

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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TABLE OF CONTENTS

1. Introduction	1
1.1. Rationale and Scope of the ESMF	1
1.2. Objective of the ESMF	2
1.3. Project Description	3
2. Legal and Regulatory Framework	6
2.1. Summary of National Regulations Relevant to the Project	6
2.2. World Bank Environmental and Social Framework	11
2.3. Comparison of National Regulation and World Bank ESSs	14
3. Environmental and Social Baselines	18
4. Potential Environmental and Social Risks and Impacts	26
4.1. Potential Environmental Risks and Impacts	26
4.2. Potential Social Risks and Impacts	32
5. Environmental and Social Mitigation Measures	38
5.1. Environmental Mitigation Measures	39
5.2. Social Mitigation Measures	47
6. Analysis of Alternatives	53
7. Screening Procedures	54
7.1. Screening Process	54
7.2. Screening Criteria and Checklist	55
7.3. Negative List of Activities	57
7.4. Contingent Emergency Response Component (CERC)	57
7.5. Technical Assistance	60
7.6. Permitting	60
8. Environmental and Social Management Plan	60
8.1. Elements of an ESMP	60
8.2. Bidding Documents and Management of Contractors	62
8.3. Compliance and Monitoring	62
8.4. Capacity Development and Training	63
8.5. Environmental and Social Management Capacities of MAFSE	64
9. Institutional Arrangements	65
9.1. Roles and Responsibilities	65

9.2.	Financial Intermediaries.....	66
9.3.	Monitoring.....	67
9.4.	Regular Reporting.....	68
9.5.	World Bank Supervision	68
9.6.	Accident and Incident Notification	68
9.7.	Adaptive Management.....	68
9.8.	Budgeting and Resources.....	68
10.	Stakeholder Engagement and Grievance Mechanism	72
10.1.	Stakeholder Engagement	72
10.2.	ESMF Disclosure.....	72
10.3.	Grievance Mechanism	73
11.	Annex.....	84
11.1.	Annex 1 - Subproject Environmental and Social Screening Form	84
11.2.	Annex 2 - Environmental and Social Management Plan Template and Sample	92
11.3.	Annex 3 - Integrated Pest Management Plan	94
11.4.	Annex 4 – Detailed Project Components	97
11.5.	Annex 5 –Relevant Environmental and Social Features.....	100
11.6.	Annex 6 – Belize Environmental Clearance Process.....	111
11.7.	Annex 7: Sample Grievance Registration Form.....	119

List of Tables

Table 1	Summary of Key Project Activities.....	4
Table 2	Summary of National Regulation and Relevance to the Project.....	6
Table 3	Summary of ESS and Relevance to the Project	11
Table 4	Comparison of National Regulation with Bank ESF.....	14
Table 5	Selection and Rationale of the Environmental Baselines.....	19
Table 6	Selection and Rationale of the Social Baselines	19
Table 7	Summary of Environmental and Social Baselines and Rationale for Parameters	20
Table 8	Summary of Social Baselines and Rationale for Parameters.....	23
Table 9	Summary of Environmental Mitigation Measures	39
Table 10	Summary of Social Mitigation Measures.....	47
Table 11	Screening Process for Individual Farmers under Subcomponent 2.1	54

Table 12	Screening Process for Collective Goods under Subcomponent 2.2	54
Table 13	Budget Estimate for the Project-level Grievance Mechanism	70
Table 14	Budget Estimate for additional costs related to the LMP Grievance Mechanism	70
Table 15	Overall Budget Estimate	71
Table 16	Summary of design of the GM:.....	78
Table 17	Belize EIA Classification and Requirements.....	91
Table 18	Rural Population Breakdown of Project Sites	104

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
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

1.1. Rationale and Scope of the ESMF

The World Bank's 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 for consultations in appropriate locations in Belize and will be disclosed on the Bank's website¹.

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.

1.2. 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 safeguard documents 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 (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.

1.3. 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 Objective is to increase agricultural productivity of and build resilience to climate change risks among the targeted producers, and to respond effectively to an Eligible Crisis or Emergency event.

The project will target as priority the four districts of the Northern region (Cayo, Orange Walk, Corozal, and Belize) out of the six that the country has and where the impacts of climate change and climate variability are expected to be stronger on the main agricultural value chains implemented by the targeted beneficiaries (sugar cane, rice, maize, soybean, vegetables, livestock, fruits). Some activities may also benefit value chains, such as the banana value chain, the citrus value chain, and farmers on the two other districts of the country (Stann Creek and Toledo).

The environmental and social risk classification is *Moderate* under the World Bank's Environmental and Social Framework. 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 MOA, and students from the Agriculture Department of the University of Belize among others. It is estimated that approximately 2,500 producers will benefit directly from this funding, with more benefiting indirectly. The details of the stakeholders are elaborated under the Stakeholder Engagement Plan.

Figure 1 Project Site (Highlighted in Yellow)



Project Components

The project would intervene through four components:

1. Component 1 aims to (i) strengthen the capacity of key institutions that are part of the project (US\$6 million), and (ii) strengthen participating financial institutions, individual farmers, and farmers organizations' capacity.
2. Component 2 aims to promote (i) Climate-Smart Agriculture technologies and practices uptake at the individual level (farmer level), and (ii) collective investments which would be targeted towards farmer groups or are in the form of public goods such as rural infrastructure (US\$16 million).
3. Component 3 (US\$3 million) relates to project management and monitoring and evaluation.
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			
Subcomponent 1.1: Strengthening the Capacity of Relevant Government and Academic Institutions	<ul style="list-style-type: none"> - Capacity building training relevant Government and Academic Institutions on addressing women need in agriculture and on developing studies and diagnosis of the agricultural sector (full details on the activities available in Annex 4) - Design and/or establishment of information systems, agrometeorological products and services - Design and establishment of a system to improve interconnectivity and/or interoperability - Maintenance and/or upgrade of the National Meteorological Network and rehabilitation of weather stations 		
Subcomponent 1.2: Strengthening Participating Financial Institutions, Individual Farmers, and Farmers Organizations' Capacity	<ul style="list-style-type: none"> - Capacity building training for stakeholders involved in project implementation to enhance knowledge in new technologies and approaches in climate-smart and resilient agriculture (full details on the activities available in Annex 4) 		
Component 2: Promotion Climate-Smart Approaches and Investments			
Subcomponent 2.1: Promotion of On-farm CASE technologies and practices	<ul style="list-style-type: none"> - Increase land use intensity (double cropping, intercropping, high-yield varieties) - Plant density management - Crop rotation - Diversification of crops - Water-efficient irrigation - Water-efficient management - Efficient use of agricultural inputs 	Promotion of On-farm CSA Technologies and Practices. This subcomponent will be implemented by participating financial intermediaries	Individual smallholder famers; commercial large- and medium-scale farmers

	<ul style="list-style-type: none"> - Innovative storage technologies - Drought-resistant seeds - Disease tolerant plant varieties - Sustainable livestock systems including silvo-pastoral systems for beef cattle production, improved breeding and feeding and improved manure management. - Change of production system toward more resilient and adaptive practices such as agroforestry, improved soil and land management (minimum tillage), etc. - Technical assistance support to farmers in the preparation of their request for the funding and support for sub-projects' implementation - Labour-reducing technologies for women and young people that are affordable, accessible, and based on their needs 	(FIs). Each FI will be required to develop and implement an Environmental and Social Management System (ESMS) to screen and manage risks and impacts appropriate to the nature of the subproject activities.	
Subcomponent 2.2: Promotion of Complementary Collective Goods to Strengthen Resilience	<ul style="list-style-type: none"> - Post-production investments - Value addition - Drainage - Small-scale, collective water-harvesting 	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 develop impacts as it is for the environmental sector but rather are covered under various and diverse pieces of legislation.

2.1. 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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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

2.2. 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:

Table 3 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 and results in the Labor Management Procedures (LMP) 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 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 as part of detailed site-specific ESMPs.
ESS5 - Land Acquisition, Restrictions on	Relevant – There is a possibility of land take during infrastructure improvements as well as the management of possible voluntary land donations for community level water harvesting. A Resettlement Policy Framework (RPF) has been

Land Use, and Involuntary Resettlement	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 2.1 will be carried out through participating FIs who are better suited than MAFSE to handle individual investments and the resulting administrative and fiduciary processes. 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 Social Assessment (SA) will also be prepared to identify all project affected peoples in the targeted districts and the results will be incorporated in the project design

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. A complete list of industry sector guidelines can be found at:

https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines#IndustryEHS

Sector-specific EHSs that may be relevant to the project include:

- Agribusiness/Food Production such as but not limited to 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.

2.3. 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 4 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	<p>The Public Health Act and Regulations</p> <p>Environmental Protection (Effluent Limitations) Regulations (S.I. 94 of 1995) and the Pollution Regulations (S.I. 56 of 1996).</p> <p>Motor Vehicles And Road Traffic Act, Cap. 230</p> <p>Pesticides Control Act, Cap. 216 and Regulations</p>	<p>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.</p> <p>Domestic law controls the manufacture, importation, sale, storage and use of pesticides adequately.</p>	<p>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</p>
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	<p>Land Acquisition Act</p> <p>Land Utilization Act</p> <p>Public Roads Act</p>	<p>Compensation for expropriation of property for public use is provided for in domestic law but support for resettlement is not covered.</p>	<p>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.</p>

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	<p>Development Finance Corporation Act Chapter 279 Revised Edition 2011</p> <p>Banks And Financial Institutions Act Chapter 263, Revised Edition 2000</p>	<p>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.</p>	<p>WB EE9 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</p>
ESS 10: Stakeholder Engagement and Information Disclosure	<p>Environmental Protection Act and EIA Regulations</p>	<p>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.</p>	<p>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</p>

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

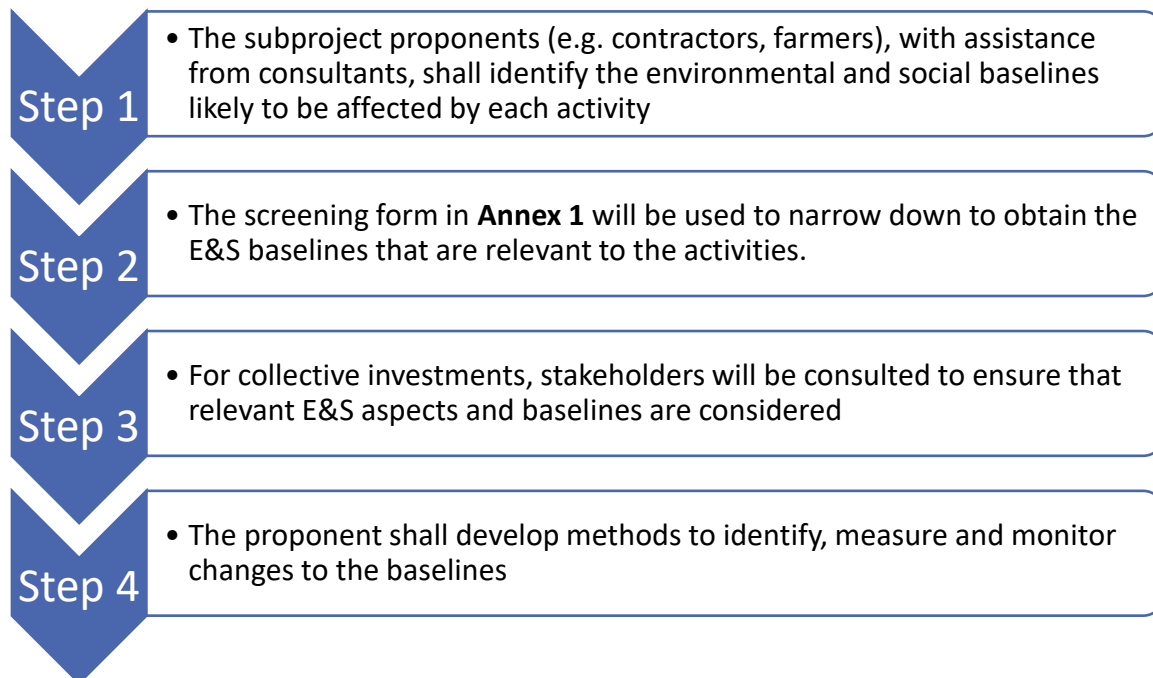


Table 5 Selection and Rationale of the Environmental Baselines

Environmental Baselines	Description and rationale for selection
1. Topography	<p>Outlay of the land, drainage, Land slope, soil.</p> <p>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</p>
2. Water resources	<p>Rivers, watersheds, catchments, groundwater</p> <p>Water resources is a VEC that may be impacted by several project activities, including: irrigation, drainage project activities and rainwater harvesting</p>
3. Forests	<p>Forests and forest cover</p> <p>Forests is a VEC that 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.</p>
4. Biodiversity and Nature protection	<p>Habitats for critically endangered and vulnerable species, protected areas</p> <p>Biodiversity and nature protection is a VEC that may be impacted by several project activities, including Drainage and Irrigation</p>

Table 6 Selection and Rationale of the Social Baselines

Social Baselines	Description
Land tenure	<p>Owners and/or users of land, including government land, displacement, traditional use of land</p> <p>Land tenure may be impacted by several project activities in Component 2, especially in regard to collective goods, including drainage, post production, and collective water harvesting</p>
Employment	<p>Labour force, influx/outflows of temporary workers, income and livelihood</p> <p>Employment should be positively impacted by the project activities but it also can be negatively affected.</p>
Gender equity	<p>Population and sexual demographic, governance structures, job opportunities for women and young people</p> <p>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.</p>
Inclusivity of marginalised groups	<p>Representation of wide range of marginalised stakeholders</p> <p>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,</p>

	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 7 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	<ul style="list-style-type: none"> 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
		<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	
		<ul style="list-style-type: none"> ○ Water quality: <ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ○ Overflow ○ Leakage ○ Water quality: <ul style="list-style-type: none"> ● 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)	<ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ○ 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 8 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	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
	Traditional uses of land	
	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	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
	Existing roles in project area	
	Employment rate by group	
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.

4.1. 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 improved 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

4.2. 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 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.

5.1. Environmental Mitigation Measures

Table 9 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	<ul style="list-style-type: none"> • Drainage • Irrigation • Agroforestry 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Drainage • Irrigation 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. 	PIU Fls	Subsidiary to Technical Assistance Costs Estimate: BZ\$200/day * 2 days = BZ\$400
Slow replenishment of ground	<ul style="list-style-type: none"> • Water harvesting 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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. 	PIU Fls	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.	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Change in production system towards more resilient and adaptive practices (agroforestry) 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Improved yield seed varieties 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Irrigation • Drainage 	<ul style="list-style-type: none"> • Construction of irrigation and drainage systems when done improperly can damage cultivable command area and diminishing maximum yield. 	<ul style="list-style-type: none"> • 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 PIU Farmer Contractor	Subsidiary to Technical Assistance Costs Estimate: BZ\$200/day * 3 day = BZ\$600 Subsidiary to Works Contract
Construction Noise	<ul style="list-style-type: none"> • Irrigation • Drainage 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Drainage 	<ul style="list-style-type: none"> • Spillage of oil, gas and/or lubricants from equipment and vehicles can pollute soil and water, negatively affecting plants and wildlife. 	<ul style="list-style-type: none"> • 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)
			<p>and lubricants safely at designated disposal site.</p> <ul style="list-style-type: none"> • Maintain equipment and machinery in proper running order. 		
Vegetation and Soil Debris	<ul style="list-style-type: none"> • Drainage 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Irrigation • Water Harvesting 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Water harvesting 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Water pressure will be regularly evaluated. • Structural integrity and waterproofing of material used will be regularly tested throughout construction. 	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.	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Water harvesting 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. 	PIU Extension Officer Farmer	Subsidiary to operations costs Included in previous rows estimates
Poor water quality	<ul style="list-style-type: none"> • Water harvesting 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. 	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	<ul style="list-style-type: none"> Water harvesting Irrigation 	<ul style="list-style-type: none"> Water storage containers must be properly constructed as they can attract vectors for diseases such as mosquitoes given the stagnant nature of the water. 	<ul style="list-style-type: none"> Containers and ponds must be checked regularly for any pests and vectors. 	PIU Extension Officer Farmer	Subsidiary to operations costs Estimate: BZ\$200/day * 5 days = BZ\$1000
Source of nuisance	<ul style="list-style-type: none"> Change in production system towards more resilient and adaptive practices (agroforestry) 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Provide training to farmers in wildlife-farm management techniques. Provide training in integrated pest management for farmers. 	PIU Extension Officer Farmer	Subsidiary to technical assistance costs Estimate: BZ\$500/day * 2 day = BZ\$1000
Agricultural Expansion and Deforestation	<ul style="list-style-type: none"> Improved yield seed varieties 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 	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	<ul style="list-style-type: none"> Improved seed yield varieties 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Create a community seedbank of landrace varieties. Provide training to farmers in proper seed storage methods. 	PIU Extension Officer Farmer	Subsidiary to technical assistance costs Included in previous row estimates
Excessive energy use	<ul style="list-style-type: none"> Post-production investment Value addition 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Install and use energy efficient light bulbs and equipment. Use natural light and ventilation in facilities as much as possible. 	PIU Farmer	Subsidiary to Works Contract
Excessive consumption of water	<ul style="list-style-type: none"> Value addition 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Install and use water efficient fixtures. Ensure plumbing systems are free of leakages. 	PIU Farmer	Subsidiary to Works Contract
Pollution and waste generation	<ul style="list-style-type: none"> Value addition 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 	PIU Farmer	Subsidiary to operations costs

Effect on Baseline	Associated Subproject Activities	Impact	Mitigation Measure	Responsible	Mitigation Cost (estimated costs included where available)
			<ul style="list-style-type: none"> • Convert organic waste into compost. 		
Natural Hazards		<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Construct facilities with hurricane resistant design features. • Construct facilities away from flood prone areas. • Insure facilities and installations as appropriate. 	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	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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 	PIU Farmers	Subsidiary to Works Contract Subsidiary to operations costs

5.2. Social Mitigation Measures

Table 10 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 	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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Develop clear and specific annual work plans for subproject implementation. Ensure that PIU is properly staffed and trained. MAFSE to provide backstop support to PIU. 	PIU MAFSE	Subsidiary to project management costs
Risk of exclusion of farmers based on their credit worthiness	<ul style="list-style-type: none"> Farmers, especially women in agriculture, often have limited access to credit due to traditional requirements and risk analysis by financial intuitions. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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 	MAFSE PIU	Outlined in the CRESAP Stakeholder Engagement Plan
PHASE: Construction				
Health, Safety and Security	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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. Pits and drains are to be cordoned off or clearly marked and strictly forbid children near worksites. 	PIU Contractor	Subsidiary to works contract

Category	Impact	Mitigation Measure	Responsible	Indicative Cost
		<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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 or sensitive remains, a night guard shall be arranged until the Institute of Archaeology is able to take over; 	Contractor PIU	Subsidiary to works contract

Category	Impact	Mitigation Measure	Responsible	Indicative Cost
		<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> In some of the work's activities, it is possible that outside workers may be brought in 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. 	<ul style="list-style-type: none"> 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. 	PIU Contractor	Subsidiary to work contract
Loss of Land and Assets	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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. 	PIU Contractor	Subsidiary to works contract
Gender Relations	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	PIU Contractor	Subsidiary to works contract

Category	Impact	Mitigation Measure	Responsible	Indicative Cost
	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.	<ul style="list-style-type: none"> • 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. 		Subsidiary to technical assistance costs
PHASE: Operation				
Labour Intensification and Labour Costs	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. 	PIU Extension Officer	Subsidiary to technical assistance costs Estimate: BZ\$500/day * 3 day = BZ\$1500
Occupational Health And Safety	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Adopt the World Bank's EHS Guidelines as presented in the Labour Management Procedure. • Abide by all national labour and social security laws. 	PIU Contractor	Subsidiary to works contract

Category	Impact	Mitigation Measure	Responsible	Indicative Cost
	workers will be working with equipment with moving parts which can result in serious injury.	<ul style="list-style-type: none"> • 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. 		
Use of Security Forces	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 	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.

7.1. Screening Process

Table 11 Screening Process for Individual Farmers under Subcomponent 2.1

Actions	Responsible
<ul style="list-style-type: none"> ▪ Step 1: Environmental and Social Screening of Identified Physical Subprojects, including analysis of alternatives 	<ul style="list-style-type: none"> ▪ Consultants hired by FIs to work with the farmers
<ul style="list-style-type: none"> ▪ Step 2: Determine risk classification and subsequent assessment, instruments and plans that would be needed 	<ul style="list-style-type: none"> ▪ Consultants hired by FIs to work with the farmers
<ul style="list-style-type: none"> ▪ Step 3: Preparing Environmental and Social Assessments and required ESF documents, Management and Monitoring Instruments 	<ul style="list-style-type: none"> ▪ Consultants hired by FIs to work with the farmers, approved by Environmental and Social Officer, PIU
<ul style="list-style-type: none"> ▪ Step 4: Concurrence and Clearance by Project Steering Committee. 	<ul style="list-style-type: none"> ▪ Project Manager, PIU with final approval from PSC
<ul style="list-style-type: none"> ▪ Step 5: Inclusion of Environmental and Social Management Specifications and ESF required documents (e.g., A-RAPs and ESMPs), including DOE’s Environmental Compliance Plans, in bid documents. 	<ul style="list-style-type: none"> ▪ Procurement Specialist, PIU
<ul style="list-style-type: none"> ▪ Step 6: Environmental and Social Management Compliance Plans and other required ESF documents (ie. A-RAPs) for individual projects by Contractors. 	<ul style="list-style-type: none"> ▪ Contractor, PIU
<ul style="list-style-type: none"> ▪ Step 7: Compliance Monitoring and Reporting 	<ul style="list-style-type: none"> ▪ Contractor, PIU

Table 12 Screening Process for Collective Goods under Subcomponent 2.2

Actions	Responsible
<ul style="list-style-type: none"> ▪ Step 1: Environmental and Social Screening of Identified Physical Subprojects, including analysis of alternatives 	<ul style="list-style-type: none"> ▪ Contractors

<ul style="list-style-type: none"> ▪ Step 2: Determine risk classification and subsequent assessment, instruments and plans that would be needed 	<ul style="list-style-type: none"> ▪ Environmental and Social Officer, PIU
<ul style="list-style-type: none"> ▪ Step 3: Preparing Environmental and Social Assessments, Management and Monitoring Instruments 	<ul style="list-style-type: none"> ▪ Environmental and Social Officer, PIU
<ul style="list-style-type: none"> ▪ Step 4: Concurrence and Clearance by Project Steering Committee. 	<ul style="list-style-type: none"> ▪ Project Manager, PIU with final approval from PSC
<ul style="list-style-type: none"> ▪ Step 5: Inclusion of Environmental and Social Management Specifications and Environmental Management Plan, including DOE’s Environmental Compliance Plans, in bid documents. 	<ul style="list-style-type: none"> ▪ Procurement Specialist, PIU
<ul style="list-style-type: none"> ▪ Step 6: Environmental and Social Management Compliance Plans for individual projects by Contractors. 	<ul style="list-style-type: none"> ▪ Contractor, PIU
<ul style="list-style-type: none"> ▪ Step 7: Compliance Monitoring and Reporting 	<ul style="list-style-type: none"> ▪ Contractor, PIU

7.2. 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 MAFSE 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 Environmental and Social Officer of the PIU.

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.

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 project 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 project 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](#)).

7.3. 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) Any activity involving the purchase of pesticides and insecticides.
- f) Any activity that would cause damage or destruction of tangible and intangible cultural heritage

7.4. Contingent Emergency Response Component (CERC)

The MAFSE and 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 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, MAFSE/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 the 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 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, MAFSE/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. MAFSE/PIU will submit the completion report describing the compliance of safeguard performance and submit it to WB when required.

Institutional Arrangement for Project Implementation

In the event of flooding and hurricanes: As mentioned above, the MAFSE/PIU will lead the implementation at subproject level while NEMO will provide assistance. MAFSE/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/PIU will lead the implementation at subproject level and will also serve as the CERC Implementing Agency.

7.5. 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 PIU, and subsequently submitted for the Bank’s review and approval.

7.6. 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.

8.1. 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 safeguards requirements of the World Bank 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 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.

8.2. Bidding Documents and Management of Contractors

The 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 2.2, 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 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.

8.3. 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 Environmental and Social officer of the PIU will be responsible for conducting environmental compliance monitoring.

8.4. 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 1: Training and Capacity Building Activities

Type of activity	Target Group	Timeline
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> MAFSE PIU 	Within the first quarter after the PIU has been put in place and training plan developed.
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Project workers Farmers 	Before and during subproject implementation
<ul style="list-style-type: none"> Capacity development and training to address environment and social risks as per the developed ESMS. 	<ul style="list-style-type: none"> FIs 	Before FIs disburse their first funds to FI subprojects and continued throughout implementation.
<ul style="list-style-type: none"> Technical and awareness trainings on safe environmental and social practices 	<ul style="list-style-type: none"> Farmers. 	Project implementation.

8.5. 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 environmental and social focal point. The focal point attended a Bank-led ESF training workshop in Barbados in February 2020 and is coordinating 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 the full-time environmental and social focal point of the project and will be assisted by one part-time environmental and one part-time social consultant who may be converted to full-time based on project needs.

Contingency Plans

- 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 MAFSE 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 Mechanism including a database for CRESAP.
- e) Provide training to MAFSE and PIU staff on World Bank Environmental and Safety Standards.
- f) Provide training to MAFSE and PIU on preparation of environmental and social instruments (ESMP).

9. Institutional Arrangements

9.1. 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. It will be chaired by the Chief Executive Officer of the MAFSE. The Secretariat of the PSC will be provided by the Project Coordinator. The PSC will be composed of representatives of the entities involved in the implementation of the project. They include the representative of MAFSE, the representative of the Ministry of Finance, Economic Development & Investment, the representative of Civil Society Organizations, etc.
- b) MAFSE PIU – The MAFSE PIU is primarily responsible for the overall implementation of the project and will therefore need to liaise directly with the other entities identified below in order to ensure that measures in the various environmental and social instruments are properly followed and executed. The MAFSE will ensure that the PIU has the adequate staffing to oversee the implementation of the ESMF and other subprojects instruments. So far, MAFSE has assigned one agricultural officer to be the fulltime environmental and social focal point of the project, as further elaborated in section 8.5 above.
- c) Climate Smart Matching Grant Approval Committee (CSMG) – The Climate Smart Matching Grant Approval Committee consists of the representatives of the MAFSE, participating financial institutions, and PIU specialists and will have the overall responsibility for review and approval of the matching grant request submissions.
- d) 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.
- e) 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.
- f) 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.

- g) 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. The Hydrology Department is also under the responsibility of the MNR.
- h) 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.
- i) 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.
- j) Social Investment Fund - SIF Fiduciary Team (Procurement, Financial Management, Accounting, and Monitoring and Evaluation) will oversee those aspects during the first year of implementation of the project

9.2. Financial Intermediaries

a) Coordination and Approval of Subprojects

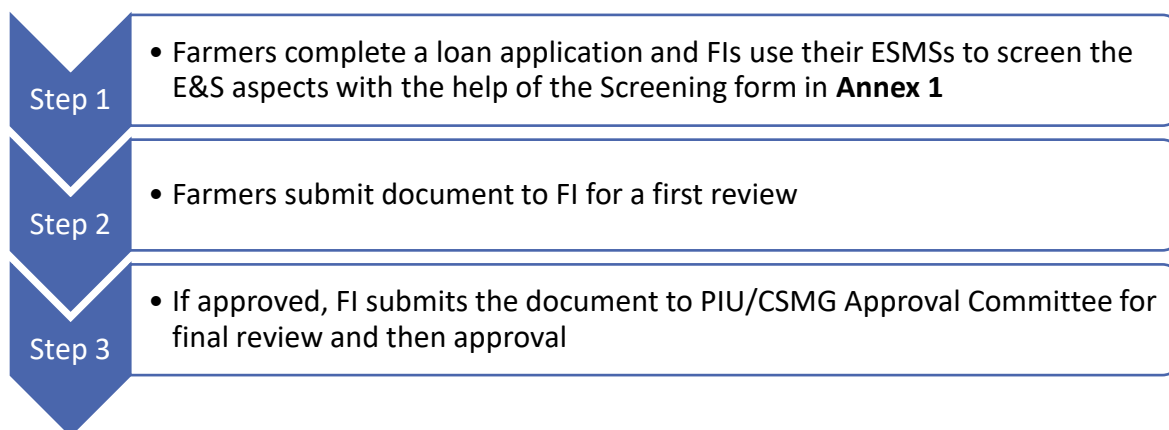
Financial Intermediaries (FIs) participating in the project will develop their own internal Environmental and Social Management Systems (ESMS), which includes a risk categorization system for subprojects. FI subprojects with minimal or no adverse E&S risks or impacts will apply national law, if the FI is assessed to have good capacity to do so. Prior to submitting subprojects to the Climate Smart Matching Grant (CSMG) Approval Committee 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 their ESMS and with the help of the forms in **Annex 1**

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 PIU

Figure 3 Approval Process for a subproject under subcomponent 2.1 (FI-led)

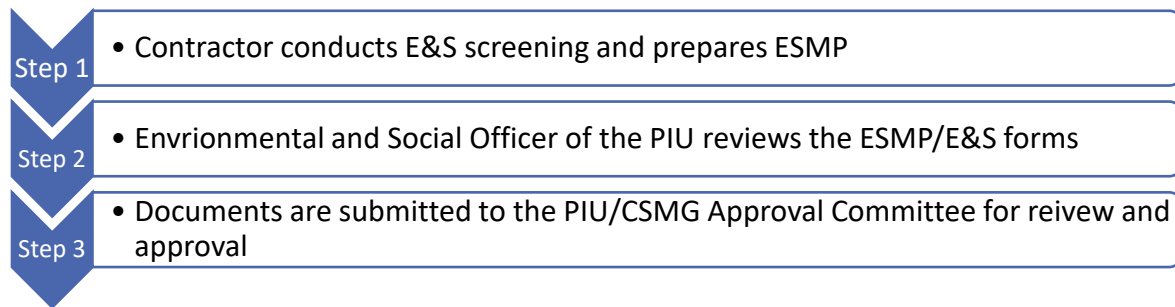


Once the PIU receives the E&S forms:

Step 1: The environmental and social officer of the PIU will review the environmental and social aspects of the proposal and recommend to the Matching Grant Committee on whether the project is sound on Environmental and Social standards.

Step 2: The PIU will then transmit them to the Climate Smart Matching Grant Approval Committee. The Committee will review other aspects of the proposals such as financial and technical and consider the environmental and social review conducted by the PIU. In addition to the 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 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.

Figure 4 Approval Process for a subproject under subcomponent 2.2 (MAFSE-led)



Reporting and Monitoring

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

9.3. Monitoring

The MAFSE and the 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.

The PIU will be the primary entity responsible for the implementation of the ESMF and as such has appointed one of its staff to be the Environmental and Social focal point of the PIU. The 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.

9.4. Regular Reporting

The MAFSE PIU will provide the Bank with regular quarterly reports of the results of the monitoring as set out in the Environmental and Social Commitment Plan (ESCP). The PIU will coordinate the reporting requirements for the FIs by developing an overall reporting structure for FIs to allow for efficient consolidation by the PIU. FIs will be required to submit all screening reports on subprojects to the PIU as well as E&S reports to the PIU every quarter during implementation of subprojects. Contractors for any civil works implemented by MAFSE PIU shall provide monthly monitoring and compliance reports to MAFSE. The MAFSE, through the Environmental and Social focal point of the PIU, will review the reports from contractors and FIs, consolidate them, and submit them to the Bank quarterly, 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 mechanisms.

9.5. World Bank Supervision

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

9.6. Accident and Incident Notification

In addition, the MAFSE PIU will notify the World Bank promptly (within 48 hours) 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 and the ESSs

9.7. Adaptive Management

Based on the results of ongoing monitoring, the MAFSE 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 MAFSE 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.

9.8. 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 EMF 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 2.2, contractors will budget for E&S mitigation measures in the bidding process. For subcomponent 2.1, farmers are not expected to include the cost of mitigation measures in their loan applications, but would be supported by project funds; therefore, it will be a separate line item in the budget. Indicative costs for technical support have been provided in the Summary of Mitigation Measures table that would be taken from the project budget.

Summary of indicative costs of environmental and Social mitigation measures not directly covered under the works contracts under subcomponent 2.1

Type of mitigation measures	Total (BZD)	Total (USD)
Environmental	3800	1900
Social	5000	2500

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

**these costs are in addition to support from the Environmental and Social part-time experts engaged for the duration of the project as they refer to additional specific technical skills. They 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 be 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 MAFSE PIU 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 Mechanism Costs:** Training on the GM and Gender-based violence topics are included in the SEP budget. Additional items relevant to GM included in the budget below:

Table 13 Budget Estimate for the Project-level Grievance 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	1	2500	2500	1250

labor related grievances, and a separate logbook in physical form				
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 PIU 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.	20,000	10,000
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		
Development of E&S Documents and other Tools		
1. Additional consultants e.g., developing ESMSs, RAP, IPPs, ESMPs, ESIAAs	50,000	25,000
Monitoring, inspection, evaluation, and reporting		

1. Periodic training activities	30,000	15,000
2. Regular monitoring of contractor, FI and farmers' compliance including OHS and community health and safety		
3. Supervision missions with WB team		
4. Quarterly reporting of E&S compliance for all project components		
Grievance Mechanism		
1. Setting up and Implementation of the GM, including a database for MAFSE PIU, including two part-time environmental and social consultants	356,800	178,400
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	\$534,550	\$267,275

This budget encompasses the LMP budget.

10. Stakeholder Engagement and Grievance Mechanism

10.1. Stakeholder Engagement

As set out in ESS10, the MAFSE 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. The MAFSE 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.

10.2. 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.

10.3. Grievance Mechanism

Background and Aims of GM

The Grievance Mechanism (GM) is designed and established for the overall project and as part of the RPF, IPPF, and resettlement plan. Both this project-level GM and the separate LMP GM include a special channel for Gender Based Violence (GBV) issues to ensure these types of issues are dealt with appropriately. GMs 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 GM is developed as part of the Stakeholder Engagement Plan (SEP) to receive and facilitate the resolution of concerns and grievances. Such grievances may include the potential of exclusion of vulnerable people and any systemic discrimination that may exist which could cause inequitable distribution (if it occurs) of project benefits. The vulnerable groups include the poorest, female-headed households with underage children, female unemployed, youth unemployed, persons with disabilities, youth at risk, young girls, and minority groups based on religion, ethnicity, sexual orientation, persons living with HIV/AIDS, elderly persons, Mennonites, immigrant farmers, and indigenous people. The GM includes specific and confidential channels that can be used by vulnerable groups.

To avoid or minimize the risk of leaving certain vulnerable groups behind, the SEP describes the measures that are used to remove obstacles to participation and how the opinions of the different affected groups are captured. The SEP includes differentiated measures to allow the effective participation of those identified as vulnerable, focusing on small farmers without connections to formal organizations. In accordance with ESS7, the project requires a dedicated approach for communication and participation of indigenous groups that may be affected, ensuring that there are effective channels of communication, access to participation tables and agency in making decisions about problems that will potentially affect them (positively or negatively).

Principles of GM

Effective GMs usually embody seven core principles:

- 1) **Fairness:** Grievances are treated confidentially, assessed impartially, and handled transparently.
- 2) **Objectiveness:** The GM is to operate in a fair, objective manner and give impartial treatment to each case. GM officers have adequate means and powers to investigate grievances (e.g., interview witnesses, access records, etc.).
- 3) **Simplicity and accessibility:** Procedures to file grievances and seek action are simple enough that community members can easily understand them. Community members

will also have a range of contact options including, at a minimum, a telephone number, an email address, and a postal address. The GM will be accessible to all stakeholders, irrespective of the remoteness of the area they live in, the language they speak, and other characteristics. The GM will not use complex processes that create confusion or anxiety (such as only accepting grievances on official-looking standard forms or through grievance boxes in government offices).

- 4) Responsiveness and efficiency: The GM will be responsive to the needs of all complainants. Accordingly, officials handling grievances will be trained to take effective action upon and respond quickly to grievances and suggestions.
- 5) Speed and proportionality: All grievances, simple or complex, will be addressed and resolved as quickly as possible. The action taken on the grievance or suggestion is swift, decisive, and constructive.
- 6) Participatory and socially inclusive: A wide range of project-affected people, community members, members of vulnerable groups, civil society, and the media – will be encouraged to bring grievances and comments to the attention of project authorities. Special attention is given to ensure that the poor and marginalized groups, including those with special needs, are able to access the GM.
- 7) Confidentiality: GM officers will be trained on confidentiality procedures, including anonymising personal information when discussing actions to be taken with the Project Steering Committee. Training will emphasize that there must be absolutely no reprisals and the participation of community members in the GM does not diminish their rights or entitlement to benefit from the project in any way. The same information can be shared with local communities. Emails, letters, and transcripts of telephone conversations containing personal information will be accessed only by the assigned project staff.

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. 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

GM Administration Process

Registration

Receiving and registering complaints will be a simple process where members of the public can inform the MAFSE PIU Staff or personnel at any of the MAFSE offices in the districts, considering that not all members of the community will have access to a phone and/or email. Respective Chairpersons of the various Village Councils may also make a report on behalf of a villager. These respective persons will be trained on the GM and be fully equipped to pass on the information in a secure method and within 24 hours to the Focal Point person identified below:

Complaints should be passed on to the focal point by phone, email, in-person, or directly via the log system at the following:

Focal point: Jose Tillett (MAFSE Monitoring and Evaluation Officer)
Telephone: 8222131
Email: jose.tillett@agriculture.gov.bz

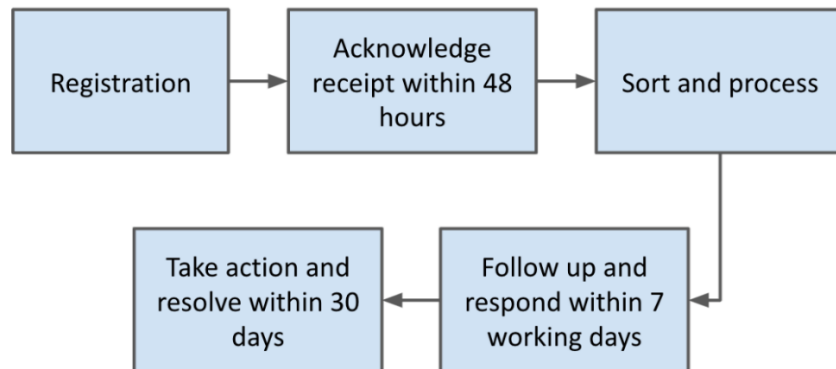
Persons may also opt to lodge their grievance directly to the focal point via the phone number and/or email provided as well as in person. The Focal Point must acknowledge receipt of the grievance directly to the complainant, whether the grievance was provided either directly or via respective persons outlined above within 48 hours.

All relevant staff will be trained on confidentiality procedures to protect the identity of those wanting to lodge a complaint. Members of the public should be made aware of this.

Although grievances can be received from respective persons, the responsibility for consolidation and formal logging of grievances will be that of the Focal Point. Once a complaint has been received, it will be recorded in the complaints log or data system which will be established by the MAFSE and will be kept confidential. The Focal Point will ensure that the respective persons responsible for address the grievance receives the information and allows those persons to respond to the grievances within 7 working days. In the case of grievances around Environmental and Social issues, the Environmental and Social Specialist will be responsible for responding to such grievances within the outlined timeframe.

A log can be developed based on the example provided in Annex 7. The log can be kept in hardcopy or electronic form. Various types of grievances typically require different follow-up actions—for example, some grievances can be resolved by means of a simple explanation or apology, while others may require more extensive investigations. Therefore, grievances will be categorized, assigned priority, and routed as appropriate.

Figure 1: GM Procedures Sort and Process Complaints



This step determines whether a complaint is eligible for the grievance mechanism, its seriousness and complexity. The complaint will be screened however this will not involve judging the substantive merit of the complaint. The following is a guide to determine whether a complaint is eligible or not:

Eligible complaints may include those where:

- a) The complaint pertains to the project.
- b) The issues raised in the complaint fall within the scope of issues the grievance mechanism is authorized to address.
- c) The complainant has standing (direct stake or interest) to file.

Ineligible complaints may include those where:

- a) The complaint is clearly not project related.
- b) The nature of the issue or complaint is outside the mandate of the grievance mechanism.
- c) Other project procedures, organization or agencies are more appropriate to address the issue.

If the complaint is rejected at this stage, the complainant will be informed of the decision and the reasons for the rejection. It is advisable to give complainants the benefit of the doubt and engage in a conversation before deciding to reject a complaint. Complainants often provide incomplete information. Project staff will make an effort to truly understand the nature of the grievance before responding. All complaints whether eligible or not, will be logged for reference.

When evaluating and investigating complaints the parties, issues, views, and options will be clarified:

- a) Clearly identify the parties involved.

- b) Clarify issues and concerns raised by the complaint.
- c) Gather views of other stakeholders, including those of project staff.
- d) Classify the complaint in terms of its seriousness (high, medium, or low). Seriousness includes the potential to impact both the project and the community. Issues to consider include the gravity of the allegation, the potential impact on an individual's or a group's welfare and safety, or the public profile of the issue. A complaint's seriousness is linked to who in the project's management needs to know about it and whether the PSC is advised of the matter.

The GRM will also accept anonymous complaints.

Acknowledge and Follow Up

When a complaint is registered, the Project Manager or appropriate MAFSE personnel will acknowledge its receipt in a correspondence that outlines the grievance process and provides contact details for the responding officer. The MAFSE PIU Social and Environmental Officer will formally respond and acknowledge the issue within 7 working days; by email if appropriate. Complainants will then receive periodic updates on the status of their grievances.

Evaluate, Investigate and Take Action

This step involves gathering information about the grievance to determine its validity and resolving the grievance. The merit of grievances will be judged objectively against clearly defined standards such as relevant environmental and social safeguards, legal requirements and the Project Operations Manual, if available. Grievances that are straightforward (such as queries and suggestions) can often be resolved quickly by contacting the complainant and providing an appropriate response. Every effort will be made to resolve a grievance within 30 days of receipt. If this is not possible, clear steps being taken to address the grievance will be communicated to the complainant. Grievances that cannot be resolved by the GM at the Project Management level will be referred to the Project Steering Committee.

Complainants are free at any time to seek redress through the national judicial system or the Office of the Ombudsman. However, the MAFSE PIU will encourage complainants to first seek to exhaust the project GM before undertaking costly legal proceedings.

The PIU will ensure there is readily available resources to translate complaints submitted in indigenous languages and responses to complainants.

For urgent issues including non-compliance, GBV, and others, the PIU will inform the World Bank within 48 hours.

Implementing the GM

Build Awareness of GM

The GM will be presented by project staff to community members during community meetings or when undertaking community consultations for social assessments and developing resettlement plans. Other ways to publicize the GM to the local communities include the following:

- Simple, visually engaging marketing materials can be developed. These can describe the process for handling people’s concerns and the benefits that can result. The materials will also inform the local communities about where to go and who to contact if they have a complaint. Material will be developed in relevant languages for Indigenous Peoples.
- Virtual formal, and informal meetings for local communities via Zoom/Teams can be used as the main method for building awareness about the GM. WhatsApp groups can also be utilised to reach more remote communities alongside traditional methods including TV, newspaper, radio, posters, and illustrations.
- Communities will be consulted about any risks or fears they have associated with using the system. Information about what else they might need to voice a complaint and participate effectively in the mechanism will be elicited and used to update the GM.
- All community awareness activities regarding the GM must adhere to the COVID 19 protocols established for stakeholder engagement above.

Table 16 Summary of design of the GM:

Step 1: Clear system to report grievances	Members of the public can inform the MAFSE 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: Focal point: Jose Tillett Telephone: 8222131 Email: jose.tillett@agriculture.gov.bz
Step 2: Acknowledge	Focal point will acknowledge its receipt in a correspondence that outlines the grievance process and provides contact details for the responding officer
Step 3: Follow up	The MAFSE PIU Social and Environmental Officer will formally respond and acknowledge any environmental and social issues within 7 working days: by email if appropriate
Step 4: Evaluate, Investigate and Take Action	The PIU Social and Environmental Officer will resolve a grievance within 30 days of receipt. 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 GM at the Project Management level will be referred to the Project Steering Committee
Step 6: Next steps if unsatisfied with project GM	The complainant has the option of seeking redress through the national judicial system or the Office of the Ombudsman at their own cost

Train Staff for GM

Project staff will be educated about the GM and procedures. This is to ensure that other staff members are able to accept complaints, or to participate in on-the-spot resolution of minor problems. The following will be considered when developing training sessions for project staff:

- i. Sessions will focus on why the grievance mechanism is in place, its goals, benefits, and how it operates.
- ii. Roles and expectations of project staff including what to do if a member of the community approaches them with a grievance, how best to respond to aggrieved stakeholders and the importance of listening, remaining objective, and taking stakeholder concerns seriously.
- iii. The constructive role of community dissent in project operations, by encouraging the view that complaints and opposition are a source of valuable information that can lead to improved operations, reduce risk, and develop a supportive relationship with the community.
- iv. Emphasize that there must be absolutely no reprisals and the participation of community members in the GM does not diminish their rights or entitlement to benefit from the project in any way. The same information can be shared with local communities.
- v. The program will also cover topics related to sexual harassment, particularly towards women and children, violence, including sexual and/or gender-based violence and respectful attitude while interacting with the local community.

As there is no existing GM policy in place at the MAFSE, this GM process will be written into the Project Operations Manual

World Bank Grievance Redressal Service (GRS)

The complainant has the option of approaching the World Bank, if they find the established GM cannot resolve the issue. It must be noted that this GRS should ideally only be accessed once the project's grievance mechanism has first been utilized without an acceptable resolution. World Bank Procedures requires the complainant to express their grievances in writing to World Bank office in Washington DC by completing the bank's [GRS complaint form](http://www.worldbank.org/en/projects-operations/products-and-services/grievance) which can be found at the following URL link: <http://www.worldbank.org/en/projects-operations/products-and-services/grievance>. Completed forms will be accepted by email, fax, letter, and by hand delivery to the GRS at the World Bank Headquarters in Washington or World Bank Country Offices.

Email: grievances@worldbank.org Fax: +1-202-614-7313 By letter: The World Bank Grievance Redress Service (GRS)

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 E&S Specialist that reviews 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 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 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 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 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 procedures²:

- 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 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

² Women’s Department. (2012). Handbook on Sexual Violence, Belize.

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 MAFSE 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

The monitoring process will be done by the MAFSE PIU which will be in-charge of monitoring implementation of the plan. District level monitoring and evaluation will be linked to the main Project Monitoring and Evaluation carried out by the PIU. The Monitoring and Evaluation Specialist at the PIU will be the overall office responsible for monitoring of the plan.

The E&S Specialist should submit monthly internal reports to the Monitoring and Evaluation Specialist at the PIU and included in the progress reports submitted to the World Bank quarterly. 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

Management Functions

The Ministry of Agriculture is the main responsible institution for implementation of the Climate Resilient Sustainable Agriculture Project (CRESAP). A Project Implementation Unit (PIU) will be established for the purpose of CRESAP's implementation and will be located within the Ministry of Agriculture, Food Security and Enterprise staffed with experts/specialist as the following: technical personnel, safeguard experts to provide assistance on environmental and social safeguards issues, fiduciary staff (procurement and financial experts) etc. The PIU is responsible for the overall CRESAP implementation, project planning and coordination, procurement, monitoring of the project activities and reporting.

An Environmental and Social Focal Point has been assigned to the project for the entire period of the project implementation. The management, coordination and implementation of the SEP and its integral tasks will be the responsibility of the PIU's Environmental and Social Specialist. Main tasks for PIU Environmental and Social Specialist - responsible person for SEP implementation:

- a) Implementation of the Stakeholder Engagement Plan (SEP). ESS presents information regarding the project and receive any community concerns or complaints (grievance forms).

- b) Facilitate all stakeholder engagement events and disclosure of material to support stakeholder engagement events.
- c) Participate during all face-to-face stakeholder meetings.
- d) Preparation of Minutes of meeting from all engagement events.
- e) Maintain the project stakeholder database and update contact information regularly.
- f) Maintain the track results of regular meetings and specific concerns/complaints received. The grievance database needs to be maintained on a regular basis with all received concerns/how the concern/complaint was addressed and/or resolved, etc.
- g) Resolve grievances and feedback submitted via the GM on Environmental and Social topics according to the GM process outlined above
- h) Report on social and environment safeguard issues identified during site visits and via the GM included in progress report submitted to the Monitoring and Evaluation Specialist at the PIU that will also conduct regular site visits to verify reported information and ensure overall project outcomes are being met.

The E&S Focal Point will be supported by one part-time Environmental and one part-time Social specialist, with ability to become full-time personnel depending on the project needs.

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

11.1. Annex 1 - Subproject Environmental and Social Screening Form

This checklist is to be used by the consultants hired by the FIs to work with farmers to review the potential environmental and social impacts of subprojects and determine whether the subprojects will trigger relevant ESS instruments of the World Bank or of the Department of Environment. It is a tool to screen, classify and evaluate the project activities during subproject preparation.

BASIC SUBPROJECT INFORMATION		Date: _____		
1.) Name of Sub-project:				
2) Purpose of Sub-project:				
3) Is the Sub-project:	[] an expansion of an existing project		[] a new project	
4) Description of Sub- project:				
5) Location of sub-project:	(Street)			
	(Village/District)			
	(Approximate location coordinates [latitude, longitude])			
6) Physical dimensions and scale of the sub-project:	a) Site Area to be developed: _____ hectares	a) Building height(s) proposed: _____m	b) Footprint of proposed building: _____m ²	c) Length of proposed drain, etc.: _____m

Checklist Table – Screening

	Issue	Answer			Relevant ESS
		Yes	No	Provide explanation / Actions Required	
1	Water and Soil				ESS1/ ESS3/ ESS6
1.1	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?				
1.2	Will the subproject lead to contamination of ground and surface waters by herbicides and/or pesticides?				
1.3	Will the subproject lead to an increase in suspended sediments in streams, decline in water quality and increased sedimentation downstream?				
1.4	Will the subproject lead to the creation of stagnant water bodies in borrow pits, quarries, ponds, etc., encouraging for mosquito breeding and other disease vectors?				
1.5	Does the project involve significant new investments for extraction, diversion or containment of surface or ground water?				
2	Noise and Air Pollution Hazardous Substances				ESS3/ ESS4
2.1	Will the subproject release harmful air emissions from vehicle/equipment/other processes?				
2.2	Will the subproject increase ambient noise levels?				
2.3	Will the subproject involve the storage, handling, or transport of hazardous substances?				

	Issue	Answer			Relevant ESS
		Yes	No	Provide explanation / Actions Required	
3	Fauna and Flora				ESS6
	Does the subproject 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)?				
3.1	Will the subproject involve the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?				
3.3	Will the subproject lead to the disruption/destruction of wildlife through interruption of migratory routes disturbance of wildlife habitats, livestock-wildlife interactions, and noise-related problems?				
4	Destruction/Disruption of Land and Vegetation				ESS6
4.1	Will the subproject lead to the introduction of alien species?				
4.2	Will the subproject lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?				
4.3	Will the subproject lead to the interruption of subsoil and overland drainage patterns (in areas of cuts and fills)?				
4.4	Will the subproject lead to erosion of lands receiving concentrated outflow carried by covered or open drains?				
5	Land Use				ESS6

	Issue	Answer			Relevant ESS
		Yes	No	Provide explanation / Actions Required	
5.1	Is the subproject located in an area falling within 500 meters of national forests, protected areas, wilderness areas, wetlands, biodiversity, critical habitats, or sites of historical or cultural importance?				
5.2	Is the subproject located in an area of tourist importance?				
5.3	Is the subproject located near a waste dump?				
5.4	Does the subproject require the conversion of significant land areas (e.g. >200 hectares?)				
5.5	Does the subproject require clearing or levelling of large areas of land (e.g. >200 hectares), or land with steep slope (e.g. >5%)				
5.6	Does the project involve silvopasture or livestock management within 1km of natural or protected areas?				
6	Cultural Resources				ESS8
6.1	Does the subproject consist of converting lands that contain sites of cultural/religious/ historical importance?				
6.2	Would the proposed project produce a physical “splintering” of a community?				
6.3	Have the prepared Chance Finds procedures been adopted for use in the subproject?				
7	Expropriation and Social Disturbance				ESS4/ESS5

	Issue	Answer			Relevant ESS
		Yes	No	Provide explanation / Actions Required	
7.1	Will the subproject involve land expropriation/acquisition or demolition of existing structures?				
7.2	Does the project enter into conflict with existing uses of land and labour demands?				
7.3	Does the subproject require housing services or agricultural lands to support the labour force (e.g., >100 operators?)				
7.4	Does the subproject cause people to change the means by which they sustain their lifestyles (the significance depends on the socioeconomic scale and type of impact, e.g. consent of change, lopsided benefits)?				
7.5	Would the proposed project result in dislocation or resettlement of populations?				
8	Climate Change				ESS3
8.1	Will the proposed project result in significant greenhouse gas emissions from the burning of fossil fuels?				
8.2	Is the proposed project likely to directly or indirectly increase environmental and social vulnerability to climate change now or in the future (maladaptive practices) ?				
9	Social Equity and Equality				ESS7
9.1	Will the subproject have environmental and social impacts that could affect indigenous people or other vulnerable groups?				

	Issue	Answer			Relevant ESS
		Yes	No	Provide explanation / Actions Required	
9.2	Is the project likely to negatively impact gender equality and women's empowerment?				
9.3	Will the proposed project have variable impacts on women and men, different ethnic groups, social classes?				
9.4	Is the project likely to attract forced labor and/or child labor?				
10	Demographics				ESS2 / ESS4
10.1	Would project 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)?				
11	Health and Safety				ESS4
11.1	Will the proposed subproject be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding, or extreme climatic conditions?				
11.2	Would the project 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?				
12	Analysis of Alternatives				ESS1
12.1	Did the project examine alternatives to avoid or minimize environmental and social impacts?				

		Answer			
	Issue	Yes	No	Provide explanation / Actions Required	Relevant ESS
12.2	Did the project select the most feasible alternative based on technical, economic, environmental, and social factors?				
13	Activities ineligible for financing				ESS1
	<p>Does the project fall under any of the following categories?</p> <ul style="list-style-type: none"> • 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 of pesticides and insecticides. • An activity that would cause damage or destruction of tangible and intangible cultural heritage 				

Category of Risk	Low Risk	Moderate Risk	Substantial	High Risk
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Justification	<i>[provide justification for risk level selected]</i>	<i>[provide justification for risk level selected]</i>	<i>[provide justification for risk level selected]</i>	<i>[provide justification for risk level selected]</i>
Action To Be Taken	Proceed to Implementation	Prepare an ESMP or other ESF instruments following the ESMF guidance	Subproject shall be discussed with the PIU and the World Bank prior to taking action.	Reject Project

Project Categorization prepared by: _____

Signature: _____

Date: _____

Summary of project EIA classification under Belize Department of Environment

Table 17 Belize EIA Classification and Requirements

Classification	Impact significance on CRESAP	Requirements
Schedule I	High risk subprojects would be ineligible for funding under CRESAP. Similarly, subprojects are unlikely to meet size thresholds to trigger a full EIA – impact is negligible	Full EIA is required
Schedule II	Moderate risk subproject may require a LLES. It would require the completion of an ESMP, which is likely to comply with the requirements of an LLES – impact is therefore minimal	Full EIA or Limited Level Environmental Study may be required
Schedule III	Majority of subprojects are likely to fall in this category and will proceed past the screening phase – impact is minimal	No EIA or LLES required but measures can be stipulated in an Environmental Compliance Plan

11.2. Annex 2 - Environmental and Social Management Plan Template and Sample

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 2: 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	<ul style="list-style-type: none"> 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	PIU E&S Officer and farmer	PIU E&S Officer 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	<ul style="list-style-type: none"> 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	PIU E&S Officer and farmer	PIU E&S Officer and farmer	Implement mitigation actions during activity planning phase Monitor net forest cover loss twice a year	

11.3. Annex 3 - 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

Depletion of organic soil nutrients

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

Poisoning of non-target species including natural biological pesticides

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.

11.4. Annex 4 – Detailed Project Components

The project would intervene through four components. Component 1 aims to (i) strengthen the capacity of key institutions that are part of the project and (ii) strengthen participating financial institutions, individual farmers, and farmers organizations' capacity. Component 2 aims to promote (i) CSA technologies and practices uptake at the individual level (farmer level) and (ii) collective investments which would be targeted towards farmer groups or are in the form of public goods such as rural infrastructure. Component 3 relates to project management and monitoring and evaluation. Component 4 is the Contingency Emergency Response Component (CERC).

The project's specific components are as follows:

Component 1: Institutional Strengthening

This component consists of two subcomponents focused on strengthening the capacity of key institutions that are part of the project:

Subcomponent 1.1: Strengthening the Capacity of Relevant Government and Academic Institutions.

This subcomponent will focus on strengthening the capacity of the different departments of the Ministry of Agriculture, Food Security and Enterprise and key Government bodies engaged in the project, including the National Meteorological Service (NMS), the Agriculture Department of the University of Belize, the Belize Agricultural Health Authority (BAHA), and the Pesticides Control Board (PCB), which play a critical role in improving agricultural sector's efficiency and enhancing producers capacity to adapt to climate change and weather variability in Belize. In particular, this subcomponent will finance, inter alia: (i) The provision of trainings on better integrating and addressing women needs in agriculture); (ii) the validation of BAIMS' existing records and system enhancement; (iii) the design and/or establishment of information systems, agrometeorological products and services; (iv) the improvement of agrometeorological data quality; (v) the design and establishment of a system to improve interconnectivity and/or interoperability among Ministry of Agriculture and the NMS of Belize to enhance sharing of information, decision-making, and monitoring of agromet conditions; (vi) the maintenance and/or upgrade of the National Meteorological Network and rehabilitation of weather stations

in agricultural production areas; and (vii) the carrying out of capacity building activities, studies and diagnosis and the provision of technical assistance.

Subcomponent 1.2: Strengthening Participating Financial Institutions, Individual Farmers and Farmers' Organizations Capacity.

This subcomponent will focus on strengthening the capacity of the main stakeholders, including Participating Financial Institutions (PFI) such as the Development Finance Corporation (DFC), Credit Unions, the Credit Union League, and select participating Commercial Banks to enhance their knowledge in the new technologies and approaches promoted by the project. In addition, this subcomponent will provide technical assistance and extension services to individual farmers, and strengthen the organizational, operational, and business capacities of farmers organizations.

This subcomponent would also: (i) strengthen the organizational, operational and business capacities inter alia of organized groups, producer's organizations and other types of groups of producers, supported via the project; and (ii) provide international and national technical assistance and extension services to individual farmers benefitting from the matching grants. Thirty percent of farmers are women, and many small farmers are poor (below the poverty line). Rural women are significantly affected by poverty as almost one-third of them are small farmers and they lack access to services and resources. The project will have specific activities to ensure women have access to services and resources under the project. The project will tailor technical assistance to women needs by ensuring that trainings take place at convenient places, with flexible hours, where they can leave earlier if they need to. If necessary, it includes financing the use of temporary day care centres as an incentive for women's participation (if needed). It will also support the identification and dissemination of gender-sensitive technologies that are labour-reducing for women and that are affordable, accessible, and based on their needs. The project will ensure that 30 percent of beneficiaries of matching grants and collective goods are women and that they benefit from tailored financial and business trainings. To measure progress in terms of women access to agricultural services and resources, the results framework will capture the number of women benefitting from matching grants, the number of women farmers adopting improved agricultural technologies, and the number of women trained on CSA technologies.

Component 2: Promotion of Private and Public CSA Approaches and Investments

This component consists of two subcomponents. The first subcomponent is focused on promotion of CSA technologies and practices at the individual level (farmer level). The second subcomponent is focused on collective investments which would be targeted toward farmer groups or are in the form of public goods such as rural infrastructure.

Subcomponent 2.1: Promotion of On-farm CSA Technologies and Practices. This subcomponent would promote the uptake of best fit CSA technologies and practices, with the overarching aim of increasing resilience to climate shocks and weather events, and stabilizing/improving productivity while simultaneously lowering production costs, thereby contributing to an increase in profitability. More specifically, subcomponent 2.1 activities aim

to: (i) increase climate resilience of Belizean agriculture; (ii) enhance access to water in agriculture with a vision of optimizing water productivity and contribute to enhanced water resource management for agriculture; (iii) create conditions for diversification of crops and introduction of higher value added produce and/or increased land use intensity (e.g. double cropping, intercropping, high yield varieties, etc.); and (iv) reduce inefficient use of purchased agricultural inputs. This subcomponent would include activities to reduce greenhouse gas emissions, e.g., through energy and water efficiency measures, contributing to the productivity and mitigation pillars of the CSA approach, where possible.

This subcomponent will promote the uptake of best fit CSA technologies and practices with the overarching aim of increasing resilience to climate shocks (such as drought and floods) and stabilizing/improving productivity while simultaneously lowering production costs, contributing to increases in profitability. The subcomponent will provide matching grants, supplemented with credits from participating financial institutions to farmers. The matching grants will be implemented based on a demand-driven approach. It will first start by raising awareness among the targeted beneficiaries regarding the available support for climate-smart agriculture technologies and practices (such as irrigation) and market-oriented technologies (such as innovative storage technologies) by providing information on the key terms and conditions of the available support. Technical assistance support would be provided to farmers in the preparation of their request for the funding of sub-projects and downstream support for sub-projects' implementation. This subcomponent will pay attention to women farmers by promoting gender-sensitive CSA technologies, in particular labour-reducing technologies for women that are affordable, accessible, and based on their needs.

Subcomponent 2.2: Provision of Complementary Collective Goods to Strengthen Resilience.

This subcomponent would finance studies, technical assistance, goods and works for complementary infrastructure of collective use that will increase the impacts of the subcomponent relating to on-farm CSA investments and/or eliminate constraints: (i) investments related to post-production and value addition to ensure cost-effective linkages between production areas and markets, especially the high-value horticultural markets linked to tourism activities on the islands; (ii) drainage investments necessary due to the low-lying nature of much of Northern Belize; and (iii) identification, development and Operations and Maintenance (O&M) training for small-scale, collective water-harvesting pilot initiatives (e.g. for communities interested in sharing a collective pond or common pasture, etc.). This subcomponent will ensure that women are involved in the discussion for the design of infrastructure and trained in the management of infrastructures and that they are provided leadership skills to participate in O&M committee of infrastructures.

Component 3: Project Management, and Monitoring and Evaluation

This component would finance the activities of the Project Implementation Unit (PIU). Given the delays in the implementation of other active development projects in Belize, the MAFSE has opted for a two-pronged approach based on: (i) signing a Memorandum of Understanding (MOU) with the Social Investment Fund (SIF) in order to have the SIF Fiduciary Team (Procurement, Financial Management, Accountant, and Monitoring and Evaluation) be in charge of those aspects during the first year of implementation of the Project; and (ii) reinforce

its existing Department of Projects through the hiring of staff in the areas of Procurement, Financial Management, Monitoring and Evaluation, Accounting, etc., to set up a full-fledged and entirely dedicated PIU. These newly hired staff will be trained by the SIF Team as part of the MOU agreement. At the completion of the duration of the MOU, the PIU staff will be evaluated to assess their capacity before transferring the responsibility for implementation of the project to them. Activities under Component 3 would include the establishment of the project's monitoring and evaluation system, financial management and procurement systems, the financing the costs of external audits of the project, the capacity for monitoring requirements, and the organization of all project-related work and project reporting. Further, this component will finance incremental and operating costs as well as equipment and goods for the purpose of the project.

Component 4: Contingent Emergency Response Component (CERC)

The objective of Component 4 would be to help the project-supported producers get back into operation and ensure business continuity, repair infrastructure damage, and help recover from losses, after a disaster.

A Contingent Emergency Response Component (CERC) will be established and managed in accordance with the provisions of World Bank Policy and World Bank Directive on Investment Project Financing. 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.

11.5. Annex 5 – 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.

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 streams³.

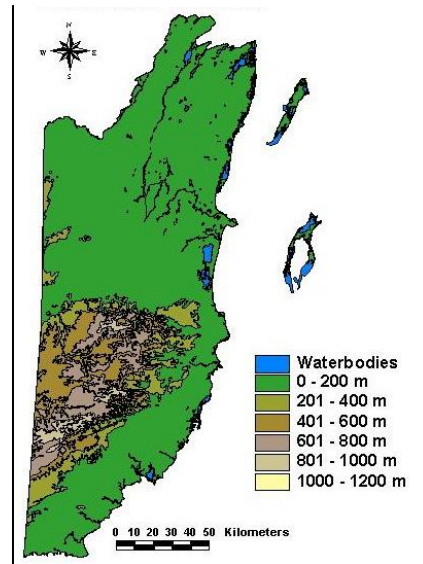
The major soil types found in the project site include Luvisols, Redzinas, Gleysols and Cambisols. Soils in the northern half of the country and in the coastal plain and river valleys in the south are generally more fertile as they are derived or associated with limestone parent materials. Histosols 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 Guatemala⁵. 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 sulphate in the groundwater and the occurrence of poor groundwater quality increases during the dry season when aquifer recharge is low.

Figure 2 Elevations in Belize

Source: http://biological-diversity.info/images/Articles/elevation_s.jpg



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

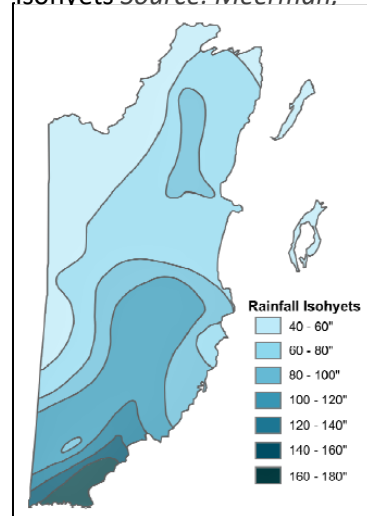
⁴ BEST, 2008

⁵ Ibid.

The Belize District contains the Belize River and Sibun River watersheds and includes catchments from these two major rivers⁶. 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 low⁷.

The Cayo District contains the Belize River watershed, and includes catchments from the Belize River, Mopan River, and Macal River⁸. 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 sediments⁹.

Figure 3 National Rainfall Isohyets Source: Meerman,



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 157.6mm¹⁰. 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 elevation, proximity to the coast, and the moderating effects of the northeast trade winds off the Caribbean.

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>

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

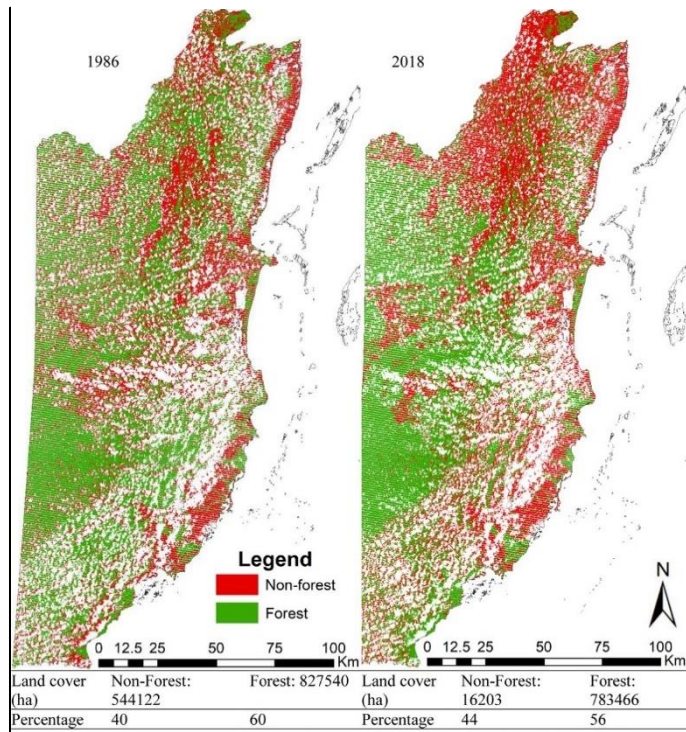
Air emissions in the north are a direct effect of the large sugar production from the Tower Hill factory as well as pesticides, public dump site and vehicles. Emissions also emanate from the burning of sugarcane plots every year which often becomes severe. Other emission sources in the project area includes 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 emissions¹¹.

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 agriculture driven by population increase¹². (See Figure 9 for map of forest cover loss). Forests provides habitats for a number of unique flora and fauna.

Figure 4 National Forest Cover Loss 1986-2018 Source: Folkhard-Trap, H. 2020



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

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>

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 Parrot¹³, Mesoamerican River Turtle¹⁴ 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 reserves¹⁵. 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%).

Table 18 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
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

¹³ Ibid.

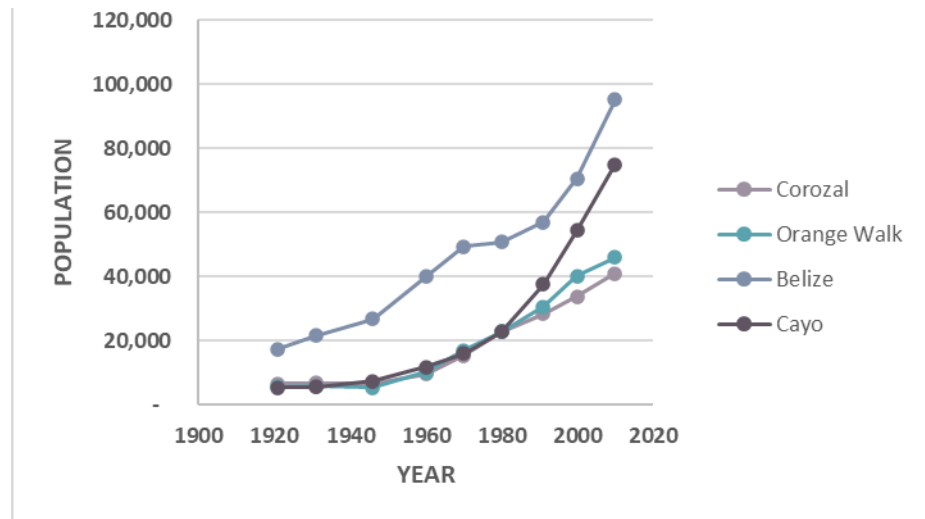
¹⁴ Biodiversity and Environmental Resource Data System of Belize (BERDS). (2017). Belize Ecosystems 2017. Retrieved from <http://www.biodiversity.bz>

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

Total	119	140,167	70,831	69,336	32,024	4.4
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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

Figure 5 Population Growth in Target Districts 1921 - 2010 (Source: SIB, 2020)



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 Hattievill. 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.

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

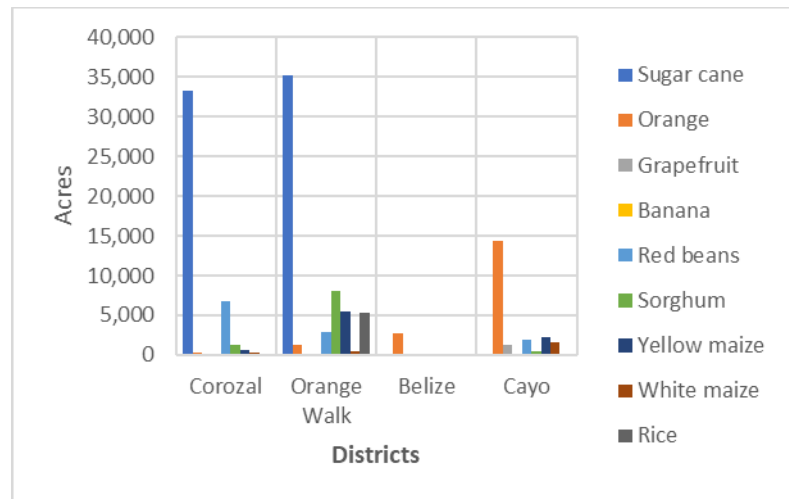
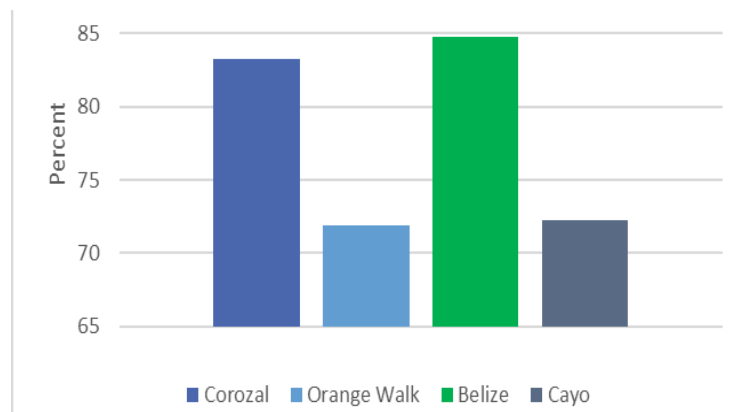


Figure 6 Access to a Bank Account

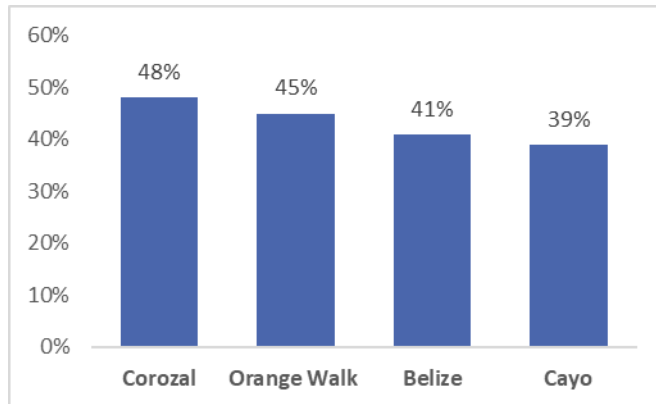
Source: SIB and UNICEF Belize, 2017



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)

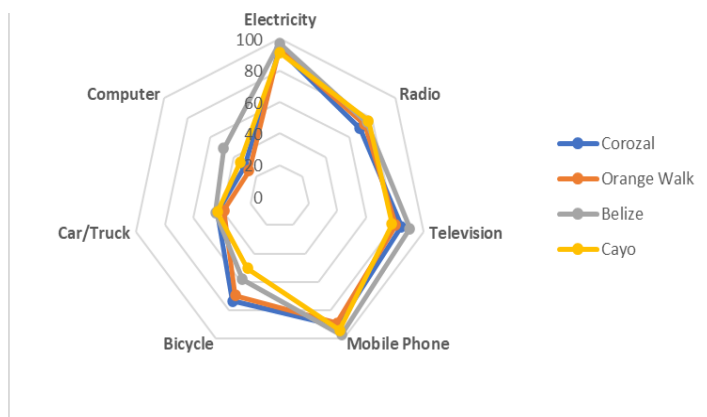


According to the Oxford Poverty and Human Development Initiative (OPHI), the poverty and deprivation in rural areas of Belize are driven mainly by poor nutrition and low school attendance which often results in poor education. Most of agriculture workers are generally educated at most to the primary 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 districts. This can facilitate communication of agro-met information to farmers as is part of the aim of the project.

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



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 1848¹⁶.

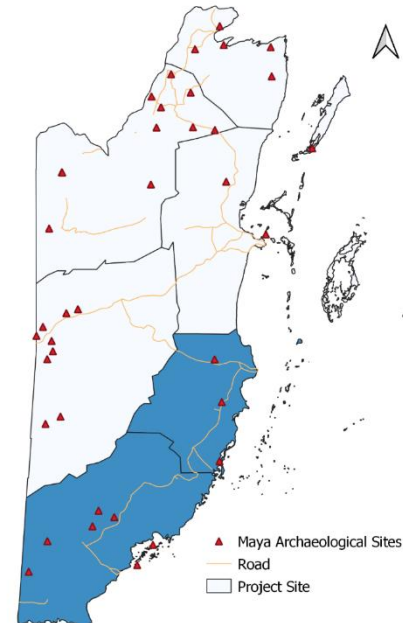
The residents of the Belize District are predominantly Belizean Creoles, who are Afro-descendants of British colonialists and African slaves. Creoles continue to represent a significant segment of Belize's population second only to Mestizos, in terms of population size. The residents of the Cayo District 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 century¹⁷ 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.

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 period¹⁸. 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.

Figure 10 Archaeological Sites in Project Site



Flora and Fauna

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

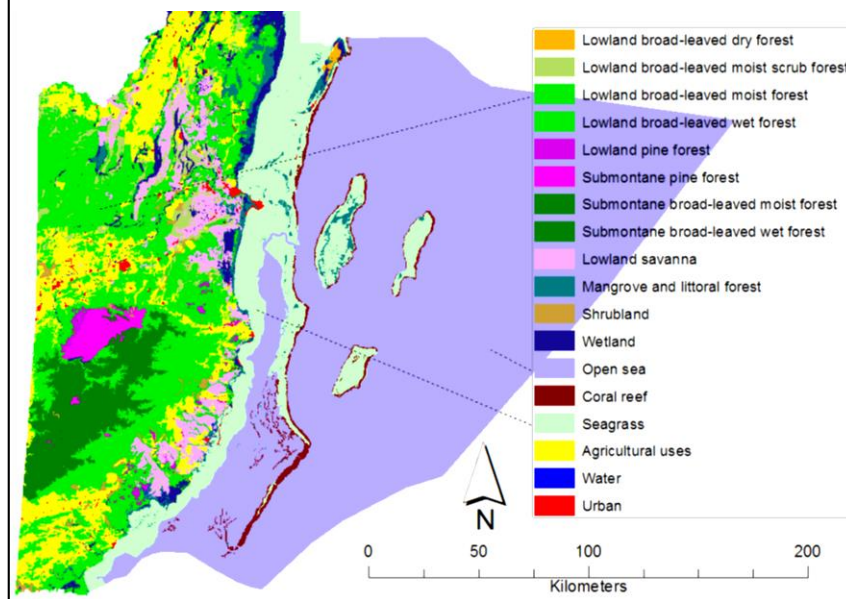
¹⁷ The Caste War and the Maya of Yucatan by Dr. Angel Cal in *Readings in Belizean History*, Edited by Lita Krohn and Froyla Salam, 3rd Edition.

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.

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

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

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



11.6. Annex 6 – 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.

The Environmental Clearance Process



Figure 7 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 review 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 Developer 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 approved TOR are addressed.
- If there is need for improvement of the Report, the Developer is notified 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 from 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 Developer 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 accompanied 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 it 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 from 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, time 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 from 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 ECP
 - 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 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 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 (UNFCCC).
- 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 Conservation 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)

11.7. Annex 7: Sample Grievance Registration Form

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