to people, animals and property	1. Provide training for operators on how to use disc cultivator properly and maintain the equipment in safe working condition. 2. Operate disc cultivator at a safe distance from people, animals and property.	• Training for disc cultivator operators to be provided prior to field operations.

	Low		• SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures.
1 Rome plough for land preparation	• Poor operator skills • Injury to people, animals and property Low	1. Provide training for operators on how to use plough properly and maintain the equipment in safe working condition. 2. Operate plough at a safe distance from people, animals and property.	• Training for plough operators to be provided prior to field operations. • SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures.
Sanitation and Prevention			
2 Pressure blowers to facilitate the disinfection of vehicles and reduce the spread of *Fusarium* from one area to another.	• Poor operator skills • Injury to people, animals and property • Contamination of people, animals and environment Low	1. Provide training for operators on how to use pressure blowers properly and maintain the equipment in safe working condition. 2. Ensure equipment is properly calibrated and perform routine checkup. 3. Use pressure blowers at a safe distance from people, animals and property.	• Training for pressure blower operators to be provided prior to disinfection of vehicles. • SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures.

Quaternary ammonium compounds (QACs) to disinfect equipment to reduce the risk of *Fusarium* spread	• Contamination of people, animals and environment • Improper disposal of used QACs and empty QACs containers Low	1. Provide training for workers on how to handle and apply QACs correctly. 2. Follow label instructions and use QACs only for their intended purpose. 3. Do not combine or mix QACs with bleach, as poisonous gases can form. 4. Store QACs in their original containers and in a suitable designated, well ventilated, storage area that can control spills and be locked and identified with signs. 5. Do not store or transport QACs with food or beverages (including drinking water). 6. Ensure that animals and unauthorized people are not present in the areas where QACs are handled, stored, or applied. 7. Provide appropriate PPE (chemical resistant or waterproof hat with wide brim, long-sleeved shirt, long pants, apron, chemical mask or respirator, face shield, safety glasses and goggles, earplugs, chemical-resistant gloves, chemical-resistant boots, etc.) for QACs handlers and ensure the equipment is used. 8. Ensure workers decontaminate their PPE after each use. 9. Ensure proper disposal of empty containers.	• Training for workers on use of QACs to be provided prior to disinfection of equipment. • SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures. • PCB to provide guidance for pesticide users and disposal of used pesticides and empty pesticide containers.
Awareness and Capacity Building to Strengthen Extension Services for the Sugar Industry			
Banners and flyers to enhance public awareness on integrated pest management to the sugarcane sector to reduce incidence of pest	• Improper disposal of public awareness materials Low	1. As much as possible, purchase from suppliers who use biodegradable materials or those derived from natural sources. 2. Share electronic copies instead of printing, where possible. 3. Recycle banners and flyers when they no longer serve their purpose.	• SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures.

40 Farmer training sessions (HGL) to provide technical guidance and support to the harvesting group leaders, and to strengthen the capacity to reduce the pest outbreak and dissemination	• Use of plastic food containers Low	1. Encourage caterers to supply food in biodegradable containers (cups, plates, clam containers, utensils, etc.)	• SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures.
Research and Development			
20 Tolerant sugarcane varieties per year to access tolerant sugarcane varieties (plantlets) to test their adaptability to pests and better manage pest challenges	• Disruption of natural ecosystems • Increased pest challenges • Worsened land fertility Low	1. Select varieties with disease and pest resistance based on the region that can thrive with minimal environmental disruption to help address concerns about soil erosion, water use, and reduce need for chemical treatments. 2. Conduct appropriate trials to mitigate risks associated with large-scale planting. 3. Follow BAHA quarantine requirements for importing the sugarcane varieties into the country. 4. Establish research plots in controlled areas.	• SIRDI to source varieties from outside of Belize and check if applicable to Belize's conditions. • SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures.
1 Quarantine cover structure to prevent the contamination of imported varieties having an enclosed protected area for evaluation	• Improper construction of cover structure • Improper disposal of waste materials Low	1. Ensure that the greenhouse structure will provide protection from heavy rain, strong winds and pest damage. 2. Ensure that the greenhouse is properly designed with roof vents, roof height and vented sidewalls, and equipped with good shade management and humidity control. 3. Ensure emergency exits and First Aid are installed. 4. Properly dispose of used materials.	• SIRDI responsible for implementing measures. • SIRDI to source varieties from outside of Belize and check if applicable to Belize's conditions.
Seed establishment (1 hectare seed nursery) to ensure pest free seed source	• Loss of soil and productivity	**MEASURES FOR CROP PRODUCTION**	• Training for workers on how to handle and apply pesticides correctly and maintain

	• Reduced water quantity and quality • Improper pest management • Improper disposal of used pesticides and empty pesticide containers • Improper use of fertilizers • Degradation of biodiversity and ecosystems • Planting genetically modified organisms • Inefficient use of energy • Air and greenhouse gas emissions • Injuries at the workplace Low	**Recommended E&S practices to prevent soil loss and maintain soil productivity** 1. Practice reduced and zero tillage, as well as direct seeding and planting, to minimize damage to soil structure, conserve soil organic matter, and reduce soil erosion. Consider contour and strip planting, terracing, intercropping with trees, and grass barriers in sloping areas. 2. Minimize soil compaction, damage, or disturbance by using appropriate land preparation machinery at the right time of year. 3. Consider a crop rotation program to maintain the soil coverage during the year. 4. Manage soil organic matter and microorganisms by returning crop residues or adding compost, manures, bio-stimulants, EMs, Mucuna and Canavalia whenever available and economically viable. 5. Plan soil preparation when weather conditions pose the lowest risk of causing environmental damage. 6. Draw up mitigation plans for planting or harvest operations that must take place during unsuitable periods. 7. Plan and control the flow of water from access roads to avoid erosion from the roads' diverted water. Use flow control weirs and diversion canals to reduce erosion in areas with field drainage. 8. Restrict the width of roads to the minimum (5 feet) that will provide the means for efficient and safe transport. 9. Collect meteorological data on precipitation, evapotranspiration, temperature, and sunlight, then use this information to inform and guide agronomic management techniques.	pesticide equipment in safe working condition to be provided prior to pesticide use. • Training for workers on how to operate machinery and equipment to be conducted prior to their use. • Training in use of appropriate management procedures for the storage, handling, and application of fertilizers to be provided prior to seed nursery establishment. • Training for workers in energy-efficient practices to be provided prior to machinery and vehicle use. • Training in proper use of ladders and scaffolds, handling flammable materials, and First Aid and emergency evacuation procedures to be provided prior to start of construction works.

		10. Use soil maps and soil analysis test results to determine crop suitability and appropriate soil management practices. 11. Develop and implement a soil monitoring and management plan that includes soil and terrain mapping and erosion risk identification. 12. Conduct regular soil tests (chemical, physical, biological) to monitor soil structure and chemistry in order to identify areas where remedial action is required. 13. Recycle and/or incorporate organic materials (e.g., crop residues, compost, and manures) to replenish soil organic matter and improve soil water-holding capacity whenever available and economically viable. 14. Minimize the use of pesticides by implementing a pest and disease early-warning system, by using biological pest and disease control methods, and by implementing control measures (e.g., monitoring using multi-spectrum drones) before outbreaks require large-scale control. 15. Follow good practice irrigation guidance to avoid negative impacts on soil productivity. **Recommended E&S practices to manage nutrients** 16. Consider the use of green manures, cover crops, or mulching techniques to maintain soil cover, reduce the loss of nutrients, replenish soil organic matter, and capture and/or conserve moisture. 17. Plan a crop rotation program to incorporate nitrogen-fixing legume crop plants, cover crops and bacteria in the cropping cycle. 18. Time the application of crop nutrients and type of application to maximize uptake and minimize nutrient runoff or volatilization.	• SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures. • PCB to provide guidance for pesticide users and disposal of used pesticides and empty pesticide containers.

		19. Conduct periodic soil analysis to detect changes in soil fertility, inform decisions on fertilizer application rates, and avoid unsustainable nutrient depletion and over-fertilization. 20. Establish and respect setbacks from watercourses, including appropriate buffer zones, strips, or other "no-treatment" areas along water sources, rivers, streams, ponds, etc., to act as a filter for potential nutrient runoff from the land. 21. Select, calibrate and maintain fertilizer application equipment to ensure desired application rates and dosages are used and over-broadcasting of solid fertilizers as well as over-spraying of liquid fertilizers are minimized. 22. Ensure that all farm workers are trained in and use appropriate management procedures for the storage, handling, and application of all types of fertilizers, including organic wastes. **Recommended E&S practices for crop residue and solid waste management** 23. Recycle residues and other organic materials by leaving the materials on site or through composting (and spreading) or trash alignment and mulching. 24. Consider using crop residues for other beneficial purposes, such as animal feed, bedding, thatching water retention, soil biological activity, and weed management when leaving residues in the field is neither practical nor appropriate. 25. Avoid using harmful residual chemicals at end of crop life when preparing for removal.	

		26. Ensure all packaging for pesticides and herbicides is collected from the field after use and properly stored until final disposal. 27. Do not burn packaging, plastics, or other solid waste. Dispose of this waste appropriately or by recycling. 28. Consider large container and/or bulk systems for fuels, oils, fertilizers, and chemicals to reduce the volume of waste containers. 29. Examine alternative product formulations and packaging (e.g., biodegradable material). **Recommended E&S practices for conserving the quality and quantity of water resources** 30. Determine rain, drainage or water irrigation requirements of the crop, while recognizing seasonal variations and regional norms. When irrigation is practiced, develop an appropriate irrigation plan and schedule, and monitor consumption and compare regularly with these targets which should be based on available supplies of water. 31. Maintain soil structure and soil organic matter. Use of crop residues and mulches will assist in maintaining soil organic matter levels, retaining soil humidity, and reducing surface evaporation. 32. Where applicable, maximize the retention of rainwater through appropriate "rain harvesting" techniques, including storing runoff from rainy periods for use during dry spells by using tanks, ponds, cisterns, etc. 33. When irrigation is used, implement irrigation water conservation techniques, such as: a. Whenever feasible, adopt water-efficient irrigation systems, such as micro-sparing, drippers, and fertigation.	

		b. Consider the soil infiltration capacity to select the best irrigation system and avoid the runoff of water. c. Ensure regular maintenance of the irrigation system, as well as that of its associated channels and infrastructure. d. Reduce evaporation by avoiding irrigation during periods when evaporation is elevated (e.g., in periods of higher temperatures, reduced humidity, or high winds). Use trickle or drip irrigation techniques, if practical. e. Reduce evapotranspiration by using shelterbelts and windbreaks. f. Reduce seepage losses in supply channels by lining them or using closed pipes. g. If herbicides are used, ensure they are applied at the appropriate time of year to most effectively control undesirable vegetation and reduce its water consumption. h. Avoid over-irrigation, which may result in the leaching of nutrients and contaminants. i. Ensure appropriate soil moisture by active monitoring of soil humidity. j. Consider using solar powered irrigation systems. k. Establish and respect setbacks and buffer zones in riparian areas. **Recommended E&S practices for pest management** 34. Identify and assess pests, pest cycle, threshold levels, and control options (including those listed below). 35. Rotate crops to reduce the presence of insects, disease, or weeds in the soil or crop ecosystems.	

		36. Support beneficial bio-control organisms, such as *Metarhizium*, *Trichoderma*, *Trichogramma*, *Bacillus subtillis*. insects, birds, mites, and microbial agents, to perform biological control of pests (e.g., by providing a favorable habitat, such as bushes for nesting sites and other original vegetation that can house pest predators and parasites). 37. Favor manual, mechanical weed control and/or selective weeding. 38. Consider using mechanical controls, such as traps, barriers, light, and sound, to kill, relocate, or repel pests. 39. Use pesticides to complement these approaches, not replace them, and use pesticides in an IPM approach and only as a last resort. 40. See the recommended E&S measures above for pesticide use. **Recommended E&S practices for fertilizers** 41. Store fertilizers in their original packaging and in a dedicated location that can be locked and properly identified with signs, and access limited to authorized persons. 42. Do not store or transport fertilizers with food (human or livestock foodstuffs) or beverages (including drinking water). 43. Ensure that animals and unauthorized people are not present in the areas where fertilizers are handled, stored, or applied. 44. Only purchase and store minimal fertilizer requirements and use older fertilizers first. 45. Keep fertilizer stores separate from pesticides and machinery (e.g., fuels, ignition, or heat sources).	

		46. Know and understand each crop's fertilizer requirements and only apply what is required, when it is required, to minimize losses to the environment. 47. Use soil analysis results to guide fertilization regime. 48. Use the recommended dose and application to prevent nutrient loss. 49. Provide training for workers who are transporting, handling, loading, storing, and applying fertilizers. **Recommended E&S practices for biodiversity and ecosystem** 50. Avoid planting on critical or natural habitats. 51. Avoid the introduction of invasive species, as well as control and reduce their further spread. 52. Use Mountain Microorganism technology to fight diseases and crop pests. 53. Source planting material (e.g., seeds, tube stock) from reliable suppliers who can provide evidence of purity. 54. Use planting material that does not contain seeds from invasive alien species and that complies with BAHA's quarantine and hygiene regulations. 55. Implement machinery cleaning programs when moving between fields to remove soil and seeds that may carry invasive or alien species. **Recommended E&S practices for genetically modified crops (GM crops)** 56. The planting of genetically modified crops (GM crops) is currently illegal in Belize and should be avoided.	

		Recommended E&S practices to reduce energy use and increase efficiency 57. Select energy-efficient machinery and equipment (e.g., tractors, ventilation systems, drying and storage systems, cooling devices). 58. Consider implementing training programs to make operators aware of energy-efficient practices when using machinery (e.g., switching off engines when waiting to load) and when driving. 59. Regularly maintain the irrigation system and associated infrastructure, such as supply channels and water storage. 60. Select efficient pumps and utilize power from renewable sources, e.g., solar. **Recommended E&S practices to prevent and control air emissions** 61. Avoid open burning for land preparation, weed control, and post-harvest treatments. Where burning is unavoidable, potential impacts should be identified and weather conditions monitored to schedule burning in an effort to minimize impacts. 62. Prohibit burning of pesticide-treated agricultural wastes and by-products (e.g., pesticide containers) to avoid unintended emissions of persistent organic pollutants (POPs). 63. Adopt IPM strategies to avoid and reduce use of pesticides and associated drift. 64. Minimize ammonia emissions resulting from nitrogen fertilizer and manure use and consider incorporating fertilizer at planting to minimize ammonia emissions. 65. Reduce the risk of fire by reducing the build-up of potential groundcover fuel sources, establishing field fire passes and	

		controlling weeds and invasive species. Where controlled burns of residues are necessary, ensure optimal conditions for the low risk of spread and low impact on existing air quality. 66. Ensure proper maintenance and operation of combustion equipment (irrigation pumps, tractor engines, etc.). 67. Modify field operations where possible (e.g., reducing the number of in-field passes with machinery or reduced tillage operations). 68. Establish cover crops where possible; retain residues and reduce tillage intensity to avoid dust and soil degradation due to wind erosion. Where water supplies are ample, water application to cropped areas and access roads may reduce the risk of airborne dust. 69. Establish natural wind barriers, such as vegetative field borders, hedgerows, and tree/shrub establishment, to intercept airborne particulate matter and droplets, which may also include contaminants. **Recommended E&S practices to minimize greenhouse gas (GHG) emissions** 70. Identify sources of on-farm GHG emissions and establish a GHG management plan that includes methods of mitigating emissions and a monitoring program. 71. Where available, use abated or slow-release nitrogen fertilizers, which have lower GHG emissions associated with their manufacture, or use nitrification or urease inhibitors, which reduce soil emissions. 72. Reduce fossil energy use by adopting energy-efficient production and management practices.	

		73. Where feasible, consider using renewable energy (e.g., solar, wind, biofuel) for crop drying or to power irrigation pumps. 74. Drain water from wetland rice soils during the growing season to reduce methane emissions. 75. Avoid conversion of high-carbon stock areas, such as natural forest and wetlands. 76. Avoid open burning of biomass during site preparation, field operations, and post-harvest. 77. Protect soils from the loss of organic matter by implementing good soil conservation management practices. 78. Increase soil organic carbon stocks through land management techniques. 79. Maintain and rehabilitate degraded areas and vegetative buffer zones to increase carbon stocks. 80. Use minimum tillage. **Recommended E&S practices to limit workplace risks** 81. Workers should keep extremities away from rotating and moving parts of machines and equipment. 82. Machines or equipment with exposed moving parts should be equipped with and protected by a guard or other device that prevents access to the moving part or pinch point. 83. Providing training to workers to operate machinery and equipment. 84. Workers should wear hearing protection when exposed to a noise level greater than 85 decibels, and periodic medical hearing checks should be performed on workers exposed to high noise levels. 85. Checking all electrical cords, cables, and hand power tools for frayed or exposed cords and following manufacturer	

		recommendations for maximum permitted operating voltage of the portable hand tools. 86. Double insulating / grounding all electrical equipment used in environments that are, or may become, wet. 87. Protecting power cords and extension cords against damage from traffic by shielding or suspending above traffic areas. 88. Workers should use face and eye protection devices , such as safety glasses, eye shields, goggles, and/or full-face shields when using sanding and grinding tools and/or when working around liquid chemicals. 89. Schedule outside work according to weather forecast. 90. Adjust work and rest periods according to the temperature and provide temporary shelter for workers and for use as rest areas. 91. Workers should have access to clean drinking water and avoid drinking alcohol. 92. Installation of guardrails or use of fall prevention devices, such as harnesses, in fall hazard areas. 93. Proper use of ladders and scaffolds by trained workers. 94. Replacement of the hazardous substance with a less hazardous substitute. 95. Keeping the number of employees exposed to chemicals, or likely to become exposed, to a minimum. 96. Maintaining good air quality at the workplace. 97. Use local air extraction devices at dust-generating equipment, such as hoppers, silos, dryers, and scales. 98. Avoid using compressed air or steam for cleaning. 99. Equip tractors, loaders or harvesters with a cab and suitable ventilation. 100. Store only dry grains, forages and hay to reduce microorganism growth. 101. Store flammables away from ignition sources and oxidizing materials.	

		102. Provide specific worker training in handling of flammable materials, and in fire prevention or suppression. 103. Work processes, engineering, and administrative controls should be designed, maintained, and operated to avoid or minimize release of biological agents into the working environment. The number of employees exposed or likely to become exposed should be kept at a minimum. 104. Measures to eliminate and control hazards from known and suspected biological agents at the workplace should be designed, implemented and maintained in close co-operation with the Ministry of Health. 105. Workers should wear appropriate protective clothing, such as a long-sleeved shirt, long pants, coveralls, hat, gloves, goggles, face shields, dust mask, respirators, earplugs, hardhats, and boots. 106. Inspect and shake out any clothing, shoes, or equipment (including PPE) before use. 107. Control water accumulation. 108. On-site first-aid equipment (including, for example, antivenom serum) and trained personnel should be available, as well as procedures for emergency evacuation.	
12 Research sites (6 parcels with symptoms and 6 without in OW and Corozal districts) to monitor and quantify pest progression	• Injuries to field staff Low	1. Provide appropriate PPE for technicians monitoring the sugarcane fields and collecting data, including gloves, goggles, dust mask, ear plugs, boots, coveralls, etc. and ensure that the equipment is used.	• SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures.
Expansion of SIRDI Biological Lab to Complement OIRSA Lab - Production of Biological Control Agents (*Trichoderma, Bacillus subtilis*)			
Infrastructure / retrofitting to upgrade the SIRDI	• Injuries to workers on the jobsite	1. Training of workers in lifting and materials handling techniques, including the placement of weight limits above which mechanical assists or two-person lifts are necessary.	• Training for workers in material handling, use of temporary fall

laboratory to accommodate the production of bioagents	Low	2. Planning work site layout to minimize the need for manual transfer of heavy loads. 3. Selecting tools and designing work areas that reduce force requirements and holding times, and which promote improved postures. 4. Workers should keep extremities away from rotating and moving parts of power tools and equipment. 5. Providing training to workers to operate power tools and equipment. 6. Workers should use face and eye protection devices , such as safety glasses, eye shields, goggles, and/or full-face shields when using sanding and grinding tools and/or when working around liquid chemicals. 7. Workers should wear hearing protection when exposed to a noise level greater than 85 decibels, and periodic medical hearing checks should be performed on workers exposed to high noise levels. 8. Checking all electrical cords, cables, and hand power tools for frayed or exposed cords and following manufacturer recommendations for maximum permitted operating voltage of the portable hand tools. 9. Double insulating / grounding all electrical equipment used in environments that are, or may become, wet. 10. Protecting power cords and extension cords against damage from traffic by shielding or suspending above traffic areas. 11. Implementing job rotations and rest or stretch breaks. 12. Implementing good house-keeping practices, such as the sorting and placing loose construction materials in established areas away from foot paths. 13. Cleaning up excessive waste debris and liquid spills regularly. 14. Locating electrical cords and ropes in common areas.	prevention devices, and use of power tools to be provided prior to upgrading of the lab. • SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures.

		15. Training and use of temporary fall prevention devices, such as harnesses, rails or other barriers when working at heights. 16. Proper use of ladders and scaffolds by trained workers. 17. Conducting sawing, cutting, grinding, sanding, chipping or chiseling with proper guards and anchoring as applicable. 18. Providing appropriate PPE for workers, including gloves, goggles, hardhats, face shields, dust mask, respirators, ear plugs, boots, coveralls, etc., and ensure that the equipment is used.	
Metarhizium for application on 20,000 acres to prevent and control sugarcane pests (froghoppers)	• Escape of spores • Contamination of field staff • Potential impact on certain fish and other non-target organisms Low	1. Use extra care when mixing adjuvant and the *Metarhizium* to prevent escape of the spores. 2. Avoid applying the bioagent near water bodies, as some studies indicate that it may harm certain fish. 3. Source the bioagent from resident native agents or those already occurring in the system. 4. Provide appropriate PPE for workers releasing the bioagent in the sugarcane fields. 5. See the recommended E&S measures above for tractor and sprayer use.	• SIRDI has been producing and using this biological control agent in Belize since 2020. • SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures. • PCB to provide guidance for pesticide users and disposal of used pesticides and empty pesticide containers.
Bacillus subtilis and *Trichoderma spp.* for application on 30,000 acres	• Escape of spores • Contamination of field staff	1. Use extra care when mixing adjuvant and *Bacillus subtilis* and *Trichoderma spp.* to prevent escape of the spores. 2. Provide appropriate PPE for workers releasing the bioagent in the sugarcane fields.	• SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor

to prevent and control sugarcane pests (fusarium)	Low	3. See the recommended E&S measures above for tractor and sprayer use.	implementation of measures. • PCB to provide guidance for pesticide users and disposal of used pesticides and empty pesticide containers.
Trichogramma for application on 15,000 acres to prevent and control sugarcane pests (stem borers)	• Biological agent not suited for Belize's conditions • Improper use of biological agent • Potential impact on non-target organisms • Contamination of field staff Low	1. Select local species of *Trichogramma* based on the ecological basis that it is better adapted to the climate, habitat, and host conditions found in Belize. 2. Source the bioagent from resident native agents or those already occurring in the system. 3. Take samples of parasitoid material to test quality (longevity, fertility, and searching capacity) before release. 4. For best results, avoid releasing the parasitoids during bad weather conditions. 5. Select particular areas in the field for release of *Trichogramma*. 6. As *Trichogramma* is very sensitive to insecticides, proper planning of the release of the biological agent and avoiding the use of synthetic pesticides in the same crop system are necessary to maximize the parasitoids effectiveness. 7. Provide appropriate PPE for workers releasing the parasitoid in the affected sugarcane fields.	• OIRSA has been producing *Trichogramma* locally for many years. • SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures. • PCB to provide guidance for pesticide users and disposal of used pesticides and empty pesticide containers.
Plant bio-stimulants to cover 8,000 acres to help build soil biota and make the nutrients available to the plants and enhance resistance of the plants to pests	• Improper application of bio-stimulants • Contamination of field staff Low	1. Provide appropriate PPE for workers applying plant bio-stimulants to the sugarcane fields. 2. Conduct nutrient analysis of bio-stimulants. 3. Ensure proper environmental conditions for application. 4. See recommended E&S measures above for tractor and sprayer use.	• SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures.

Root bio-stimulants to cover 30,000 acres to compliment application of Bacillus subtilis and Trichoderma spp. to enhance the root system of the sugarcane plant's vascular system	• Improper application of bio-stimulants • Contamination of field staff Low	1. Provide appropriate PPE for workers applying root bio-stimulants to the sugarcane fields. 2. See recommended E&S measures above for tractor and sprayer use.	• SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures.
10,000 litres of Adjuvant (Non-ionic and compatible with the biological agent) to protect the spores from UV light and enhance the effectiveness of the bio-controls at application	• Using adjuvants not suitable for agricultural use • Using adjuvants that are not biodegradable and ecofriendly • Poor applicator skills • Contamination of people, animals and environment • Improper disposal of used adjuvant and empty adjuvant containers Low	1. Read and follow label instructions for adjuvant use, and check expiration date and quality of the product. 2. Use only adjuvants that are labeled for agricultural use and that are biodegradable and ecofriendly. 3. As much as possible, use adjuvants that are non-ionic and compatible with the bioagents to avoid product separation and expensive cleanup and repairs to the spray equipment. 4. Store adjuvants in their original containers and in a suitable designated, well ventilated, storage area that can control spills and be locked and identified with signs. 5. Do not store or transport adjuvants with food or beverages (including drinking water). 6. Ensure that animals and unauthorized people are not present in the areas where adjuvants are handled, stored, or applied. 7. Provide appropriate PPE (chemical resistant or waterproof hat with wide brim, long-sleeved shirt, long pants, apron, chemical mask or respirator, face shield, safety glasses and goggles, earplugs, chemical-resistant gloves, chemical-resistant boots, etc.) for adjuvant handlers and ensure the equipment is used. 8. Ensure workers decontaminate their PPE after each use.	• SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures.
Aerial application of biopesticides to boost the	• Poor pilot skills	1. Ensure the pilot is trained and qualified to pilot the aircraft and make the application.	• Aerial applications to be carried out using an

efficiency in the coverage of infested areas	• Regulations for use of aircraft not followed • Pesticide drift • Injuries to workers • Contamination of people, animals and environment Low	2. Use appropriate spray equipment that is properly calibrated and avoid spraying in windy conditions to prevent spray drift and put sensitive and non-target areas as risk. 3. Avoid spraying in rainy conditions. 4. Aircraft should maintain a safe distance from people and residential properties, animals, and sensitive areas, such as water bodies. 5. Consult with local residents prior to making aerial applications, including providing information about the kinds of biopesticides to be sprayed and the reason for using them. 6. Ensure the aircraft is equipped with emergency equipment (First Aid, fire extinguisher, etc.). 7. Ensure that the Belize Department of Civil Aviation regulations (https://civilaviation.gov.bz/index.php/technical-library/belize-civil-aviation-regulations-bcars) are complied with for use of aircraft for aerial spraying. 8. Application equipment should be cleaned after use and maintain in good working condition. 9. Provide appropriate PPE for workers.	Air Tractor or Ag-Cat airplane. • Training for aircraft pilot to be ensured prior to operation of aircraft and application of biopesticides. • SIRDI responsible for implementing measures. • CRESAP PIU E&S Specialist will monitor implementation of measures.

Annex 4 - Environmental and Social Management Plan Template and Sample

ESMPs will be prepared for subprojects, and consist of a set of mitigation, monitoring, and institutional measures (including relevant stakeholder engagement activities, application of the GRMs, obtaining required permits, etc.) to be taken when environmental and social risks and impacts are identified. External experts may be hired to assist PFIs and BSIF PIU to prepare these instruments on behalf of the Project.

Phase	**Environmental and Social Impact (VEC)**	**Subproject activity**	**Mitigation Measures**	**Monitoring Indicators**	**Cost**		**Responsibility**		**Time/duration**	**Supervision observation and comments (to be filled out during supervision)**
					Install	Operation	Install	Operation		
Planning/Design Phase										
Construction Phase										
Operation Phase										

Table 17: Sample ESMP

Phase	Environmental and Social Impact (VEC)	Subproject activity	Mitigation Measures	Monitoring Indicators	Cost		Responsibility		Time/duration	Supervision observation and comments (to be filled out during supervision)
					Install	Operation	Install	Operation		
Planning /Design Phase	Forests impacted from invasive species	Improved yield seed varieties; agroforestry	• Ensures proper Species-Site Matching. • Exclude known invasive alien species (or, ideally, all alien species) from agroforestry plots. • As much as possible, use only local tree species. • Monitor activity quarterly for invasive species over the project duration	Vegetation type by location	Fee to Agronomist/ biologist @ $200/pay for 3 days = $600BZD	Fee to Agronomist /biologist @ $200/pay for 20 days = $4000BZD	MAFSE E&S Focal Point, BSIF PIU E&S Specialist, and farmer	MAFSE E&S Focal Point, BSIF PIU E&S Specialist, and farmer	Implement mitigation actions during activity planning phase Monitor activity quarterly for invasive species over the project duration	
Operation Phase	Forests impacted from agricultural expansion and deforestation	Improved yield seed varieties	• Ensure that there is no net forest cover loss as a consequence of farming intensification • Ensure improved yield varieties are only used in already cultivated land • Monitor net forest cover loss twice a year	Deforestation (net forest cover loss)		Fee to biologist @ $200/pay for 10 days = $2000BZD	MAFSE E&S Focal Point, BSIF PIU E&S Specialist, and farmer	MAFSE E&S Focal Point, BSIF PIU E&S Specialist, and farmer	Implement mitigation actions during activity planning phase Monitor net forest cover loss twice a year	

Annex 5 - Integrated Pest Management Plan

Introduction

While the CRESAP Project will not directly finance the purchase of pesticides, the project may indirectly increase pesticide application and eventual water and soil pollution as farmers may seek to increase their crop yield. As a consequence, farmers should include ecologically sound integrated pest management (IPM) strategies in their crop production planning.

IPM is an approach to enhancing crop production, based on an understanding of ecological principles, that empowers farmers to promote the health of crops and animals within a well-balanced agro-ecosystem, making full use of available technologies, especially host resistance, biological control and cultural control methods". IPM promotes use of chemical pesticides only when the above measures fail to keep pests below acceptable levels, and when assessment of associated risks and benefits, considering effects on human and environmental health, as well as profitability (social and economic impacts) indicates that the benefits of their use outweigh the costs.

The use and application of pesticides in Belize is regulated by the Pesticides Control Board which is a statutory body established to enforce pesticides laws and regulations. In addition, the Board also provides capacity building and training in the use and application of pesticides.

Use and Application of Pesticides

If pesticides are to be used, the proposed IPM approach proposed for this project should be applied, which amongst others promotes use of:

a) Pesticides that are not harmful to human health;
b) Pesticide effectiveness against target pest species known;
c) Ensuring negligible effect on non-target species and their habitat;
d) Ensure use of pesticide to prevent the development of pesticide resilience; and
e) Ensure pesticide packaging, labelling, storage, disposal, and application must be performed according to acceptable standards enforced by the Pesticides Control Board.

Negative Impacts of Chemical Pesticides

<u>Depletion of organic soil nutrients</u>

Practical experience has shown that in many areas of the country, soils lack the basic and necessary organic soil nutrients to sustain crop production yields due to chemical imbalance; as a result, there is increasing dependence on chemical fertilizers whose impact is short lived.

Mitigation measures:

- Apply soil conditioning measures which include IPM

<u>Poisoning of non-target species including natural biological pesticides</u>

Poisoning of non-target species may occur due to negligence or lack of knowledge of chemical pesticide potency, equipment malfunction and use of wrong type of equipment;

wrong time and method of application (spraying). Chemical pesticides and residues can be dangerous to non-target wild animals; fish and invertebrates as well as aquatic arthropods.

Mitigation Measures

- Supervise and control use of chemical pesticides to ensure that only approved and recommended ones are used.
- Use recommended equipment and approved methods of application.
- Regularly maintain and clean the equipment.
- Clean equipment and dispose old equipment as recommended by manufacturer.

Water soil and environmental pollution

Water, soil, and environmental pollution may occur due to spillage during loading and offloading and during storage.

Mitigation measures:

- Provide suitable warehousing and storage facilities
- Use of bio-beds, draining channels and draining dams
- Clean equipment in one place
- Use plants such as water lilies to absorb waste pesticides
- Properly dispose of pesticide containers
- Train farmers not to spray toxic chemicals close to water sources
- Train farmers to maintain spray equipment in safe operational order

Health and safety risks

Farmers and other persons around pesticides storage and handling areas may be exposed to hazardous chemicals. Stocks of obsolete pesticides are a serious health and environmental risk. Pesticides are often not stored correctly, resulting in corroded containers, lost labels, and release of the chemicals into the environment. Pesticide stockpiles pose a very serious health and safety risks of contaminating drinking water, food, or the air. The presence of compounds in the soil for up to five years since last application shows that chemical pesticides persist in soils. High levels of these chemicals become harmful to human and aquatic community as the chemicals are eventually washed as run off into water bodies.

Mitigation Measures:

- Provide appropriate protective clothing to workers and ensure it is used
- Train farmers in proper handling of chemical pesticides and conduct routine medical examination for workers for pesticide exposure

Pesticide misuse, over/under application

Pesticides may be misused, underused, or overused due to lack of appropriate knowledge of application rates. Stockpiles of chemical pesticide pose serious threats of contaminating drinking-water, food, or air.

Mitigation Measures:

- Conduct training sessions on appropriate and approved chemical pesticides application
- Purchase only enough stocks as required and destroy obsolete stocks of chemical pesticides

Drug resistance in pests

Pests may develop resistance to pesticides due to lack of appropriate knowledge in pesticides application.

Mitigation Measures:

- Train farmers in correct application of pesticides

Proposed Steps for Implementation of IPM Approach

Step 1. Assess IPM needs and establish priorities

- Consider the relative importance of target crops and their need for pesticide application;
- Review pesticide use history, trends, availability and needs for development of IPM technology; Identify training needs for farmers and extension agents; and
- Respect and use local knowledge.

Step 2. Identify key pests for each target crop

- Become familiar with key pests of target crops and the damage they cause; and
- Correctly identify the common pest.

Step 3. Monitor the fields regularly

- Inspect crops regularly to determine the level of pests and natural enemies;
- Seek assistance of agricultural extension staff if necessary; and
- Determine when crop protection measures, including pesticides are necessary.

Step 4. Select appropriate mix of IPM kits

- Maximize the effectiveness of traditional and introduced non-chemical control techniques;
- Use targeted (not broad spectrum) pesticides when no other practical, effective, and economic non-chemical control methods are available;
- Examples of Non-chemical Pest Management Techniques include:
    - Maintaining good soil fertility and a diverse agro-ecosystem;
    - Plant resistant crop varieties;
    - Selecting pest resistant plant varieties for location and season;
    - Rotating crops;
    - Planting clean seed;
    - Select correct planting and harvest periods to minimize pest population increase;
    - Proper irrigation methods;
    - Correct fertilizer, rates, and timing;
    - Good crop sanitation;
    - Hand picking of larger pests; and

- Use of natural control agents (biological control).

Step 5. Develop education, training, and demonstration programs for extension workers

- Conduct hands-on training of farmers in farmers' field format as opposed to a classroom;
- Use the participatory "Farmers' Field School" approach; and
- Conduct special training for extension workers, government officials, retailers, and the public.

Annex 6 - Detailed Project Components

Component 1: Institutional Strengthening (Total Cost, financed by IBRD: US$2.9375 million)

This component focuses on strengthening the capacity of key public institutions (government agencies and academic organizations) to support a more productive and sustainable agricultural sector. The component will finance goods, small works, equipment, studies, training, consulting, and advisory services to:

- **Strengthen MAFSE's and NMS' agricultural and agro-meteorological management systems to be able to deliver relevant and timely advisory services**. CRESAP will support upgrading the Belize Agricultural Information Management System (BAIMS), to improve the management of geo referenced data and increase the ability to manage agro-climatic risks and build resistance to climate change. CRESAP will finance investments to: (i) improve the collection of relevant sectoral data to enhance the BAIMS system (on- and off-farm); (ii) strengthen MAFSE and the National Meteorological Service (NMS) remote sensing capacity to be able to monitor agricultural activities, generate aggregate information, and assess production losses; (iii) upgrade MAFSE's geo-location capacity, and promote access to regular weather and agrometeorological information to inform more targeted adaptation actions; (iv) support the NMS to improve its services through upgraded equipment at weather stations in agricultural production areas. MAFSE and NMS will receive technical support to conduct diagnostics to estimate the hazard exposure of key agricultural activities and assess the vulnerability of target crops, so as to inform ex-ante risk management decisions and increase the resilience of the sector; and (v) enhance NMS capacity to be able to improve the agro meteorological services offered. These activities will result in upgraded data processing capacities and reinforced Agro-Climatic Software tools, as well as a strengthened national weather station network in agricultural production areas and the technical capacity of NMS staff. Furthermore, CRESAP will develop a communication system to transmit regular NMS agro-meteorological information and products to end-users. At the same time, the Project will strengthen the capacity of MAFSE's extension service to provide high-quality guidance about CSA to farmers. Gender-sensitization training will be provided to staff of the public agricultural institutions as well as the Belize Marketing and Development Corporation (BMDC) to carry out their functions in CRESAP in ways that support achievement of project objectives with regard to gender.
- **Strengthen the capacity of the Pest Control Board (PCB) to promote sustainable, integrated pest management practices in agriculture**. The Project will equip PCB to ensure compliance with climate-smart, integrated pest management practices that are proven to be good practices–including to address the climate-induced spread of pests and diseases–and to train extension officers and farmers in these areas.
- **Strengthen the ability of the Belize Agricultural Health Authority (BAHA) to monitor and enforce sanitary and phytosanitary standards (SPS) and regulations**. The Project will strengthen BAHA's capacity to ensure compliance with SPS requirements and improve its surveillance capabilities

(especially of zoonotic diseases), via equipment, training, and studies, to ensure food safety and quality, as well as its capacity to inspect animals and certify that they are free of disease. This is important as climate changes (including alternating droughts and deluges) are expected to induce the spread of diseases, requiring an enhanced inspection process as part of the adaptation to these changes. At the same time, improved regulation of the use of fertilizers for food safety and quality is expected to lead to climate change mitigation benefits.

- **Strengthen the integration of CSA approaches in training programs offered by the Agriculture Department of the University of Belize**. The Agriculture Department trains agronomists, engages in agri-food research in its labs, runs demonstration areas on its central farm and provides training directly to farmers and students. The Project will support the department to upgrade its research and training capacity in climate-smart agriculture.

Component 2: Investments in Climate-Smart Agriculture (Total Cost: US$39.7 million, of which IBRD: US$19 million; commercial finance from Participating Financial Institutions (PFIs): US$18.2 million, and beneficiary farmers: US$2.5 million)

This component will finance three subcomponents: The three subcomponents are interrelated and complementary leading to the objective of strengthening the capacity of farmers and participating financial intermediaries engaging in climate-smart agricultural investments under the Project, as to be able to take advantage of the provision of financing to farmers (matching grants and loans from PFIs) to adopt CSA technologies and practices, and increasing their productivity, levels of income and resiliency to climate change and weather events.

- **Subcomponent 2.1: Strengthening the capacity of PFIs, individual farmers and farmer organizations participating in the CRESAP matching grants program in support of CSA investments (IBRD US$1 million)**. This subcomponent will finance training courses and advisory services for PFIs, such as Belize's Development Finance Corporation (DFC), the Belize Credit Union League and its member credit unions, commercial banks, and beneficiary farmers and farmer groups applying for grants under Subcomponent 2.2. In particular, Subcomponent 2.1 will: (i) build capacity among PFIs to develop and implement environmental and social management systems (ESMSs) that are consistent with the Bank's Environmental and Social requirements, evaluate climate change considerations in underwriting loans, and provide gender-sensitization training, including on addressing and mitigating risks related to gender-based violence (GBV); (ii) support training courses on climate-smart agriculture approaches for PFIs; (iii) promote the matching grants program among targeted beneficiaries; (iv) strengthen the organizational and business capacities of farmer groups and organizations applying for matching grants under CRESAP; (v) provide specific TA to individual farmers via MAFSE's extension agents and/or service providers for the preparation of business plans and subproject proposals for financing via the matching grants subcomponent to promote the adoption of CSA approaches. The preparation of these business plans would constitute an important aspect of the capacity building for farmers and would address not only the adoption of CSA approaches in production, but also marketing strategies to strengthen commercial linkages for beneficiary farmers and ensuring improved market access; and (vi) tailor technical assistance and financial and business training to women's needs, including holding training events at convenient locations and times for women farmers.
- **Subcomponent 2.2: Promotion of CSA technologies and practices via matching grants and leveraging of private capital (Total cost: US$ 36.7 million; of which IBRD: US$16 million, PFIs: US$18.2 million and beneficiary farmers: US$2.5 million)**. This subcomponent will promote the adoption of tested and properly selected CSA technologies, approaches and practices. Agricultural technologies and practices are considered "climate smart" if they enhance food security while

addressing at least one of three additional objectives: (1) sustainably increasing agricultural productivity and farmers' incomes, (2) adapting and building resilience to climate change, and (3) reducing and/or removing greenhouse gas (GHG) emissions. Many CSA practices have potential to deliver "triple wins" by sustainably increasing productivity, enhancing resilience, and/or reducing GHG emissions. Examples that have been proven effective in Belize include crop rotation, intercropping, use of improved drought- and heat-tolerant varieties, integrated pest management, water harvesting, investment in drainage and irrigation infrastructure, integrated soil and land management, and agroforestry, among others. In the livestock sub-sector, CSA technologies and practices include the use of quality breeds, pasture improvement, use of forage banks, and adoption of conservation techniques for forage, silage, and hay. Many farmers in Belize are already practicing CSA to some degree, but more widespread adoption of CSA technologies has been hindered by a lack of information and technical knowledge, as well as by a lack of resources to pay for initial investment costs, as the economic benefits typically take several years to be realized. The Project will provide matching grants to partially finance CSA investment subprojects (the subprojects) promoting the uptake of CSA technologies and practices, which will be complemented by private loans from Participating Financial Intermediaries (PFIs) covering the financial assistance needed for the implementation of the CSA investment subprojects. Respective responsibilities will be set forth in the PFI Agreements to be signed between BSIF and PFIs. The matching grants will be provided via two windows, targeting different groups of farmers, with 30 percent of grants targeted to women farmers:

- **Window 1: Smallholder farmers (IBRD: US$10 million; PFIs: US$6.6 million)**. The first window will provide matching grants to about 3,300 individual smallholder farmers who are transitioning to commercial production to enable them to adopt climate-smart approaches. These grants will cover up to 60 percent of the investment cost of each subproject financed, with a maximum limit of US$6,000 (corresponding to an investment of US$10,000). Based on estimated investment, operating, and TA costs for smallholder farmers' subprojects, the overall expected average investment would be around US$5,000 per subproject with an average matching grant of around US$3,000. The matching grants will leverage financing from PFIs, and may also leverage contributions from smallholder farmers, although the latter will not be mandatory (see Annex 3).
- **Window 2: Medium and Large Farmers and Farmers Organizations (IBRD: US$6 million; PFIs: US$11.6 million and beneficiary farmers: US$2.5 million)**. The second window will provide matching grants to medium and large commercial farmers and to groups of farmers (for a total of about 400 subprojects), with a view to supporting larger investments needed to adopt CSA approaches. These grants will cover up to 30 percent of the investment cost of each subproject, financed with a maximum limit of US$30,000 (corresponding to an investment of US$100,000). Based on estimated investment, operating, and TA costs for these types of subprojects, the overall expected average investment would be around US$67,000 per subproject with an average matching grant of around US$20,000. These matching grants made through the second window will leverage a larger financing share from PFIs and farmers, so the grant element will be reduced compared to Window 1, and beneficiary contributions will be required (see Annex 3 for a description of the matching grants mechanism).
- **Subcomponent 2.3: Provision of selected strategic collective assets to strengthen resilience (IBRD: US$2 million)**. This subcomponent will finance technical studies, equipment and works to construct strategically selected infrastructure, collectively used, that will contribute to enhancing the climate-smart impacts of on-farm CSA investments. Examples include but are not limited to shared drainage infrastructure for low-lying, flood-prone areas (such as those commonly found in northern Belize); and small-scale, collective water-harvesting or land-use assets (where communities are interested in

sharing a collective pond, pasture, or similar asset). This collectively used infrastructure will be identified based on existing MAFSE plans and on proposals drawn from consultations with farmers, including women farmers. Investments will be prioritized based on criteria and on a transparent selection process established in the Project Operations Manual (POM), that will include the estimated Economic Internal Rates of Return and the number of farmers, including women farmers, who will benefit from the increased climate resilience generated by the investments.

Component 3: Project Management, Monitoring and Evaluation (Total Cost, financed by IBRD: US$3 million)

- **This component will finance incremental and operating costs, goods and equipment for the Project Implementation Unit (PIU)**. It will provide resources to enable the PIU to effectively carry out administrative, fiduciary management, planning, monitoring and evaluation (M&E), and reporting functions; to provide training as needed to PIU staff; and to ensure compliance with all applicable environmental and social standards. This component will also finance external audits, as well as a baseline assessment, the mid-term evaluation, and the end-of-Project assessment to document the Project's results and evaluate its outcomes and impacts. Additionally, the Project will help carry out strategic studies to be able to identify current constraints and limitations being faced by agri-business seeking enhanced market access, as well as opportunities to strengthen competitiveness and improve exports. These will help to identify possible policy reforms and improvement in legal and regulatory frameworks, as well as to design mechanisms to support enhancing market access by private agri-business.

Component 4: Contingent Emergency Response Component (CERC) (US$0 million)

- **The CERC is a contingent financing mechanism which will permit Belize rapid access to World Bank support in the event of an eligible crisis or emergency.** The mechanism for triggering the CERC will be established in the CERC Operations Manual, detailing the applicable fiduciary, environmental and social, monitoring, reporting, and other implementation arrangements required for implementing the activities to be financed. In case of an event triggering the CERC, funds will be reallocated to this component to finance emergency purchases and activities, including goods, works, and technical assistance to respond to the emergency. The implementation agency for the CERC will be determined in the CERC Manual.

Annex 7 - Relevant Environmental and Social Features

This section presents a description of the project site's environmental and social features. Belize is divided into six administrative districts however, the project is focused on the four northern and central districts of, 1) Corozal, 2) Orange Walk, 3) Belize and, 4) Cayo.

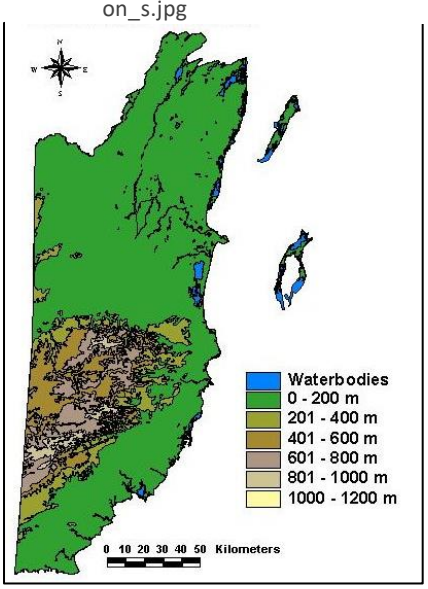
a) Environmental Features

Topography

The northern most part of the country and is bordered at the north by the Rio Hondo River which represents the border with neighbouring Mexico. Both the Corozal and Orange Walk Districts have similar topographical characteristics with flat and low landscape. These areas consist of mainly savannah forest in addition to being characterized by flat terrain eventually turning into the forested hills going westward. The Belize District lies in the northern half of the country that is relatively flat and forms part of the low-lying carbonate Yucatan platform,

comprising shallow limestone soils, mantled in places by siliceous material of varying thickness . The northern lowlands in which the Belize District is located are less than 200 feet (60 meters) above sea level and are drained by many major rivers and perennial streams, including the Belize River and Sibun River. The coastline is relatively flat and swampy, with many salt or brackish lagoons and the rivers crossing these coastal areas tend to be brackish in their lower reaches.

Figure 1 Elevations in Belize
Source: http://biological-diversity.info/images/Articles/elevation_s.jpg



The Cayo District can be described as a rugged, well-vegetated hilly terrain which includes Maya Mountains. This area is drained by the Belize, Mopan, and Macal rivers and their tributaries. The geology of the area is characteristic of hilly, rugged, rolling limestone regions containing numerous sinkholes, caverns, and underground streams[3].

The major soil types found in the project site include Luvisols, Redzinas, Gleysols and Cambisols. Soils in the northern half of the country and in the coastal plain and river valleys in the south are generally more fertile as they are derived or associated with limestone parent materials. Histosols soils found here are typically saline and organic and exist mainly in the areas that are semi-permanently affected by water and support mangroves. Soils formed on limestone tend to have pH near neutral, dark topsoils, high levels of base saturation, and high clay content. The soils of the Maya Mountains area are mostly shallow and stony, tend to be highly variable, and depend largely on the nature of the parent material (mostly granite, quartz, shales, gneisses, and schist)[4].

Water Resource

The Corozal District contains the Rio Hondo, New River, and other minor coastal watersheds, and includes catchments from these two major rivers. The Rio Hondo Watershed is the largest for which Belize is a part, with its greater portions existing in neighbouring Mexico and Guatemala[5]. This Orange Walk District has three rivers flowing through it, namely the Rio Hondo, New River and Boots River. Both the New River Lagoon and the Booths River Lagoon are considered substantial wetlands in the area. Similar to the Corozal District, there are also a number of freshwater and brackish water ponds, streams, estuaries, rivulets, and wetlands within this area (Frutos, R. 2003.). There is evidence of large concentrations of hardness and

[3] Ministry of Natural Resources, Environment, and Industry, 2002

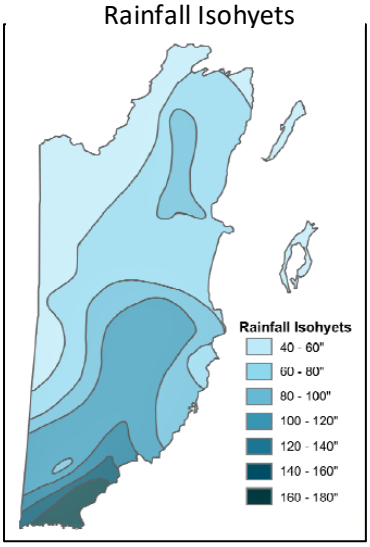
[4] BEST, 2008

[5] Ibid.

sulphate in the groundwater and the occurrence of poor groundwater quality increases during the dry season when aquifer recharge is low.

The Belize District contains the Belize River and Sibun River watersheds and includes catchments from these two major rivers[6]. The Belize River Watershed is the largest watershed in the country and the most populated (Cherrington et al., 2012). In addition, a number of freshwater and brackish water lakes or lagoons, ponds, streams, estuaries, rivulets, and wetlands can also be found here (Frutos, 2003). Groundwater is available throughout the area and is attributed to its geology (high-permeability calcareous sediments) and climatic conditions (Ibid). The occurrences of poor groundwater quality increase during the dry season when aquifer recharge is low[7].

Figure 2 National Rainfall Isohyets



The Cayo District contains the Belize River watershed, and includes catchments from the Belize River, Mopan River, and Macal River[8]. Freshwater streams, and rivulets are abundant in the area and groundwater is generally available throughout the less mountainous parts of the project area consisting of high-permeability calcareous sediments[9].

Climate

Rainfall in the northern region averages about 60 inches for the year, with pronounced seasonal differences, according to the National Meteorological Service. Between January and April or May, fewer than 3.9 inches of rain fall per month is experienced. Annual average precipitation stands at 157.6mm[10]. Further inland in the Cayo District average annual temperature is around 26.3°C, average annual high 31.9°C of and average annual low of 21°C with an average annual precipitation of 117.9mm. Along the coast, the temperature is influenced by the coastal trade winds with an annual average temperature of 26.7°C. Average annual high is 30.3°C and average annual low of 23.1°C.

The average temperature in Belize vary from 81 degrees Fahrenheit along the coast to about 69 degrees Fahrenheit in the hills, with average highs of 85° and a mean low of 73°. The hottest month is in May while the lowest temperatures are experienced during the month of January. The average humidity in the area is about 81%. Temperatures are generally influenced by

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[6] Boles, E. (1999). The Sibun River Watershed Atlas. Belmopan. Sibun River Watershed Association.

[7] Food and Agriculture Organization of the United Nations (FAO). 2000. FAO's information system on water and agriculture: Belize.

[8] Boles, E. (1999). The Sibun River Watershed Atlas. Belmopan. Sibun River Watershed Association.

[9] Second National Communication: United Nations Framework Convention On Climate Change, 2011. Government of Belize. Belmopan.

[10] National Meteorological Service of Belize. (n.d.). Climatology. National Meteorological Service of Belize. Retrieved from https://www.hydromet.gov.bz/climatology/climatology

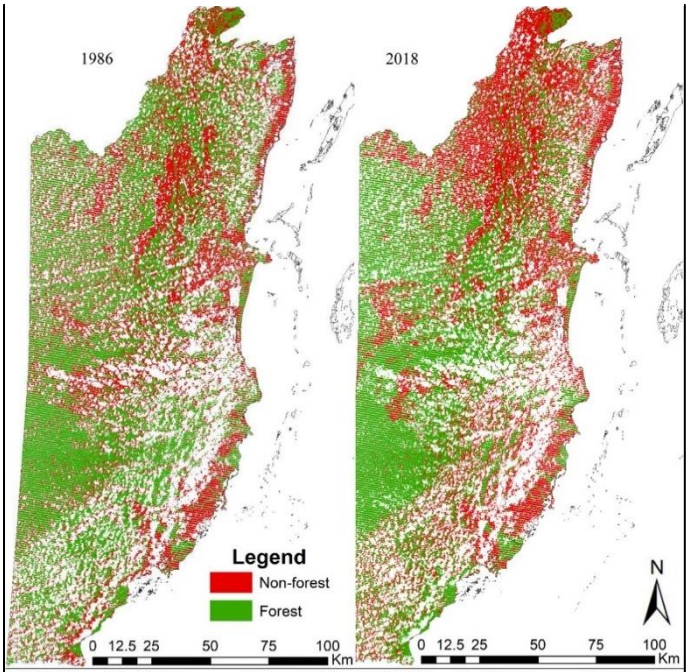
elevation, proximity to the coast, and the moderating effects of the northeast trade winds off the Caribbean.

The dry season in the northern most part of the country is relatively long, typically lasting from February to May. There is usually a short, dry period that typically occurs in late July or August, after the initial onset of the rainy season (Ibid).

Air Quality

Air emissions in the north are a direct effect of the large sugar production from the Tower Hill factory as well as pesticides, public dump site and vehicles. Emissions also emanate from the burning of sugarcane plots every year which often becomes severe. Other emission sources in the project area includes public garbage dumpsites, vehicular traffic, slash and burn agriculture, and the sewage treatment facility in Belize City. The burning of savannas and garbage dumps in and around smaller communities within the project area also contribute to air emissions[11].

Figure 3 National Forest Cover Loss 1986-2018
Source: Folkhard-Trap, H. 2020



Land cover (ha)	Non-Forest: 544122	Forest: 827540	Land cover (ha)	Non-Forest: 16203	Forest: 783466
Percentage	40	60	Percentage	44	56

Forest Cover

Forest cover in northern Belize is typically lowland broad-leaved forest, lowland broad-leaved dry forest, lowland savanna, shrubland, mangrove and littoral forest, and wetland (BERDS, 2014a). The Belize District consists mostly of lowland areas and forest types include lowland broad-leaved forest, lowland savanna, shrubland, mangrove and littoral forest, and wetlands (BERDS, 2014a). Within the Cayo District, forest cover is typically lowland broad-leaved forest, lowland savannah and shrubland.

The highest levels of deforestation in the country have occurred in the northern districts of Corozal and Orange Walk which are characterized by extensive farming. The loss is the likely result of a combination of remaining high-value timber removal and rapidly expanding

[11] Second National Communication: United Nations Framework Convention On Climate Change, 2011. Government of Belize. Belmopan.

agriculture driven by population increase[12]. (See Figure 9 for map of forest cover loss). Forests provides habitats for a number of unique flora and fauna.

Biodiversity and Nature Protection

There are several rare and endangered species that exist within the project area. This includes the Tapir, which is the national animal of Belize, jaguar, and mahogany trees. The poaching and extraction of any of these species is illegal. Other significant endangered fauna species that exists within the project area includes the Bromeliad Tree Frog, the Yellow-headed Parrot[13], Mesoamerican River Turtle[14] and keel-billed toucan. The Yucatan Black Howler Monkey and Baird's Tapir were solely labelled as vulnerable in Belize a few years ago but have both quickly changed status and are now categorized as endangered.

Sensitive habitats within the northern region include: Honey Camp National Park, Shipstern Nature Reserve, Corozal Bay Wildlife Sanctuary, Fresh Water Creek Forest Reserve, Aguas Turbias National Park, Rio Bravo Conservation Area, Crooked Tree Wildlife Sanctuary and Spanish Creek Wildlife Sanctuary, Monkey Bay National Park, Peccary Hills National Park, Gales Point Wildlife Sanctuary, the Burdon Canal Nature Reserve, and the Community Baboon Sanctuary. Within the Cayo District there are several protected areas including nature and archaeological reserves[15]. Some sensitive habitats in the Cayo District include Chiquibul National Park, Guanacaste National Park, Five Blues Lake National Park, Thousand Foot Falls Natural Monument, Tapir Mountain Nature Reserve and Mountain Pine Ridge Forest Reserve and the Noj Kaax Meen Elijio Panti National Park.

b) Socio-economic Context and Baseline

Population and Demographics

Within the four targeted districts there are 119 villages spread out across the entire area. While each district has one or two main urban centers, given the nature of the project, those communities that are likely to be affected by the project will be those from rural areas. There is a total of 32,024 households with an average size of 4.4 persons and a total of 140,167 persons within the project area. There is a slightly higher number of males (51%) compared to females (49%).

Rural Population Breakdown of Project Sites

District (Rural)	No. of Villages	Total	Males	Females	No. of HH	Avg. HH Size
Corozal	29	30,774	15,589	15,185	6,562	4.6

[12] Folkhard-Trap, H. 2020. Deforestation in Belize - What, Where and Why. Retrieved from https://www.biorxiv.org/content/10.1101/2020.01.23.915447v1.full

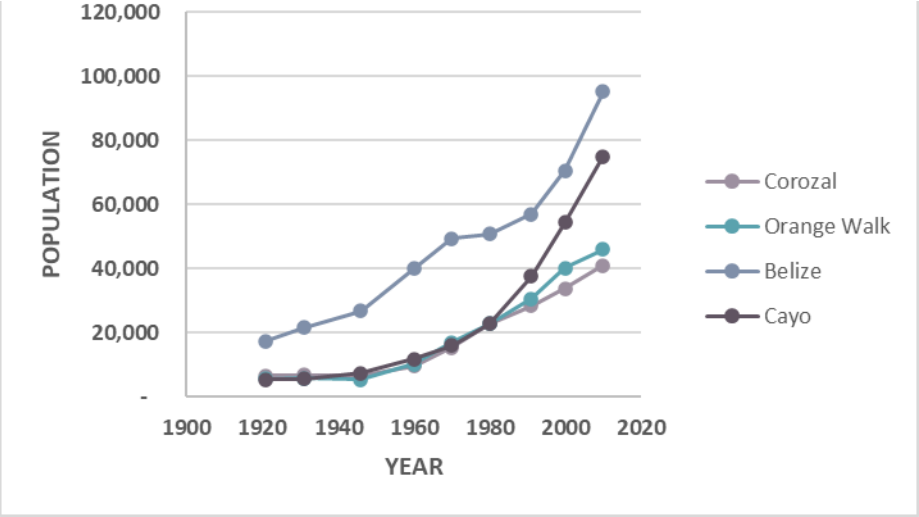
[13] Ibid.

[14] Biodiversity and Environmental Resource Data System of Belize (BERDS). (2017). Belize Ecosystems 2017. Retrieved from http://www.biodiversity.bz

[15] PACT. (2006). Protected areas. Retrieved from https://www.pactbelize.org/protected-areas/

Orange Walk	29	45,946	23,214	22,732	10,452	4.4
Belize	29	26,358	13,166	13,192	7,351	3.7
Cayo	32	37,089	18,862	18,227	7,659	5.0
Total	**119**	**140,167**	**70,831**	**69,336**	**32,024**	**4.4**

Figure 4 Population Growth in Target Districts 1921 - 2010 (Source: SIB, 2020)



The project area has experienced consistent population growth, though some at a more rapid pace than others. Even though the Corozal, Orange Walk and Cayo Districts started off with similar early population numbers, the Cayo District has experienced a more rapid rate of growth than the other two. The district with the largest number of rural households is the Orange Walk District with a total of approximately 10,452 households. The average household size ranges from 3.7 person in the Belize District to 5 persons in the Cayo District.

Economy and Employment

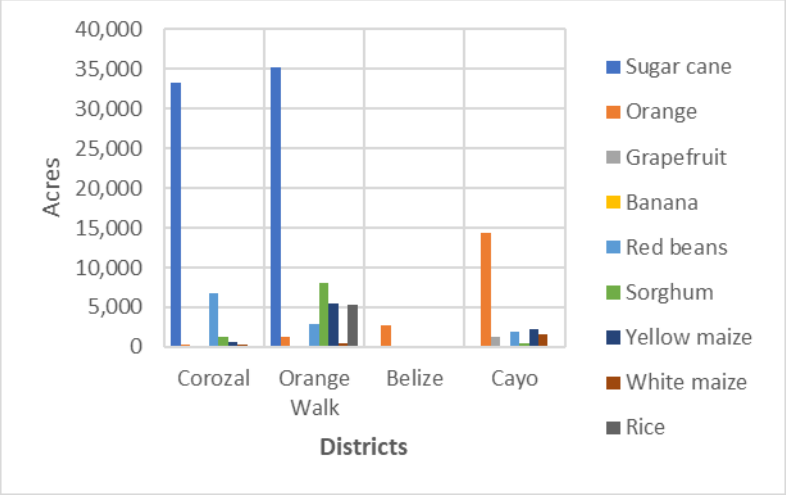
The northern districts of Corozal and Orange Walk are highly dependent on sugar cane farming and participate heavily in the sugar industry even though it has been on the decline for some years now. Nonetheless, the sugar industry still dominates the economy of both districts along with all the support services along the sugar production value chain. Other forms of agriculture, both commercial and subsistence also contribute greatly to economy of the area. These two districts produce significant agricultural and livestock products including cash crops such as peppers, tomatoes, potatoes, and onions. Residents of the Corozal District especially from the rural areas have turned to commercial fishing exploiting mainly the conch and lobster fishery products. Meanwhile, Orange Walk has a nascent tourism industry given the location of well-known Maya archaeological sites such as Lamanai. This is of course prior to the onset of the COVID 19 pandemic which has halted all international travel to Belize.

Many residents of rural Belize District commute to work in Belize City and as such some of the rural communities can be considered suburban and peri-urban extensions of the urban centre especially those closer such as Ladyville, Lord's Bank, Burrell Boom and Hattieville. Rural residents do take advantage of the availability of land in outer areas and many practice

agriculture, especially cattle rearing. Vegetable production has steadily taken hold in some of the communities in the northern section of the district in villages such as Bomba. This new growth is driven mainly by immigrants who recently moved into the area from neighbouring countries. The level of dependence on agriculture varies from community to community as some practice mainly subsistence farming compared to those producing crops for sale at a commercial scale. Typical crops grown in the area include, rice, plantains, corn, cassava, and a variety of vegetables.

The Cayo District covers a wide area starting from La Democracia along the George Price Highway extending to La Gracia in the north and to San Antonio Village in the south. The Cayo District is known for both tourism and agricultural production. After the cayes, the Cayo District is the next largest tourism destination in Belize and as such is home to numerous jungle resorts and other tourism accommodations. The Cayo District has numerous natural attractions and archaeological sites and as such has grown over the years in terms of visitation. The COVID 19 pandemic has severely affected this sector of the local economy. Meanwhile, villages such as Valley of Peace, La Gracia and San Antonio well known agricultural communities. They produce significant amounts of cash crops (fruits and vegetables) for sale in the domestic market.

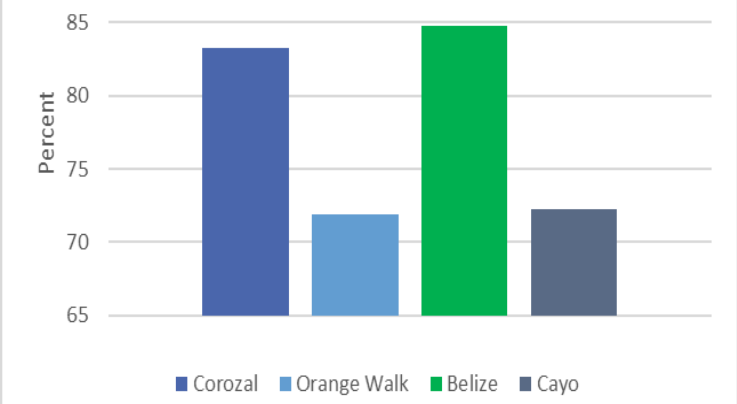
Figure 6: Major Crop Production (Source: ECLAC, 2013. Belize: Effects Of Climate Change On Agriculture)



To benefit from a major component of the project through IFIs, farmers will need to have access to financial services. A majority of the residents of the target districts do have a bank account though it varies from district to district. Orange Walk and Cayo have the lowest access to a bank account at around 72% while the highest is in the Belize District. It may be necessary to assist those farmers who are currently outside of the banking system open bank accounts at local banks and credit unions.

Figure 7 Access to a Bank Account

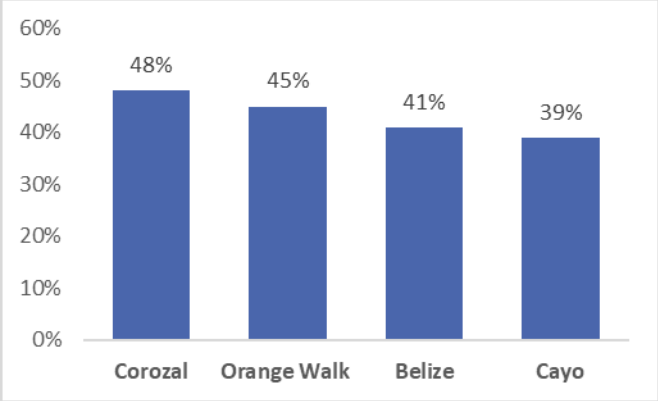
Source: SIB and UNICEF Belize, 2017



Poverty and Social Development

Belize's most recent poverty report (2010) shows that 43% of the national population falls below the official poverty line of which 16% are considered indigent. The sharpest rise in poverty has been in the Corozal District where poverty doubled, and indigence tripled from 2002 to 2010. Notably, during the period when the poverty assessment was conducted, Corozal was one of the districts repeatedly impacted by hurricane and flooding, thus underscoring the population's vulnerability to disasters. Agricultural workers and people with unskilled jobs are more likely to be poor or indigent given the low wages earned in that sector. Overall, poverty in the agricultural sector has not changed since 2002 and continues to have higher poverty rates than any other sector.

Figure 8 Poverty Rates in Project Target Districts (Source: SIB, 2010)

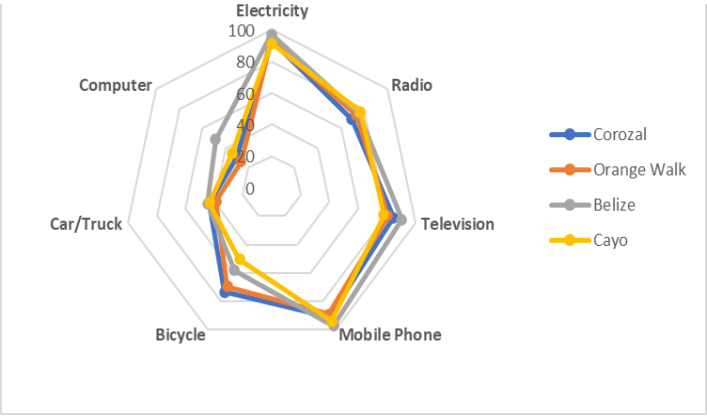


According to the Oxford Poverty and Human Development Initiative (OPHI), the poverty and deprivation in rural areas of Belize are driven mainly by poor nutrition and low school attendance which often results in poor education. Most of agriculture workers are generally educated at most to the primary school level. This is an important consideration for training activities for both men and women under the project. Training activities will have to utilize low-literate adult education methods such as experiential learning.

Community Infrastructure

All of the villages within the four target districts have 24-hour access to electricity provided by the Belize Electricity Limited. Similarly, all have access to potable water through a community-based water system or through Belize Water Services. Having access to running water is always a key input in post-production and value-adding activities for agricultural productions. There is also near universal access to mobile telephone and television in all of the target districts. There is high mobile phone penetration and is a good means of communication within the

Figure 9 Ownership of Assets (*Source: SIB and UNICEF Belize, 2017.*)



districts. This can facilitate communication of agro-met information to farmers as is part of the aim of the project.

There is a high ownership of televisions as well as portable radios, which is around 80%. Radio and cell phones are the most effective ways of communicating messages to rural residents. The ownership of motor vehicles in all of the districts is around 40% and this likely affects transportation from rural to urban areas especially for market access for agricultural products.

Land Tenure

Land is an important assets for households especially in farming rural areas. Lands in the project area fall into the categories of national lands or private lands. Private lands are held either as leasehold or freehold interest. Leasehold is an interest in land that is provided for a certain number of years, usually seven years, under stipulated conditions by the Minister responsible for lands whereas the freehold interest is accepted as absolute title and the term can be infinite. Private lands are generally surveyed with defined parameters regardless of size. Rural villages generally have two broad areas of land use especially those heavily dependent on agriculture. A segment of community lands is allotted as residential areas surveyed into house lots and other segment dedicated to farming and cultivation. This distinction is very clear especially in the sugarcane farming communities of the Northern districts of Corozal and Orange Walk. While this can be found in the Belize and Cayo Districts as well, there are those whose who reside on their homestead with larger landholdings but still considered to be living within a village.

Cultural Heritage

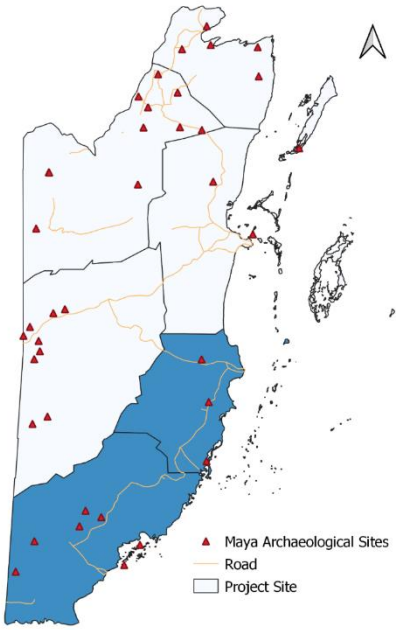
The Corozal and Orange Walk Districts and share a common history, culture, and ethnicity. These two northern districts are inhabited predominantly by an ethnic group called the Mestizos. Mestizos are descendants of indigenous Maya and European Spaniards and first came into northern Belize from southern Yucatan, Mexico as refugees of the Caste War of Yucatán in 1848[16].

The residents of the Belize District are predominantly Belizean Creoles, who are Afro-descendants of British colonialists and African slaves. Creoles continue to represent a significant segment of Belize's population second only to Mestizos, in terms of population size. The residents of the Cayo District are generally considered to be Mestizo. There are some historical distinctions however between these communities. La Gracia and Valley of Peace for instance originated as refugee settlements by persons coming from the neighbouring countries of El Salvador and Guatemala to escape the civil wars occurring in those countries in the 1980's. There are also a few Creole communities in the Cayo District mostly along the George Price Highway, are inhabited by Creoles though recently there has been increasing presence of Hispanic/Mestizo residents moving as well.

[16] The Caste War was a Maya uprising against the Spaniards but it eventually became a war against the Mestizos.

San Antonio in the Cayo District is generally considered a Maya-Yucatec community and as such it is considered as the only indigenous community in the project site that comes closest to the general definition held by the World Bank ESS7. The residents of San Antonio are considered to be the descendants of Maya settlers from Yucatan who escaped to Belize and Petén, Guatemala during the Caste War of Yucatan in the mid-19th century[17] similar those in Corozal and Orange Walk. Some communities in the Northern part of the country within the project area are said to be increasingly reclaiming their Maya identities and will be assessed further to identify whether they fit the general definition of the ESS7, as well.

Figure 10 Archaeological Sites in Project Site



Being a part of the Meso-American region that was covered by the Maya Civilization means that Belize is littered with ancient temples and other archaeological sites from this period[18]. There are numerous Maya archaeological sites identified and excavated within the project area. These sites are protected by law and overseen by the Institute of Archaeology (ICA), an entity under the National Institute of Culture and History (NICH). Damage or destruction to any archaeological site or object of antiquity a violation of existing laws. Earthworks for drainage systems especially may encounter ancient artifacts throughout the project site. A chance find procedure has therefore been established for the project in the event there is discovery during project implementation.

Flora and Fauna

Name	Flora/Fauna	Status (IUCN)	Districts located
Red Mangrove (Rhizophora mangle),	Flora	least concern	Corozal, Belize
Black Mangrove (Avicennia germinans)	Flora	least concern	Corozal, Belize
White Mangrove (Laguncularia racemose)	Flora	least concern	Corozal, Belize
Warrie Wood (Caesalpinia gaumeri)	Flora	NA	Corozal
Senna atomaria	Flora	Least Concern	Corozal
Black Poisonwood (Metopium brownie)	Flora	NA	Corozal
Dalbergia glabra	Flora	Least concern	Corozal
Purple Passionfruit (Passiflora edulis)	Flora	Least concern	Corozal
Logwood (Haematoxylum campechianum)	Flora	least concern	Corozal, Belize

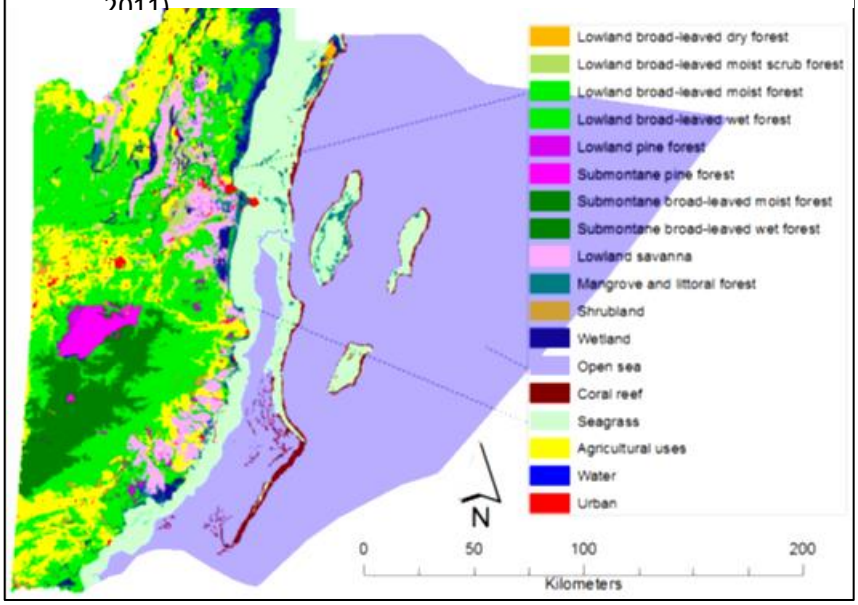
[17] The Caste War and the Maya of Yucatan by Dr. Angel Cal in Readings in Belizean History, Edited by Lita Krohn and Froyla Salam, 3rd Edition.

[18] Awe, J. J. The Ancient Maya of Belize and Central America in Krohn, L and Salam, F. (eds.) *Readings in Belizean History* (pp. 11) 3rd Edition. NICH.

Bamboo Palm (Chamaedorea seifrizii)	Flora	NA	Corozal
Orchids (Orchidaceae)	Flora	least concern	Orange Walk
Mahogany Trees (swietenia macrophylla)	Flora	Vulnerable	Orange Walk
Trumpet Tree (Cecropia peltata)	Flora	least concern	Orange Walk, Belize
Cohune Palm (Attalea cohune)	Flora		Orange Walk, Belize, Cayo
Caribbean Pine (Pinus caribaea)	Flora	least concern	Belize, Cayo
Bayleaf (Sabal mauritiiformis)	Flora		Belize, Cayo
Bukut (Cassia grandis)	Flora	least concern	Belize
Guanacaste (Enterolobium cyclocarpum)	Flora	least concern	Cayo
Bullrush (Zamia prasina), -	Flora	critically endangered	Cayo
Nargusta (Terminalia amazonia)	Flora	least concern	Cayo
Mountain Pimento (Schippia concolor, [endemic species])	Flora	Vulnerable	Cayo
False Jade (Chamaedorea neurochlamys Burret)	Flora		Cayo
Quamwood (Schizolobium parahyba)	Flora	least concern	Cayo
Green Vine Snake (Oxybelis fulgidus)	Fauna	least concern	Corozal
Black Iguana (Ctenosaura similis)	Fauna	least concern	Corozal
Tabasco Mud Turtle (Kinosternon acutum)	Fauna	near threatened	Corozal
Nine-banded Armadillo (Dasypus novemcinctus mexicanus)	Fauna	least concern	Corozal
Coatimundi (Nasua narica)	Fauna	least concern	Corozal
Paca (Agouti paca nelson)	Fauna	least concern	Corozal
Yucatan Squirrel (Sciurus yucatanensis)	Fauna	least concern	Corozal
Yellow-billed Cacique (Amblycercus holosericeus)	Fauna	least concern	Corozal
Gray catbird (Dumetella carolinensis)	Fauna	least concern	Corozal
Crested Guan (Penelope purpurascens)	Fauna	least concern	Corozal
Wood Stork (Mycteria americana)	Fauna	least concern	Corozal
Red-winged Blackbird (Agelaius phoeniceus)	Fauna	least concern	Corozal
Jaguars (Panthera onca)	Fauna	near threatened	Orange Walk
Puma (Puma concolor)	Fauna	least concern	Orange Walk
Ocelot (Leopardus pardalis)	Fauna	least concern	Orange Walk
Margay (Leopardus wiedii)	Fauna	near threatened	Orange Walk
Jaguarundi (Herpailurus yagouaroundi)	Fauna	least concern	Orange Walk
Yucatan Black Howler Monkey (Alouatta pigra)	Fauna	endangered	Orange Walk, Belize
Baird's Tapir (Tapirus bairdii),	Fauna	endangered	Orange Walk, Belize, Cayo
Gray foxes (Urocyon cinereoargenteus)	Fauna	least concern	Orange Walk
King vultures (Sarcoramphus papa)	Fauna	least concern	Orange Walk
Jabiru storks (Jabiru mycteria)	Fauna	least concern	Orange Walk
Black-bellied whistling ducks (Dendrocygna autumnalis)	Fauna	least concern	Orange Walk
Wood Stork (Mycteria americana)	Fauna	least concern	Orange Walk
Central American River Turtle (Dermatemys mawii)	Fauna	critically endangered	Belize, Cayo
Morelet's Crocodile (Crocodylus moreletii)	Fauna	least concern	Belize
Green Iguana (Iguana iguana)	Fauna	least concern	Belize, Cayo
Northern Raccoon (Procyon lotor)	Fauna	least concern	Belize
Common Opossum (Didelphis marsupialis)	Fauna	least concern	Belize

Great Blue Heron (Ardea herodias)	Fauna	least concern	Belize
Greattailed Grackle (Quiscalus mexicanus)	Fauna	least concern	Belize
Plain Chachalaca (Ortalis vetula)	Fauna	least concern	Belize
Purple Gallinule (Porphyrio martinica),	Fauna	least concern	Belize
Turkey Vulture (Cathartes aura)	Fauna	least concern	Belize
Yellow-headed Parrot (Amazona oratrix)	Fauna	endangered	Belize
Parrot Snake (Leptophis ahaetulla)	Fauna	least concern	Cayo
Central American Agouti (Dasyprocta punctata)	Fauna		Cayo
Tayra (Eira barbara senex)	Fauna	least concern	Cayo
Summer Tanager (Piranga rubra)	Fauna	least concern	Cayo
Brown Jay (Psilorhinus morio)	Fauna	least concern	Cayo
Tropical Kingbird (Tyrannus melancholicus)	Fauna	least concern	Cayo
Ferruginous Pygmy-Owl (Glaucidium brasilianum)	Fauna	least concern	Cayo
Dusky Antbird (Cercomacra tyrannina)	Fauna	least concern	Cayo

Figure 11 Major ecosystems maps of Belize (Source: Meerman, 2011)



Annex 8 - Belize Environmental Clearance Process

Chapter 2 Legal and Regulatory Framework includes a summary of national regulations relevant to CRESAP.

a) Belize Environmental Clearance Process

The Environmental Clearance Process must be followed to obtain approval and environmental clearance of a proposed undertaking, project, programme, policy or activities from the Department of the Environment.

An overview of the Environmental Clearance Process of Belize, relevant publications and checklists can be found on the Department of Environment website: (e.g. EIA Manual Belize Final July 2011, Checklist for Agriculture, Checklist for Light Industry)

Summary of other relevant guidelines

Checklist for Agriculture Projects (Link):

This checklist provides information to assist Developers and the Government of Belize to identify impacts of a proposal and to take adequate and practical measures to mitigate any adverse environmental effects. It also helps the DoE decide whether an EIA is required. It gathers information on projects' infrastructure and utilities requirements; transporting, handling and storing raw materials, chemicals and fuels; expected impacts to people, structures, plants and animals, land, water, and air quality.

Checklist for Light Industry:

This checklist is similar to that described for Agriculture project, with an additional focus on gathering information on the discharge of contaminated industrial effluents; discharge of cooling waters; leaching of solid industrial waste; emissions of contaminated gases and particles; and accidents cause by the use or transportation of dangerous material.

Other checklists are available by the DOE on Petroleum, Mining, Tourism, Sub-divisions/Construction but are not anticipated to be required in this project.

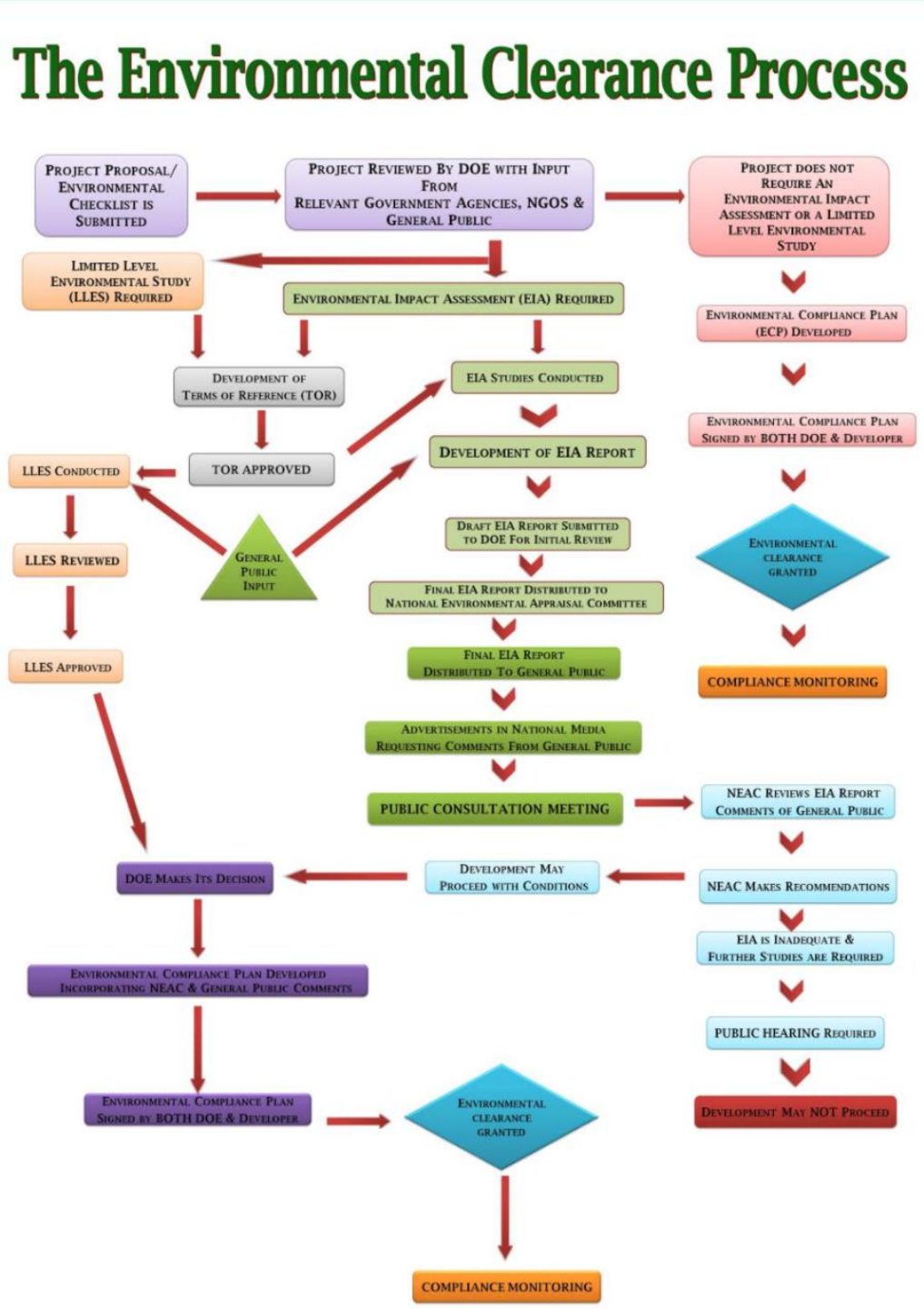


Figure 5 Summary of the Environmental Clearance Process (Source: Department of the Environment. Environmental Clearance Process)

Belize Environmental Clearance Process:

1. Project Proposal and/or Environmental Checklists (purpose and activities of projects):

- Project developers must submit a project proposal and/or completed environmental checklist to DOE. The proposal must include:
  - A detailed description of the project.
  - Site location map, including land tenure or Proof of ownership of the site.
  - Scaled layout plan.
  - Company documents, including the Certificate of Company Registry and Articles & Memorandum of Association.
  - Shareholder Roster and current registered list of Directors.
  - Contact persons, including contact information.

Screening of Projects (EIA/LLES/No Study):

- Screening process is conducted by DOE, including reviewal of documents and site inspection.
- Process determines if an environmental study is required or not.
- This can take up to 30 days.

Projects not requiring EIA/LLES:

- Site inspection is conducted by the DOE.
- DOE may grant approval for Environmental Clearance via a No Objection Letter, an Environmental Clearance Letter with conditions, or an Environmental Clearance Letter with an Environmental Compliance Plan.
- This may take 14 to 30 days.

Projects requiring EIA/LLES – site inspection (scoping) – TOR – Preparation of study – Public Consultation – NEAC site inspection – NEAC Meeting – ECP –monitoring:

- A Terms of Reference is developed by the Develop to identify the major environmental issues that the EIA/LLES study will need to address and is vetted by the DOE.
- During this process, an inspection of the project area is conducted to ensure that all relative aspects of the existing environment/baseline is taken into consideration while developing the TOR.
- The National Environmental Appraisal Committee review the Draft TOR and provides inputs where necessary, before the TOR is approved by the DOE.
- The TOR is approved and evidenced with a letter with an attached TOR by the DOE.
- A study is conducted by an Environmental Consultant selected by the Developer.

LLES Review process (skip if an EIA is necessary)

A Limited Level Environmental Study is needed for the prediction, evaluation, estimation and communication of possible environmental effects of some proposed projects, undertaking or activities where the activities could have some negative impacts on the environment.

The TOR for an LLES is usually limited in nature and should not be as comprehensive as that of an EIA. The LLES takes many of the steps in the review process as the EIA, with the difference

that the public consultation is not mandatory and the report reviewed by a smaller group/ review panel selected from the NEAC membership.
Once the LLES is complete, it is submitted to the DOE as the first draft LLES Report. The first Draft LLES Report is reviewed to ensure that all sections of the approves TOR are addressed.
If there is need for improvement of the Report, the Developer is notifies of the requirements and the submissions of a second Draft LLES Reports is requested with the corrected sections highlighted.
Upon completing review of the second Draft LLES Report, and should the LLES be considered acceptable, the DOE requests, from the Developer the submissions of hard copies of the final LLES report along with the one digital copy. The number of copies is dependent on the composition of the review panel. The document is then disseminated to the review panel.
As part of the technical review of the LLES Report, the review panel conducts a site inspection of the proposed project site. The site inspection is coordinated by the DOE.
After the site inspection, the DOE convenes a meeting of the review panel to discuss the report and make recommendations to the DOE.
The Review Panel may recommend to the DOE:
That the LLES is inadequate and requires further investigation,
That the development does not proceed,
That the development proceeds subjected to conditions.

Once the Review Panel recommends that the project proceed, subject to conditions, and the DOE accepts this recommendation, the process for granting environmental clearance commences as follows:

- The DOE prepares an Environmental Compliance Plan (ECP) in accordance with the information collected form the LLES Report and from the review panel recommendations
- DOE circulates the Draft ECP to review panel for input
- DOE submits the Draft ECP to the Development for comments
- Developer informs DOE in writing of their acceptance of the Draft ECP
- Once the ECP is agreed upon by both the DOE and the Developer, it is dated and signed by both the Developer and the Chief Environmental Officer of the DOE
- Environmental Clearance letter is drafted and issued for the project after the ECP is signed
- The Developer is granted Environmental Clearance to proceed with the project development once the Developer has received an Environmental Clearance letter issued by DOE accompanies with a True Original copy of the ECP signed by both the DOE and the Developer.
- That may take up to 60 days but is usually completed within 30 days from the date of submissions of approved LLES report to the DOE.

If an EIA is required, the EIA Report Review Process is as follows:

- Developer submits EIA Report to DOE for dissemination and review:
    - Once the EIA Study is complete, the Developer submits it to the DOE as a First Draft EIA Report. The First Draft EIA Report is reviewed internally by the DOE to ensure that all sections of the approved TOR are found in the Draft EIA Report.
    - If the First Draft EIA Report does not cover all sections of the approved TOR and/or requires improvement, the DOE notifies the Developer via a letter specifying the section both absent from the documents and/or requiring improvement; and requests the

submission of a Second Draft Report with the inclusion of the corrected sections highlighted for ease of review.

- The Developer submitted the Second Draft EIA Report with the corrected sections highlighted for review to the DOE
- The DOE reviews internally the Second Draft EIA Report to see if both the absent sections and/or information requiring improvement were addressed
- Upon completing review of the Second Draft EIA Report, and the EIA is considered acceptable, the DOE requests from the Developer, via a letter, the submissions of thirteen hardcopies and one electronic copy of the Final EIA Report for dissemination and review. Otherwise if during the review of the Second Draft EIA report, the information requested for inclusion or improvement are not corrected, a resubmission is requested before the process can continue.

Dissemination and Publication of the EIA Report

- Once the Developer submits the thirteen hardcopies and one electronic copy of the Final EIA Report to the DOE, the EIA Report must be disseminated to the National Environmental Appraisal Committee (NEAC) and the public for review.
- DOE notifies the Developer via letter of the acceptance of the Final EIA Report and that, in accordance with the Regulations, the Developer is required to notify the public through the publication of a public notice in two widely circulated newspapers for two consecutive weeks of:
- The submissions of the EIA to the DOE
- Location of where the document can be reviewed
- Time period for submissions of comments to the DOE
- Date and time of the public consultation meeting
- Prior to the publication of the Public Notice, the Developer must first submit to the DOE the draft public notice for betting and approval. The DOE reviews the Public Notice to ensure that is complies with the requirements stipulated in the EIA Regulations and that the location of lodgement of the Final EIA Report and date for Public Consultant Meeting is acceptable. The DOE then approves the public notice via a letter to the Developer
- The Developer publishes the Public Notice in accordance with the Regulation
- DOE hand delivers the hardcopy Final EIA Report to members of the National Environmental Appraisal Committee (NEAC). The NEAC is the legislated technical body that reviews and provides recommendation on the EIA Report to the DOE.

Public Consultation Meeting

- The Public Consultation Meeting is a two-way flow of information form the developer to the public and vice-versa. It includes presentation on the EIA Process (presented by the DOE), presentation on specifics of the EIA Report presented by the Developer, and a Q&A phase with the public and the developer.
- The DOE selects an independent moderator for the Public Consultation session. Prior to holding the Public Consultation Meeting, a Public Notice must be published for a minimum of two

consecutive weeks in two widely circulated newspapers to advise the public of the date, tiem and location of the Public Consultation Meeting

- In accordance with the Regulations, the Developer is required to submit a report on the Public Consultation Meeting to the DOE before the NEAC meets to review the document
- All cost for the Public Consultation Meeting is borne by the Developer

Review of the EIA Report by NEAC

- As part of the technical review of the EIA Report, NEAC conducts a site inspection of the proposed project site. The site inspection is coordinated by the DOE
- The NEAC also attends the Public Consultation session, to gain a better understanding of the public's opinions, concerns comments and recommendations regarding the proposed project
- A minimum of one week after the NEAC Site Inspection and Public Consultation Meeting, DOE convenes a NEAC Meeting to discuss and make recommendations on the EIA Report. Subsequent to the meeting, NEAC may recommend to the DOE
- That the EIA is inadequate and requires further investigation
- That further public consultation or a public hearing is necessary
- That the development cannot proceed due to critical environmental concerns
- That the development proceed subject to conditions
- The Developer is informed by the DOE of the NEAC Recommendation via a letter within one week maximum of the NEAC Meeting

Granting Environmental Clearance for the Proposed Development specified in the EIA Report
Once the NEAC recommends that the development proceed subject to conditions, and the DOE accepts this recommendation, the process for granting environmental clearance continues as follows:
The DOE prepares an Environmental Compliance Plan (ECP) in accordance with the information collected form the EIA Report, Public Consultation, and NEAC recommendation
DOE circulated the Draft ECP to the NEAC for input
DOE submits Draft ECP to the Developer for comments
Developer informs DOE in writing of their acceptance of the Draft ECO
Once the ECP is agreed upon by both the DOE and Developer, it is dated and signed by both the Developer and the Chief Environmental Officer of the DOE
Environmental Clearance Letter is drafted and issues for the project after the ECP is signed
The Developer is granted Environmental Clearance to proceed with the project development once the Developer has received an Environmental Clearance Letter issued by the DOE accompanied with an Original copy of the ECP signed by both the DOE and the Development. This may take up to 60 days.

Relevant International Policies and Treaties

Below is a list of some of the international policies and treaties Belize has signed on to that are relevant to the project:

- Convention on Wetlands of International Importance. (RAMSAR Convention 26/02/98). Focal Point: Forest Department.
- Convention concerning the protection of the World Cultural and Natural Heritage (06/11/90): Focal Point: NICH. / World Heritage Convention

- Convention on Biological Diversity (ratified December 1993). Focal Point: Forest Department.
- Convention on International Trade of Endangered Species of Wild Fauna and Flora (CITES) since 1981. Focal Point: Forest Department
- Convention on the Conservation of Migratory Species of Wild Animals (1979). Focal point: Forest Department
- United Nations Framework Convention on Climate Change (UNFCC).
- Labour conventions under the International Labour Organization (ILO). Focal point: Ministry of Labour
- Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) (ratified 1976).
- Central American Alliance for Sustainable Development (ALIDES) in 1994
- Convention for the Conservation of Biodiversity and the Protection of Priority Areas in Central America 1992.
- Agreement on Cooperation between Belize and Mexico for the Protection and the Improvement of the Environment and the Conversation of Natural Resources in the Border Zone (20 September, 1991)
- Protocol on Specially Protected Wildlife (SPAW Protocol)
- Convention on the Trans-boundary Movements of Hazardous Wastes (1997)
- Convention for the Protection of the Ozone Layer, and Protocol on Substances that Deplete the ozone Layer
- International Convention on Civil Liability for Oil pollution Damage
- Land-Based Sources of Pollution Protocol (LBSP)
- United National Framework Convention on Climate Change (ratified September, 1994)
- United Nations Convention to Combat Desertification (UNCCD)
- Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) ratified May 1990
- United Nations Declaration on the Rights of Indigenous Peoples (signed September 2007)
- International Covenant on Economic, Social and Cultural Rights (signed September 2000)

Annex 9 - Sample Grievance Registration Form

Grievance #:	.
Date:	.
Recorded by:	..
Means of recording (check one):	□ Phone Line (□ Village Chairperson □ Community Information Meetings □ Mail □ Informal □ Other (explain)
Name of complainant (optional)	..
Address:	.
Telephone:	
Signature:	..
Nature of grievance:	.
Eligibility of Complaint:	□ Eligible (Proceed to Prioritize) □ Ineligible (Terminate Reporting and inform complainant of reason for rejection) Reason for rejecting complaint:
Priority	□ Low □ Medium □ High
Proposed solution:	
Steps taken:	.
Status of response (to be updated monthly):	□ Open □ Action in Progress □ Closed

Annex 10 - Sample inclusive questions to capture vulnerabilities

Modelled from the Intake Form provided by the Our Circle organization that represented the Vulnerable: LGBTQ+ stakeholder group who attended the October 10th, 2021 CRESAP ESS Consultation:

- Legal Name
- Preferred Name
- Sex (as per birth)
- Gender:
    - Female
    - Male
    - Intersex
    - Two Spirit
    - Transgender
    - Gender Queer
    - Prefer Not to Answer
    - Do Not Know
    - Other:
- Sexual Orientation:
    - Bisexual
    - Lesbian
    - Gay
    - Queer
    - Heterosexual
    - Two Spirit
    - Prefer not to answer
    - Do not know
    - Other
- If we cannot contact you, please provide other contact information. (e.g. friend, family, safe house)
- What method do you prefer to attend events?
    - In person
    - online
- Do you have access to internet?
    - Yes
    - No
    - Sometimes
- Do you have any of the following conditions? *
    - Chronic Illness
    - Developmental Disability
    - Drug or Alcohol Dependence

    - Learning Disability
    - Mental Health Disability
    - Physical Disability
    - Sensory Disability
    - No Condition to Report
    - Other:
- Preferred Language
- Which of the following would best describe your racial or ethnic group?
    - Creole
    - Garifuna
    - Mestizo
    - Maya
    - Asian
    - Indian
    - Mennonite
    - Other:
- Citizenship Status
    - Belizean Citizen
    - Refugee
    - Permanent Resident
    - Documented Immigrant
    - Undocumented Immigrant
    - Other:
- Relationship status:
    - Single
    - Legally married
    - Common law
    - Same sex partner
    - Widowed
    - Divorced