E4319

Environmental Management Framework

Preparation Activities for a Project entitled
"Management and Protection of Key Biodiversity Areas of Belize"

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Table of Contents

List of Figures and Maps

List of Tables

Acronyms and Abbreviations

BMDP	Belize Municipal Development Plan
CPS	Country Partnership Strategy
DOE	Department of Environment
EA	Environmental Assessment
ECP	Environmental Compliance Plan
EIA	Environmental Impact Assessment
EME	Environmental Management Expert
EMF	Environmental Management Framework
EO	Environmental Officer
EPA	Environmental Protection Act
FR	Forest Reserve
GEF	Global Environment Facility
ha(s)	Hectare(s)
IDB	Inter-American Development Bank
IUCN	International Union for Conservation of Nature
KBAs	Key Biodiversity Areas
LLES	Limited Level Environmental Study
MAPKBA	Management and Protection of Key Biodiversity Areas
M & E	Monitoring and Evaluation
MFFSD	Ministry of Forestry, Fisheries and Sustainable Development
MMM	Maya Mountain Massif
NP	National Park
NPAPSP	National Protected Areas Policy and System Plan
NPAS	National Protected Areas Secretariat/System
NRM	Natural Resources Management
NTFP	Non-Timber Forest Products
PAD	Project Appraisal Document
PAs	Protected Areas
PES	Payment for Ecosystem Services
PIF	Project Identification Form
PMU	Project Management Unit
PSC	Project Steering Committee
TOR	Terms of Reference
UNESCO	United Nations Educational, Scientific and Cultural Organization
WB	World Bank
WS	Wildlife Sanctuary
YCT	Ya'axche Conservation Trust

Glossary

Environmental Management Framework (EMF): An instrument that examines the issues and impacts associated when a project consists of a program and/or series of sub-projects, and the impacts cannot be determined until the program or sub-project details have been identified. The EMF sets out the principles, rules, guidelines, and procedures to assess the environmental and social impacts. It contains measures and plans to reduce, mitigate and/or offset adverse impacts and enhance positive impacts, provisions for estimating and budgeting the costs of such measures, and information on the agency or agencies responsible for addressing project impacts (World Bank, 2012).

Environmental Management Plan (EMP): An instrument that details the measures to be taken during the implementation and operation of a project to eliminate or offset adverse environmental impacts or to reduce them to acceptable levels; and the actions needed to implement these measures. The EMP is an integral part of Category "A" EAs (irrespective of other instruments used). EAs for Category B projects may also result in an EMP (World Bank, 2012).

Project Area of Influence: The area likely to be affected by the project, including all its ancillary aspects, such as power transmission corridors, pipelines, canals, tunnels, relocation and access roads, borrow and disposal areas, and construction camps, as well as unplanned developments induced by the project (e.g., spontaneous settlement, logging, or shifting agriculture along access roads). The area of influence may include, for example, (a) the watershed within which the project is located; (b) any affected estuary and coastal zone; (c) off-site areas required for resettlement or compensatory tracts; (d) the airshed (e.g., where airborne pollution such as smoke or dust may enter or leave the area of influence; (e) migratory routes of humans, wildlife, or fish, particularly where they relate to public health, economic activities, or environmental conservation; and (f) areas used for livelihood activities (hunting, fishing, grazing, gathering, agriculture, etc.) or religious or ceremonial purposes of a customary nature.

1.0 Introduction

Belize's natural resources are critical to the health of its economy and well-being of its most vulnerable population. As part of a wider response for biodiversity conservation, Belize signed a Country Partnership Strategy (CPS) with the World Bank (WB) for the Financial Years 2012-2015 which supports the country's efforts to adopt a sustainable natural resource-based economic model, while enhancing Belize's resilience to climate change and natural hazards.

Subsequently, the Ministry of Forestry, Fisheries and Sustainable Development (MFFSD), with the assistance of the WB received funding from the Global Environment Facility (GEF) to conduct preparation activities for a project entitled ***"Management and Protection of Key Biodiversity Areas* (MAPKBA) *in Belize"*** (hereinafter referred to as "the Project") aimed at assisting in the protection of selected key terrestrial Protected Areas (PAs) throughout the country but without compromising the ability of their buffer communities that traditionally rely on the natural resources to continue making a living.

The Project preparation activities are being coordinated by the National Protected Areas Secretariat in the Ministry of Forestry, Fisheries and Sustainable Development, with the oversight of a Project Steering Committee. The activities are aimed at ensuring that the process will engage stakeholders that will result in the full design of the Project.

This Environmental Management Framework (EMF) is in fulfilment of the terms of reference for an Environmental Management Expert's support to the Project team in developing preparation activities for the Project. The specific objectives for this consultancy are as follows:

- To develop an EMF for the Project to identify the required environmental management measures that need to be taken by the Project authorities during the planning, design, and implementation phases in order to ensure compliance with the Government of Belize's environmental requirements and those of the WB;
- Recommend mitigation measures in consultation with country stakeholders and a Natural Resource Management (NRM) Expert of the Project team;
- Contribute to the development of a monitoring and evaluation system for the Project, including preparation of a results framework along with indicators, baseline and annual targets in consultation with country stakeholders and team members; and
- Along with the team members, develop a budget for project activities, outputs and outcomes while ensuring alignment with GEF requirements.

The EMF was developed for the MFFSD to be applied to the Project as a management tool designed to address issues pertaining to the impacts likely to arise from the implementation of sub-projects, due to their influence on the bio-physical environment and interaction with the

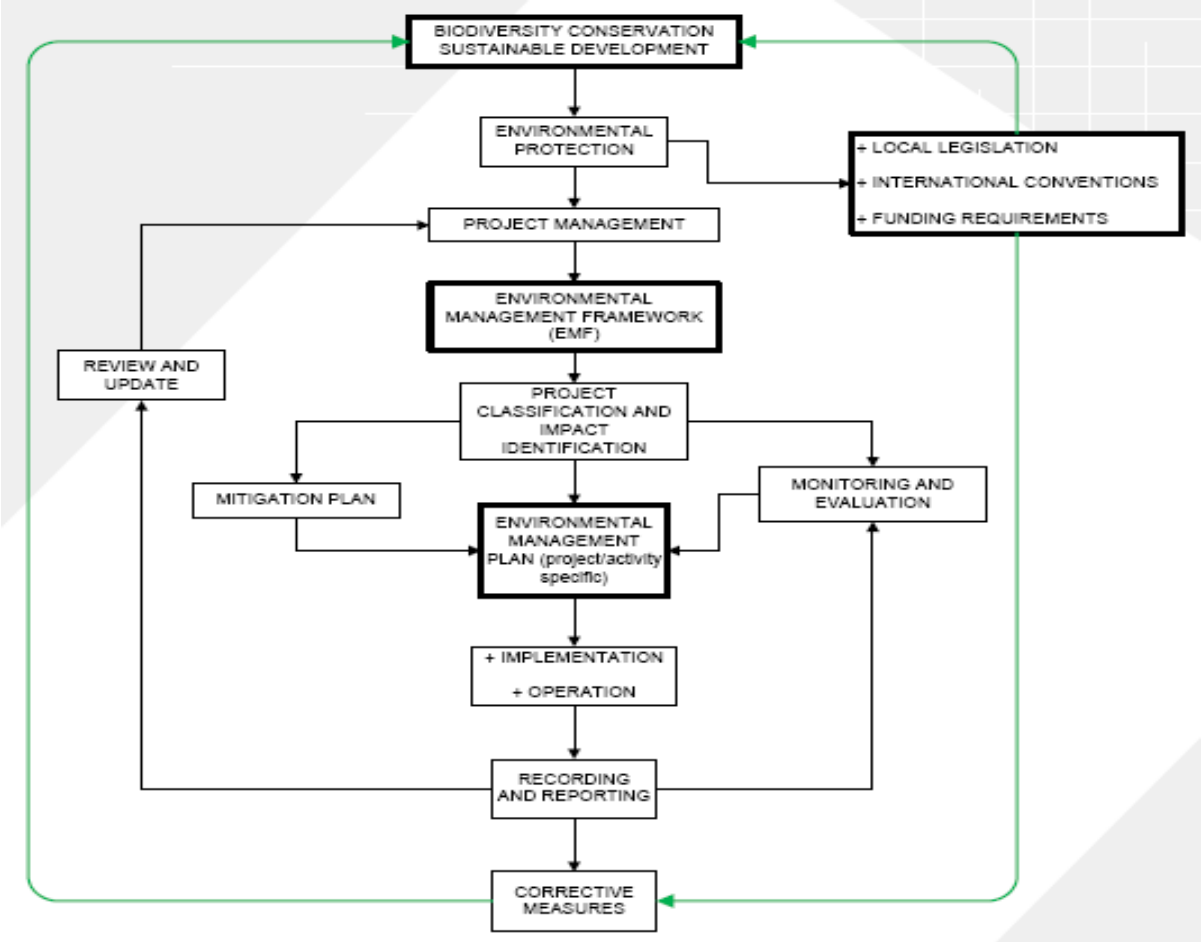
wider system **(Figure 1)**. It will provide guidance on the selection of sub-projects, which will be fully developed during Project implementation, to implementing agencies, regulatory agencies, and recipients of Project funds. This guidance enhances the likelihood of the sub-project's compliance with applicable local environmental legislation and WB safeguard measures. Currently in Belize, projects that may potentially have significant impacts are screened under the national EIA regulations. However, WB safeguard measures apply if a project is funded wholly or in part by the WB. Therefore, the EMF provides the necessary guidance to carry out additional assessments and management plans as required by the applicable WB safeguards.

Ultimately, the EMF will ensure that sub-projects are managed in a way that eliminates or significantly reduces their negative and strengthens their positive environmental impacts. It will further ensure that the Project does not create unfair barriers to any community or group of people to access natural resources upon which they have traditionally relied, while making sure the environment is not degraded in such a way that would affect their ability to maintain a good standard of living. The framework will provide the basis under which an evaluation can be made at the macro-level, taking environmental protection measure into consideration during the sub-project cycle. It is a proactive approach that provides information to categorize any sub-project and to determine from the inception to operation, requirements for approval on the basis of the level of environmental protection a sub-project will provide before any work commences.

More specifically, the EMF:

- Analyses the existing local and institutional aspects that provide the environmental protection framework during implementation of the sub-projects;
- Characterizes the selected KBAs that will provide the greatest environmental returns due to reduced pressures on their natural resources;
- Analyses the environmental management capacities of the key players, including co-managers of prioritized KBAs to determine their capabilities of environmental management of sub-projects;
- Provides measures for enhancement and improvement of environmental conditions in the selected Project areas;
- Provide guiding principles for minimizing and mitigating any potential negative and strengthen positive environmental impacts of Project related interventions.

Figure 1: Environmental Management System for the MAPKBA Project[1]



2.0 Background[2]

Belize is a small, upper-middle income country with a population of 310,000 and a per capita GDP of US$ 4,115 (2009). It is well-known for having plentiful natural resources and a vast array of ecotypes with respect to water and biodiversity. The total national territory covers 46,620 km^2, which includes 22,960 km^2 of land and 1,060 km^2 of cayes. Belize is a small, open economy endowed with unique natural resources and ecosystems that drive the economy and support tourism, fishing, agriculture, forestry, and hydroelectric power. Belize has a very high level of terrestrial and aquatic biodiversity, including more than 150 species of mammals, 540 species of birds, 151 species of amphibians and reptiles, nearly 600 species of freshwater and marine fishes, high numbers of invertebrates, and 3,408 species of vascular plants. Belize's rich terrestrial and marine ecosystems provide important habitat for these species, represented by

[1] Developed by the consultant.
[2] Taken from the Project Appraisal Document.

the Belize Barrier Reef—the largest barrier reef in the Americas—that has been classified as one of the world's marine hotspots and encompasses seven United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Heritage sites.

Much of the terrestrial area of Belize forms a part of the Mesoamerican Biological Corridor, which stretches from Mexico to Panama. In fact, Belize has the highest forest cover in both Central America and the Caribbean; 62% of Belize (as a percentage of land) is covered with forests, of which 37% are classified as primary forests. Belize has two large, unified blocks of intact virgin rainforest that are likely to be the last strongholds for species that require large, undisturbed areas for their long-term survival, such as the Jaguar (considered the flagship species of Belizean conservation). The Maya Mountain/Mountain Pine Ridge Massif is the country's dominant physical feature and rises to 1,124 meters (m; 3,688 feet) at its highest point. It is surrounded by rugged karst limestone hills. Belize has 103 protected areas, covering almost 35% of the national land area.

Terrestrial species of global significance occurring in Belize include: the jaguar (*Panthera onca*), puma (*Felis concolor*), Central American tapir (*Tapirus bairdii*), white-lipped peccary (*Tayassu pecari*), the endangered yellow-headed parrot (*Amazona oratrix*), Mesoamerican river turtle (*Dermatemys mawii*), and the endemic Maya Mountains frog (*Rana juliani*). Belize's marine biodiversity is also characterized as being globally significant, as its network of marine protected areas (MPAs) is home to seven UNESCO designated World Heritage Sites which make up the Belize Barrier Reef Reserve System. The world heritage site totals 96,300 hectares (ha) and is home to over 500 species of fish, 65 scleraetinian corals, 45 hydroids, and 350 mollusks in the area, plus a great diversity of sponges, marine worms, and crustaceans. The area has one of the largest populations (300-700 individuals) of West Indian manatee (*Trichechus manatus)* in the world and its coastal zone is home to two species of threatened crocodiles (*Crocodylus acutus* and *C. moreletii*).

Although Belize has managed to preserve its environmental capital to a greater extent than its neighbours, it faces serious environmental problems that adversely affect the poor as well as economic growth prospects. Forest cover in Belize has continued to decrease from 72.90% in 1989 to 61.64% in 2012 and is predicted to continue to do so (Cherrington et al, 2012). Main anthropogenic threats to the forests include the expansion of agriculture, housing, and tourism. Also damaging are illegal logging, looting of archeological sites, hunting, and poaching, in some areas by neighboring Guatemalan communities. The data shows that protected areas in the country have been effective in protecting forests—only 6.4% of overall deforestation occurred within protected areas during 2010-2012—. However, pressure on protected areas, especially from agricultural production, is high as seen in the case of de-reservation of a significant portion of Freshwater Creek Forest Reserve and Columbia River Forest Reserve. Another factor

driving deforestation in Belize is the existing land tenure legislation, which requires that leased lands that are forested must be 'developed' by the owners or their leases will be revoked. This provides strong incentive for landowners to clear the land in an effort to meet the requirements of 'development'. However, it has been observed that many of these lands lie idle after they have been cleared, since the landowners lack the capital to engage in alternative land uses.

Even more threatening to the forests in Belize are natural causes such as wildfires and hurricanes. In addition to the estimated 25,092 ha of cleared lands, another 33,129 ha were estimated to have suffered from fire/hurricane damage3 between 2010 and 2012. Belize has been identified as one of the countries that are most vulnerable to the adverse impacts of climate change including more intense and frequent tropical storms and hurricanes, flood damage, and rising sea levels. Like the rest of the Caribbean, Belize has experienced frequent natural disasters of catastrophic proportions4, and most recently suffered the impact of a Category 1 hurricane (Richard in October 2010), which led to extensive forest area destruction leaving much debris which accumulated and dried up, causing forest fires. Consequently, during the 2011 dry season Belize experienced some of the most extensive forest fires across the country. The short-term impacts of natural disasters and the long-term effects of climate change are expected to undermine the resilience of the natural ecosystems and human vulnerability, increasing the urgency of tackling these challenges.

Interventions to avoid deforestation and to aid reforestation of degraded forests would significantly enhance the country's potential for climate change mitigation. According to the Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC) (July 2002), over 91% of the country's emission of greenhouse gases (GHGs) come from Land Use, Land Use Change and Forestry (LULUCF). Further, Belize is in a unique position to reduce emissions from deforestation and forest degradation and to increase carbon stocks through enhancement of conservation and sustainable management of forests (REDD+).

Loss of forests in deforestation hotspots, particularly in key watersheds, leads to loss of ecosystem services: protection of water quality in adjacent watersheds and reduction of nutrient flows that are damaging to coral reefs. Location is important with respect to the loss of ecosystem services such as water quality protection by riparian forests. Deforestation has been found to be more severe along rivers, reaching 13% annually in some areas.

Forests are a valuable asset for Belize and generate a range of important ecosystem services

[3] Forest damage from fire/hurricane was not included in the estimate of 2012 deforestation, because deforestation implies land use change. (Cherrington *et al.,* 2012)

[4] Tropical Storm Arthur (May 2008) caused widespread flooding and extensive damage to infrastructure and the agriculture sector. Hurricanes Keith (2000) and Iris (2001) struck Belize in the first year of the previous CPS period, each causing damage reaching 45% and 25% of GDP, respectively.

such as biodiversity habitats, non-timber forest products (NTFPs) for local and indigenous communities, fuel for rural communities, and a large untapped potential for the use of medicinal plants in the pharmaceutical industry. Forests provide soil stabilization, which prevents excessive sedimentation of estuaries and reduces the runoff of nutrients from agricultural areas to sensitive coral reef and mangrove ecosystems, which greatly impacts the tourism and fisheries sectors, critical foreign exchange earners for Belize (approximately US$260 million and US$25 million respectively in 2011).

Striking a balance between the drivers of economic growth and the pressures they exert on natural resources and the environmental integrity of the country remains a huge challenge in Belize. The population growth rate over the past three years in Belize is on average 3.39 %, while the rural population continues to be larger than the urban population. This increase places an undue burden on the country's natural resources. The poorest people and communities in Belize are predominantly rural and their livelihoods depend largely on access to land and natural resources. Furthermore, the highest poverty levels tend to occur in areas with the highest (e.g., South and West of Belize) or lowest (e.g., North and East of Belize) levels of biodiversity, thus presenting critical poverty-environment challenges (for example with encroachment and enforcement issues). Many of those classified as poor live near forests (both forests that fall within protected areas and forests not under protected status). These people use the forest and can contribute to sustainable forest management. However, they need income generating and employment options that are not destructive to the forest and that are consistent with sustainable forest management. It is therefore important to support effective and improved management of the environment and natural resources for sustainable livelihoods and economic growth in Belize.

Unregulated development of coastal areas and the rising pollution from cruise ship tourism has led to the degradation of mangroves and coral reefs. According to some estimates, nearly 80% of all coastal land in Belize has been purchased for development, adding stress to mangroves, coral reefs, and other coastal ecosystems.

Belize's sector-specific policies and legislation are generally comprehensive and robust, such as the 2009 Water Resources Management Act, the 1992 National Lands Act, and the 1999 Coastal Zone Management Act. However, problems and weaknesses frequently arise from the complications of different jurisdictions and regulations over management of protected areas (PAs). The National Protected Areas Policy and System and Plan (NPAPSP) define that PAs of Belize are administered and regulated by different laws and enforced by different Government agencies (e.g., Department of Environment, Forest Department, Fisheries Department, Coastal Zone Management Authority and Institute, Institute of Archaeology, and the Lands and Survey Department). The institutions that are directly responsible for the management of Belize's environment and natural resources are underfunded, understaffed, and in many cases lack the capacity to perform their basic functions including monitoring and enforcement. It is evident that the capacity of most protected area staff to assess biodiversity and natural resources is a

significant limiting factor to the reliability and use of 'self-assessed' data. There are not sufficient historical information of some indicators to be able to gauge current status, or have a limited understanding of some indicator and threats. Historically, environmental civil society organizations (often co-management organizations[5] in protected areas) have been very strong in Belize and have played a crucial yet insufficient role in complementing the existing government capacity to manage protected areas and formulate environmental policies.

The management and protection of key biodiversity areas is in part one of the strategic interventions and outcomes by the Government of Belize to sustainably preserve the natural resources of the country, in line with the NPAPSP developed in 2005. The NPAPSP was a key step in the Government of Belize efforts to devise a strategy to properly and cohesively address the management of the 98 PAs across the country of Belize. The plan emphasizes some strategic actions that pertained to the establishment of a commission, streamlining of the policies and legislation that governs PAs, strengthening and maintaining a biological corridor from ridge to reef, and addressing financing needs for sustainable PA management.

3.0 Project Description and Objectives

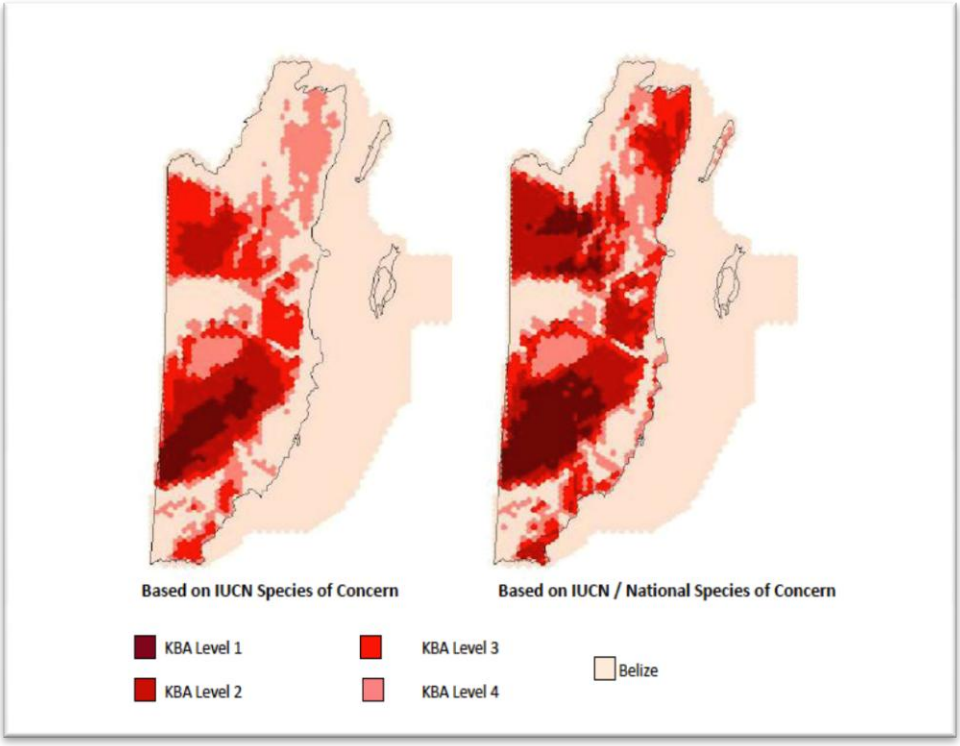
To address the challenges described above and based on the principle of site conservation, the proposed Project would support the forest protection, climate mitigation and resilience, sustainable forest management, and biodiversity conservation in targeted areas within the Key Biodiversity Areas (KBAs) in Belize. Site conservation is among the most effective means to reduce biodiversity loss. Therefore, it is critical to identify those sites where unique biodiversity must be conserved. To this end, the concept of KBAs was developed by global practitioners seeking to identify and ultimately ensure that networks of globally important sites are safeguarded. This methodology builds on the identification of species-based conservation targets (through the International Union for Conservation of Nature, IUCN Red List) and nests within larger-scale conservation approaches. Site selection is driven by the distribution and population of species that require site-level conservation. In 2007, a collaborative effort by the Government of Belize, Belize Tropical Forest Studies, Conservation International, and the Critical Ecosystem Partnership Fund resulted in the definition of the KBAs in Belize as detailed in the report "Establishing a Baseline to Monitor Species and Key Biodiversity Areas in Belize" (Meerman, 2007). Map 1 demonstrates the four groups of KBAs identified in Belize.

Priority areas for biodiversity protection were identified under the KBAs Assessment (Meerman, 2007) based on a Marxan analysis, with two outputs – the first focused on the presence of globally threatened species as per the IUCN Red List criteria; the second included species of national concern, such as birds that concentrate at highly vulnerable nesting colonies and sub

[5] In Belize, there is a strong connection between key government agencies, particularly the Forestry Department, and the co-management organizations that manage the targeted priority sites. This unique conservation framework is beneficial for the institutional and financial sustainability of the Project outcomes. It helps to address the issues of inadequate capacity, personnel, and financial resources of the government to manage the extensive PAs. In general, co-management of PAs means equal sharing of power and responsibility between government and a local community unit, with advisory involvement of an NGO where possible and desired, in the management of a PA by members living on, near or adjacent to it.

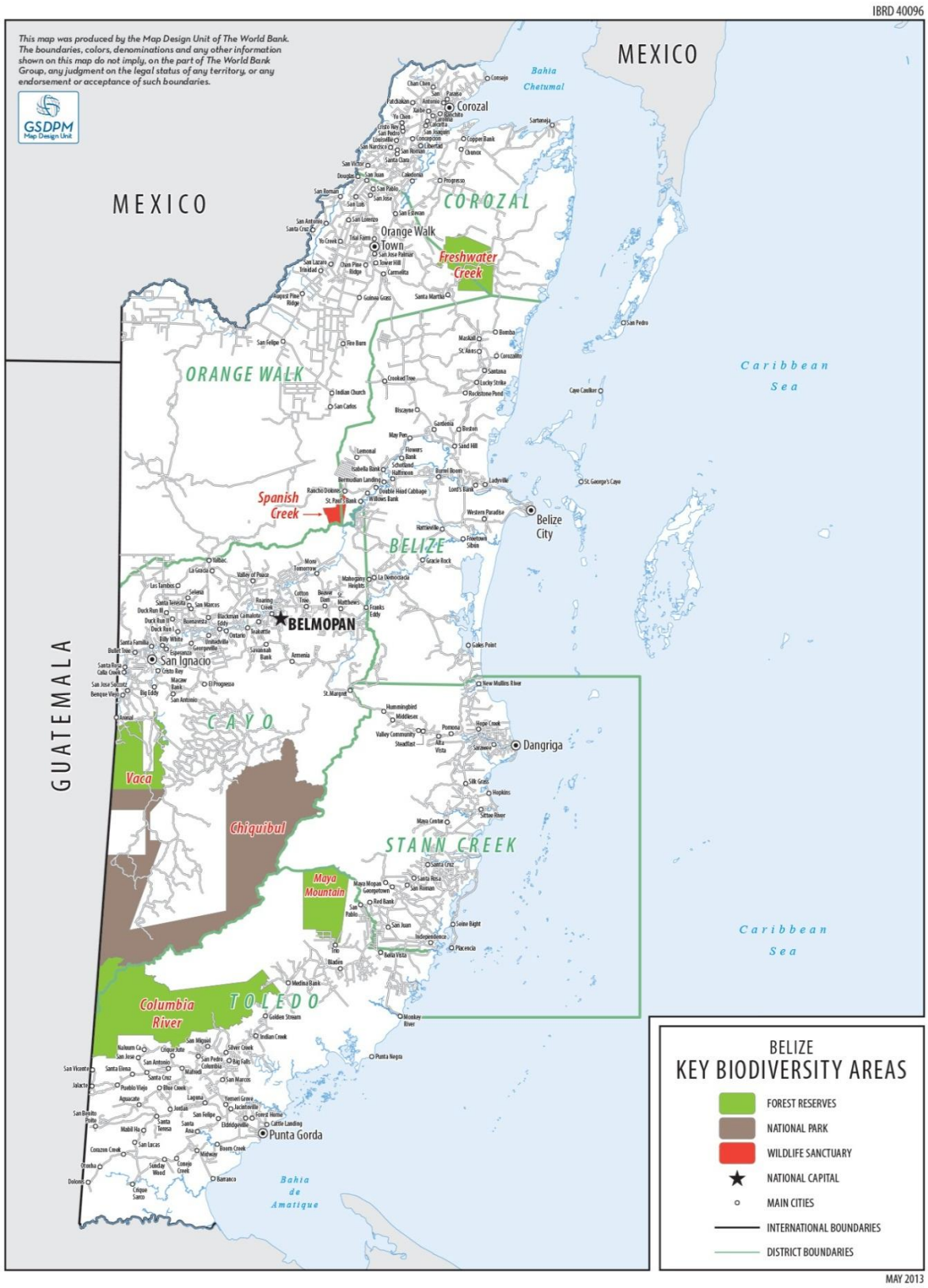
species of national concern such as the scarlet macaw, see Map 1. Ultimately, 39 IUCN-listed species were included in the KBA analysis.

Map 1: Key Biodiversity Area Outputs (Marxan outputs, Meerman, 2007)



The identified highest priority biodiversity areas of global concern in Belize (Global Key Biodiversity Area 1) are adequately covered by the National Protected Areas System (NPAS), occurring within the protected areas of the Maya Mountains Massif. The second highest priority areas are also primarily within the Maya Mountains Massif. Map 2 presents the targeted Project Areas.

Map 2: Project Areas

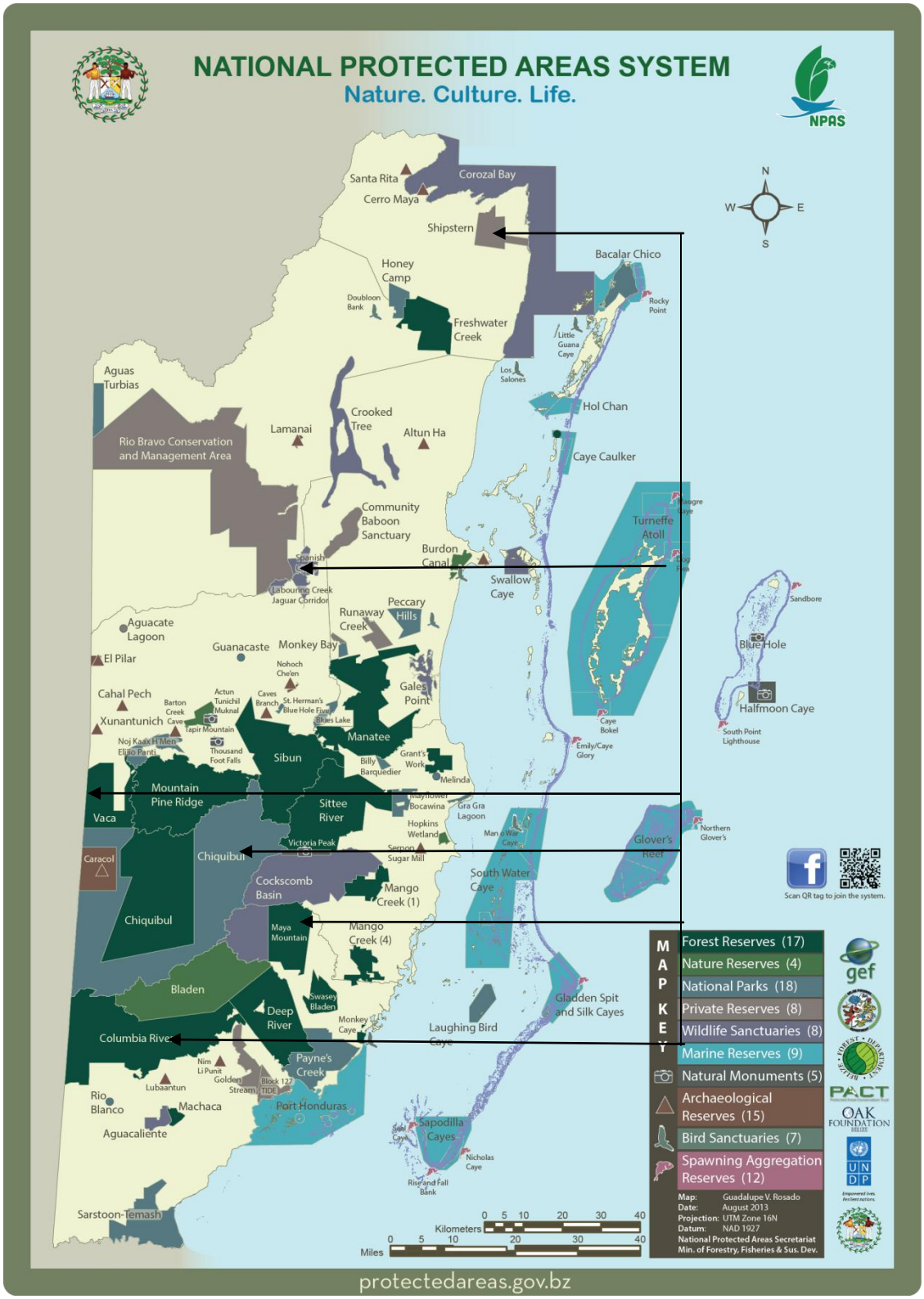


The targeted areas within the KBAs for the proposed Project were chosen through a stakeholder engagement process in addition to a prioritization of terrestrial areas from the

2012 rationalization exercise for the NPAS. Criteria were developed to prioritize PAs within the KBAs based on threats, carbon sequestration potential, management capacity, risk factors, socio-economic factors, and economic values of ecosystem services. These were further broken down into criteria that were used to determine whether the PAs were under extreme stress. On February 8, 2013 the Ministry of Forestry, Fisheries and Sustainable Development held a working session where in the end and with consultation with stakeholders, six sites from the NPAS were chosen as requiring better protection from further environmental degradation; see Table 1 and Map 2. The approach was a participatory one as the workshop was convened with representation from a cross-section of stakeholders. PAs across the country were selected and evaluated. These areas fall within two critical Management Units: the Northern Lowlands and the Maya Mountains Massif.

Table 1: Selected Priority Sites for Proposed Project

Name	***KBA***	***Type***	***Area (acres)***
Spanish Creek Wildlife Sanctuary	Northern Lowlands	Wildlife Sanctuary	6,001
Freshwater Creek Forest Reserve	Northern Lowlands	Forest Reserve	33,393
Chiquibul National Park	Maya Mountains Massif	National Park	264,003
Columbia River Forest Reserve	Maya Mountains Massif	Forest Reserve	148,303
Vaca Forest Reserve	Maya Mountains Massif	Forest Reserve	34,887
Maya Mountain Forest Reserve	Maya Mountains Massif	Forest Reserve	41,730



Map 3: Selected KBAs

The Project intervention area will cover a total of 528,317 acres (213,802 ha), excluding the

communities surrounding the PAs that will engage in the proposed Project. Chapter 3.1 presents a detailed description of each PA to be included in the proposed Project.

Climate change mitigation from avoided deforestation and restoration efforts are critical aspects of the proposed Project. The carbon sequestration potential of the targeted priority sites is listed in Table 2.

Table 2: Carbon Sequestration Potential of the Priority Sites

Name	*Habitat Type*	*Above Ground C/ac*	*Below Ground C/ac*	*Total C/ac*	*Estimated total above ground C x 1000*	*Estimated total below ground C x 1000*	*Total C x 1000*
Spanish Creek Wildlife Sanctuary	Broadleaf	35	21	56	211	127	338
Freshwater Creek Forest Reserve	Broadleaf	35	21	56	1,172	707	1,879
Chiquibul National Park	Broadleaf	65	14	79	17,094	3,649	20,743
Columbia River Forest Reserve	Broadleaf	65	14	79	9,603	2,050	11,653
Vaca Forest Reserve	Broadleaf	65	14	79	2,259	482	2,741
Maya Mountain Forest Reserve	Broadleaf	65	14	79	2,702	577	3,279
Total					**33,041**	**7,592**	**40,633**

Sustainable forest management takes multiple forms within the proposed Project since the six priority areas are all managed in different ways. Chiquibul National Park is co-managed by Friends for Conservation and Development (FCD), and currently has a management plan. Spanish Creek Wildlife Sanctuary is co-managed by the Rancho Dolores Environment and Development Group, which has a presence in the park, but no management plan to date. There is a need for increased capacity for park management, administration, and fundraising. Freshwater Creek Forest Reserve is currently in the process of becoming co-managed by Corozal Sustainable Future Initiative (CSFI), who also co-manage two other protected areas (Shipstern Nature Reserve and Honey Camp Natural Park). Columbia River Forest Reserve has a strategic management plan. Ya'axche Conservation Trust has partnered with the Forest Department to manage the area. The strategy of this forest reserve is unique because it uses an integrated approach to address agroforestry and sustainable forest management involving

surrounding communities. In addition, a core conservation area exists to protect the watershed. Vaca Forest Reserve is co-managed by Friends for Conservation Development (FCD), which provide long term forest licenses for logging. Ya'axche Conservation Trust (YCT) has been identified as a possible co-management organization for Maya Mountain Forest Reserve since they already work with some of the buffer communities and have experience in integrated landscape management.

The Project Development Objective (PDO) is to strengthen natural resource management and biodiversity conservation in Key Biodiversity Areas (KBAs) of Belize. The Project would achieve this by helping to: reduce deforestation rates and fragmentation pressure in targeted KBAs and enhance sustainable forest management practices; improve the protection of Forest Reserves and reduce forest fires; improve local livelihoods through community-based sustainable use of ecosystem goods and services; strengthen legal and administrative frameworks for Protected Areas (PAs); manage Protected Areas (PAs) in the KBAs more effectively; strengthen capacity for compliance monitoring and enforcement of key agencies responsible for the environment and enhance the coordination among Government agencies charged with conservation; enhance effectiveness of the Environmental Impact Assessment (EIA) System; and mainstream climate change mitigation and resilience considerations into the National Protected Areas System Plan (NPASP).

The objectives are to be realized by addressing the issues in the four overarching components as follows:

Component 1: Supporting Forest Protection and Sustainable Forest Management Activities in Key Biodiversity Areas (US$2.1819 million). This component will support activities in (1) forest protection and (2) sustainable forest management, contributing to reduction of emissions from deforestation and degradation and increase in sequestration of CO_2. Forest protection will be achieved through (a) support for review and amendment of the land tenure legislation that requires land owners to develop or clear forested lands, (b) support for assessment and training to promote a REDD+ program to incentivize private land protection and provide sustainable funding for protected areas, and (c) development of a fire incidence rapid response team to decrease forest fires. Sustainable forest management with local communities in targeted areas will be achieved through (a) rehabilitation of critical areas of high conservation value through community-based activities, incorporating climate change mitigation and resiliency measures, (b) support for sustainable harvesting and marketing of non-timber forest products (NTFPs) and community-based forestry opportunities in target areas, (c) awareness raising on sustainable forest management, and (d) establishment of the sustainable forest management system.

Component 2: Promoting Effective Management of Key Biodiversity Areas (KBAs) (US$2.5979 million). Effective management is critical to mitigate threats to the KBAs. This component will support (1) improving management of the KBAs and (2) monitoring and compliance within the KBAs. Effective administration and management of the KBAs will be achieved through (a) support for implementation of recommendations from the recent consultations conducted by the Government of Belize to improve the Protected Areas System (the PA Rationalization

Exercise) including establishment of procedures/guidelines and criteria for the declaration, re-alignment and de-reservation of PAs, and implementation of the comprehensive protected areas legislation to integrate all PAs that are currently managed under different acts, (b) support for improvement of protected area management in six target sites, and (c) updating the Protected Areas System Plan with considerations to climate change mitigation and resilience. Monitoring and compliance activities will be supported through (a) improving legal frameworks for protection of biodiversity and forests, (b) implementation of monitoring and compliance in the PAs through demarcation of PA boundaries, establishment of a monitoring and compliance unit, and an operational plan for such unit, training and transportation support, and (c) establishing a biodiversity monitoring system for the KBAs and increasing biodiversity monitoring capacity.

Component 3: Institutional Strengthening and Capacity Building for Enhanced Enforcement of Environmental Regulations (US$1 million). This component will support enhanced coordination and training among government agencies charged with environmental management. This is critical for the long-term protection of areas for natural resources management, climate change mitigation, and biodiversity conservation. This will be achieved through supporting (1) increased coordination for improved environmental management and development and (2) integration of environmental screening tools and processes. The Project will (a) establish a committee devoted solely to environmental management; (b) provide training and equipment for compliance monitoring. The project will also (a) establish a standardized EIA program and protocol for enhanced environmental screening; (b) improve decision making in the EIA process; and (c) introduce other environmental tools (such as Strategic Environmental Assessments, SEA) to complement EIA into the environmental screening and clearance process.

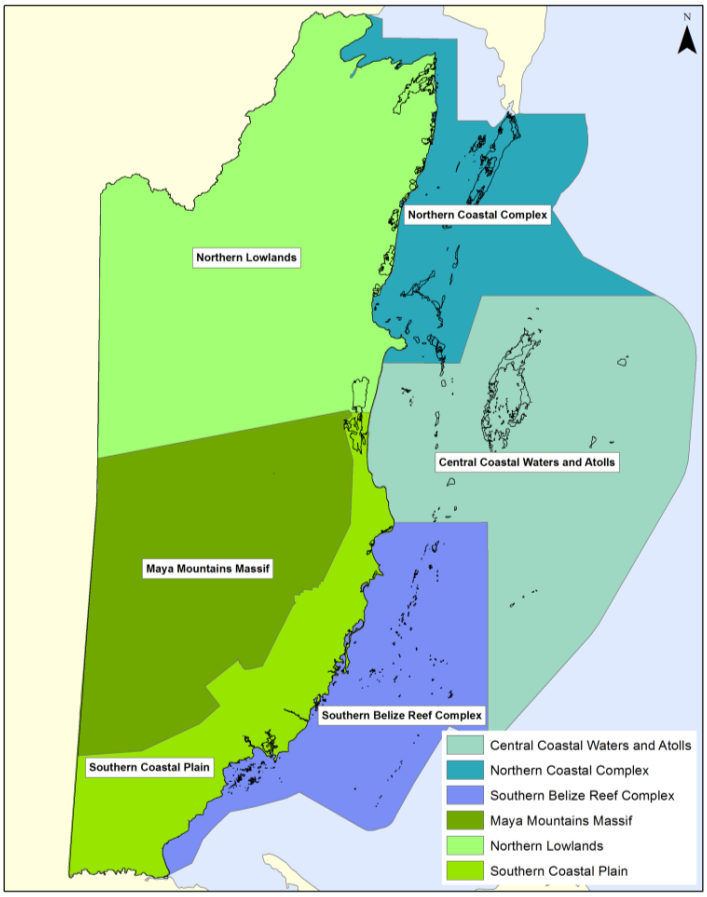
Component 4: Project management, monitoring and assessment (US$ 305,800). This component will provide technical, administrative, and fiduciary support to the Project. A monitoring and evaluation program will be designed and implemented, which include collection of data and regular updates, stakeholder involvement, and overall Project implementation. The Project Management Unit (PMU) will be established in MFFSD, consisting of Project Manager, Project Officer, staff from the existing units within MFFSD, namely the National Protected Areas Secretariat, the Department of Environment, and Forest Department, and fiduciary staff from PACT. Effort will be made to harmonize the coordination of this project with other existing World Bank/GEF projects.

3.1. Selected Key Biodiversity Areas in Belize and Their Co-management Status

The project will implement two broad types of project activities: those that have system wide impacts on the management and sustainable use of KBAs in Belize, and those that are site specific. The site specific activities will affect six protected areas (PAs) within the KBAs and the PAs adjacent communities.

The entire network of KBAs will benefit from the legislative reform that will be undertaken and the management systems that will be developed under the Project. The opportunity will be provided for development of legislation that fully integrates private PAs into the national system, and reduce the risk of de-reservation of public PAs, ensuring that biological corridors connecting KBAs are sustainable and pressures on their biodiversity is reduced. The management systems that will be developed include data collection and management, site management, and monitoring and enforcement systems for specific sites will be available for adoption and use throughout the National Protected Areas System (NPAS).

Map 4: Protected Areas Management Units



The NPAS consists of 6 Management Units (See Map 4) that are subsumed within the KBAs. These are:

Terrestrial Management Units:

- Northern Lowlands
- Maya Mountains Massif
- Southern Coastal Plan

Marine Management Units:

- Northern Coastal Complex
- Central Coastal Waters and Atolls
- Southern Belize Reef Complex

Target Protected Areas

Some of the Project activities will be site specific. These types of activities include alternative livelihood activities, high value restoration, implementation of enforcement activities, demarcation of boundaries and development of databases to support management and decision making within the PAs. The lessons drawn from these sites will bring benefit to the entire NPAS and to the terrestrial KBAs in Belize.

Six protected areas have been selected for site specific activities. They are presented in Table 3. Four of the six sites are forest reserves, one is a wildlife sanctuary and one is a national park.

Three of the six sites are on Belize's western border with Guatemala and have significant transboundary incursions. Primarily from Guatemalan border communities, they include illegal hunting, logging, and agricultural activities, as well as looting of archaeological sites and poaching of wildlife. Extractive use of resources is a common thread in all six sites. These sites are located in the Northern and Central KBAs.

Table 3: The Proposed Project Sites for Site-Specific Activities

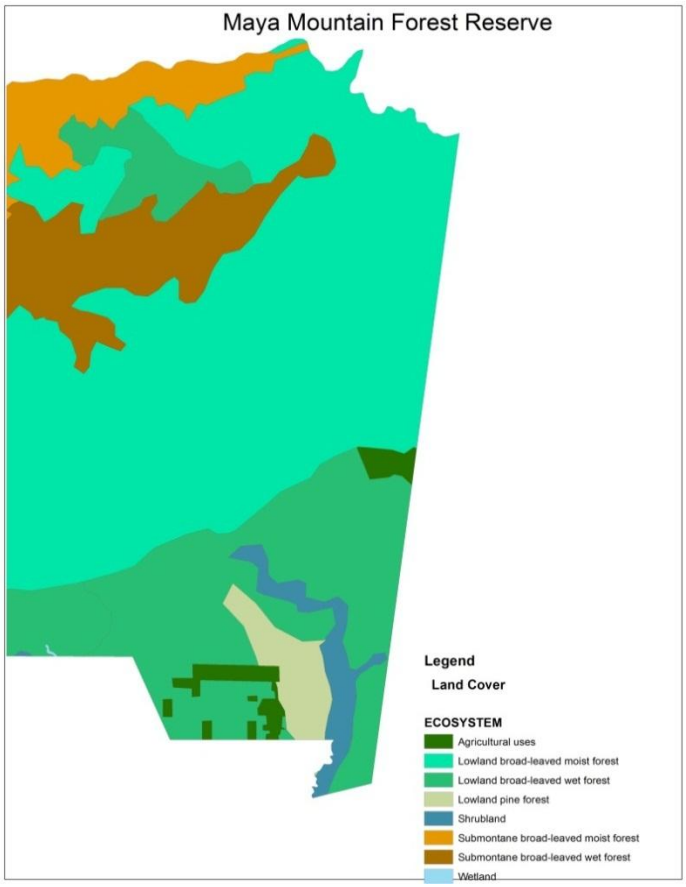
Protected Area	Acreage	Agency Responsible	Co-Manager
Freshwater Creek Forest Reserve	33,393	Forest Department	Corozal Sustainable Future Initiative (CSFI), http://www.csfi.bz/
Spanish Creek Wildlife Sanctuary	6,001	Forest Department	Rancho Dolores Environment and Development Group, http://apamo.net/index.php/rancho-dolores-environmental-a-development-group
Vaca Forest Reserve	34,887	Forest Department	Friends for Conservation and Development (FCD), http://www.fcdbelize.org/
Chiquibul National Park	264,003	Forest Department	Friends for Conservation and Development (FCD)
Maya Mountain Forest Reserve	41,730	Forest Department	None
Columbia River Forest Reserve	148,303	Forest Department	None

Below is a detailed description of each priority site.

MAYA MOUNTAIN FOREST RESERVE

Name	IUCN Category	Gazetted	Management	Acres
Maya Mountain Forest Reserve	VI	1997/114	Forest Department	41,730

Map 5: Land Cover for Maya Mountain Forest Reserve



The Maya Mountain Forest Reserve is on the easternmost face of the Maya Mountain Massif (MMM). As shown in Map 5, the ecosystems present are lowland broad leaf forest, sub-montane broadleaf forest, lowland pine forest, and shrub lands.

This east facing side of the Maya Mountains is important for the water security of agricultural areas and communities downstream. It provides steep slope protection as the Maya Mountains quickly transition into the lowlands of the coastal plains. This PA has steep slopes unsuitable for agriculture or habitation.

Clearance of these steep slopes could be detrimental to agricultural activities and communities downstream. Climate change predictions of increased intensity of storms could destabilize soils on cleared, steep slopes, resulting in the mudslides and landslides seen in Guatemala and Honduras.

It is recommended that this forest reserve be managed as an integral part of the NPAS. Efforts should be made to reduce pressures for de-reservation. The areas of the forest reserve that buffer communities should be managed for sustainable community use based on agroforestry practices. Sustainable community use plans based on experiences for integrated landscape management should be developed and implemented in these buffer areas. The landscape approach should seek to retain the forest canopy for future water security. The need for PA

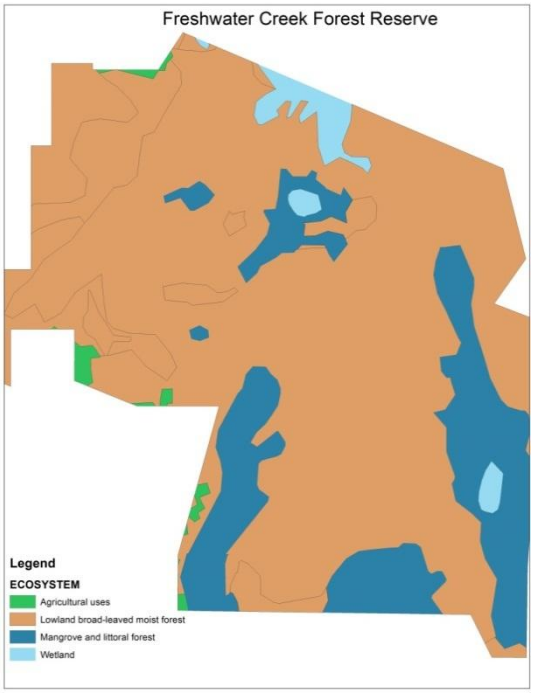
management, monitoring, and support for livelihood activities that fit within the livelihood framework of the buffering communities is essential.

An NGO partner should be identified to support the preparation and implementation of a management plan for the forest reserve as well as to support the preparation and implementation of sustainable community land use plans for the buffer areas. Ya'axche Conservation Trust (YCT) is a possible candidate since they already work with some of the buffer communities and have experience in integrated landscape management.

FRESHWATER CREEK FOREST RESERVE

Name	IUCN Category	Gazetted	Management	Acres
Fresh Water Creek Forest Reserve	VI	2001/66	Forest Department	33,393

Map 6: Land cover in Freshwater Creek Forest Reserve



Freshwater Creek Forest Reserve is the northernmost target site for the proposed Project. When it was first established in 1997 it was made up of 60,000 acres and has since been reduced to 33,393 acres. The buffer communities include Orange Walk Town, San Estevan, Santa Marta, Honeycamp Lagoon, and Chunox. Each of the communities are mainly composed of mestizos, with some immigrants from Mexico and Central America, primarily Guatemala and El Salvador. Most residents work in agriculture, and most do not use the forest reserve on a regular basis, although a few people do occasionally hunt and fish in the reserve. The incursions

into the PA have been mainly for agricultural uses, resulting in fragmentation and de-reservation of portions of the reserve.

As shown in Map 6, agricultural incursions into Freshwater Creek Forest Reserve continue. Sugarcane plantations and sugarcane production dominate the buffer area, which is likely the largest cause of agricultural activity in the PA.

Freshwater Creek is considered an important secondary node for the northeast biological corridor, and will therefore facilitate ecosystem adaptation to climate change. Agricultural incursions are fragmenting the forest, reducing resilience to climate change and increasing susceptibility to fire.

The lands to east of Freshwater Creek are in private ownership, with large-scale land clearance for agriculture by the Mennonites. The site provides protection to the yellow-headed parrots which are globally endangered and which have declined rapidly in Belize over the last 15 years due to increased anthropogenic fires.

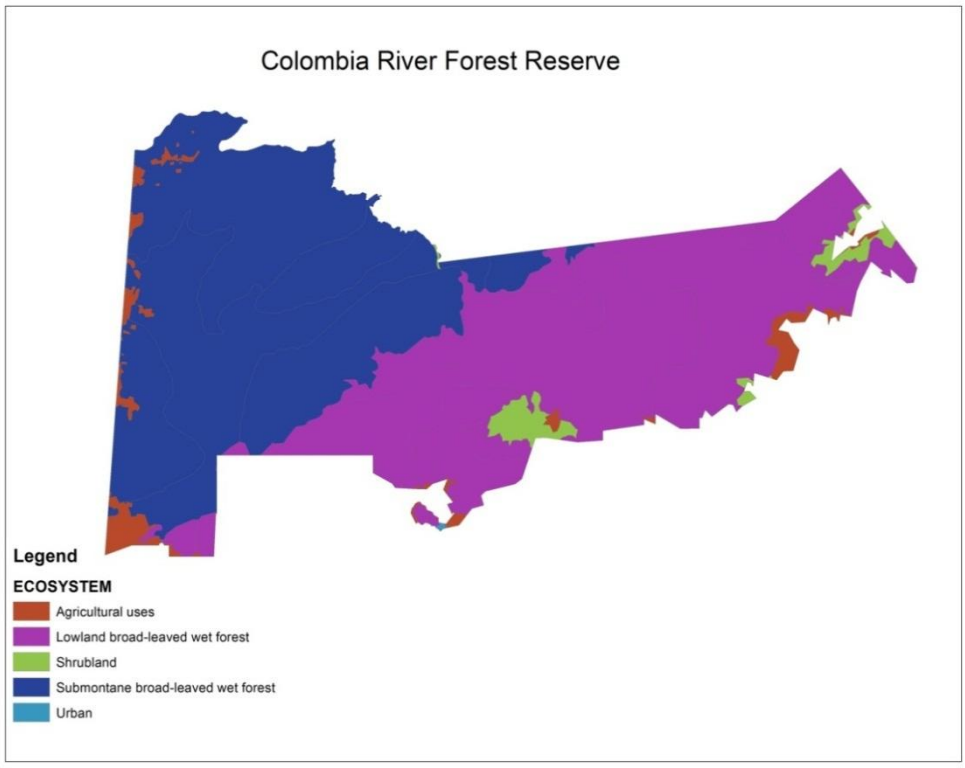
Overall, Freshwater Creek Forest Reserve is an important component of the North East Biological Corridor, and critical for maintaining wide-ranging species such as white-lipped peccary, and allowing ecosystems and species migration in response to climate change. Consequently, it should remain an integral part of the NPAS. Required actions include:

- Re-establish and enforce moratorium on logging within the Forest Reserve until stocks are assessed as having recovered sufficiently for sustainable extraction.
- Implement areas of agro-forestry as an interim measure in impacted areas to re-establish forest cover and engender social support, based on approved Community Sustainable Use Plans. It is critical that these uses retain the forest canopy for future biological corridor functionality.
- Needs management and monitoring – potential for community conservation focus through biological corridor program – identify a potential co-management group.
- Management Unit: Northern Lowlands.
- Maintain forest cover and reduce fragmentation by logging tracks and agricultural incursions – potential for community agroforestry initiative linked to north east biological corridor.
- Proactive fire prevention and effectively address fires that occur.
- Implement moratorium to allow forest recovery.

COLOMBIA RIVER FOREST RESERVE

Name	IUCN Category	Gazetted	Management	Acres
Columbia River Forest Reserve	VI	1997/115	Forest Department	148,303

Map 7: Columbia River Forest Reserve and the Current Land Cover



Columbia River Forest Reserve is the southernmost PA in the MMM. According to the rationalization exercise, Colombia River Forest Reserve is one of the six highest priority terrestrial PAs in Belize. Effective management is important for all PAs, and particularly for those considered as priorities.

A national management effectiveness assessment was conducted in 2009 (Walker et al., 2010), and averaged ratings per PA analyzed in relation to prioritization to identify those priority protected areas most in need of strengthening. It should be borne in mind that the national assessment tool (Young et al., 2005) is heavily focused on assessment of management processes – whether organizations have processes in place – so large organizations and Government departments can have misleadingly high ratings that do not necessarily reflect their conservation outputs. The prioritization scoring is particularly useful in the assessment of where investments in strengthening PA management are most needed. Of the high priority protected areas, Columbia River Forest Reserve rates as the one in most need of strengthening in terms of having a very high prioritization score but poor management effectiveness.

The south-eastern face of the Colombia River Forest Reserve transitions from steep slopes to the coastal plan. The steep and transitioning slopes should remain under forest cover. Steep slope protection: Clearance of steep hill slopes will increase the risk to property and human life, especially in the context of climate change predictions which suggest an increased intensity of storms, which will destabilize soils on cleared, steep slopes, resulting in the mud slides and landslides.

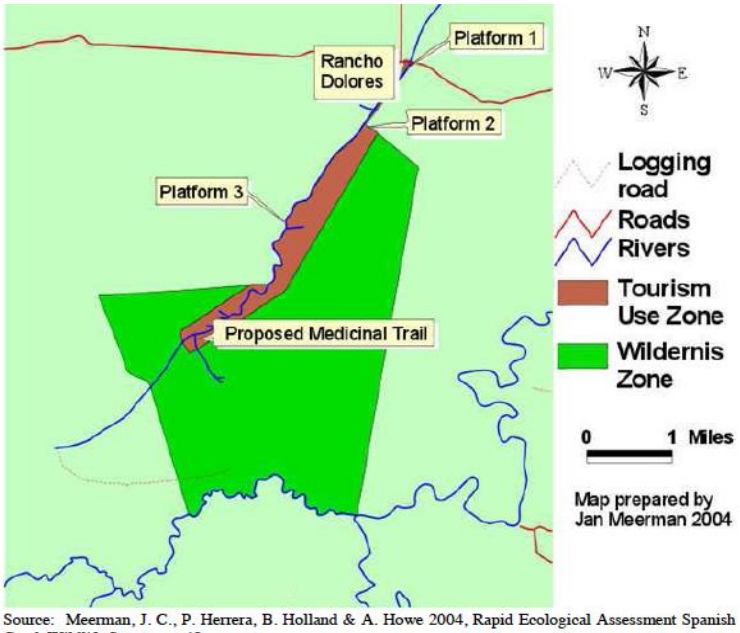
CRFR is a Core part of the MMM. There is a high level of incursion by Guatemala for hunting, farming, and natural resource extraction. This PA needs to remain as an integral part of the NPAS. Other important actions include:

- As a priority, strengthen security against transboundary incursions.
- Implement areas of community sustainable use, based on approved Community Sustainable Use Plans through concession agreements. Critical that these uses retain the forest canopy for future water security.
- Needs management and monitoring – engage NGO partner – Ya'axche.
- Management Unit: Maya Mountains Massif.
- Manage fire risk in limestone areas/adjacent agricultural areas.
- Maintain forest cover within the Forest Reserve, including areas of community sustainable use.
- Encourage maintenance of forest cover in the lowland, coast plain landscape to increase water catchment in the upper watershed.
- Minimize human impacts, including logging tracks, which may increase susceptibility to storm events.

SPANISH CREEK WILDLIFE SANCTUARY

Name	IUCN Category	Gazetted	Management	Acres
Spanish Creek Wildlife Sanctuary	IV	2002/87	Forest Department	6,001

Map 8: Spanish Creek Wildlife Sanctuary



Source: Meerman, J. C., P. Herrera, B. Holland & A. Howe 2004, Rapid Ecological Assessment Spanish Creek Wildlife Sanctuary. 48 pp.

Spanish Creek Wildlife Sanctuary is the only wildlife sanctuary among the six target PAs. It is also the smallest of the six at 6,001 acres. It is located in the Belize River Valley in the Belize District. The adjacent communities are primarily of Creole descent with a long history in the logging industry.

Spanish Creek Wildlife Sanctuary, declared a protected area in June 2002, is situated along 5 miles of Spanish Creek. The Wildlife Sanctuary lies within the Belize River watershed, along Spanish Creek, south of Rancho Dolores. This Wildlife Sanctuary forms an important link in the Northern Biological Corridor. The PA is considered to be a potential resource for local tourism, with a number of features of touristic value including high bird diversity, and the presence of prominent species such as Morelet's crocodile and the black howler monkey.

The sanctuary was established for the protection of local biodiversity, and to strengthen corridor connectivity between Rio Bravo, the Community Baboon Sanctuary and Crooked Tree Wildlife Sanctuary. Uses within the Wildlife Sanctuary include Non-extractive – tourism, education and research.

Rancho Dolores Environmental and Development Co. Ltd. operate the Spanish Creek Wildlife Sanctuary as co-managers with the Forestry Department. It is dedicated to the social and economic development of Rancho Dolores Village and the area surrounding the community. One of the values of Spanish Creek Wildlife Sanctuary is the protection of Riparian vegetation, which is important for the stability of riverbanks, filtering run-off and maintaining water quality. As clearance of this vegetation increases, the impacts are seen not only in the declining quality of water in the rivers and along the coast, but also on Belize's reef system, where sedimentation and agro-chemical run-off reduces reef health. The destruction of the Kendall Bridge by Tropical Storm Arthur clearly demonstrated the impacts of clearing riparian forest.

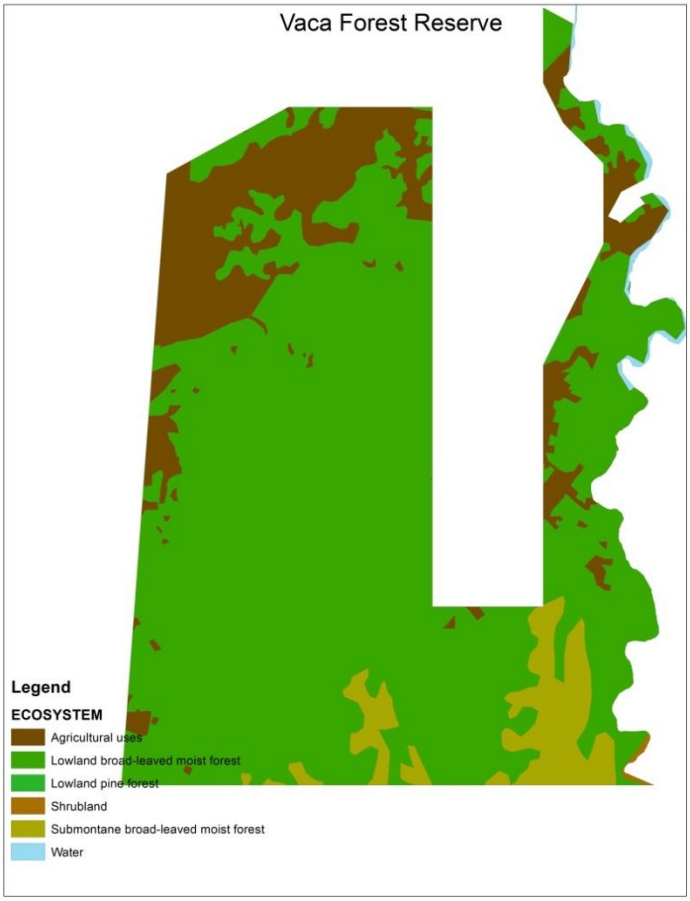
Some of the primary actions in this protected area include:

- Maintain riverside vegetation.
- Actively conserve hicatee – particularly known nesting sites.
- Management of traditional community resource extraction.
- Reclassification of the area to be aligned with IUCN Category VI.
- Needs an approved sustainable fishery plan, with use agreement.
- All other activities must be non-extractive.

VACA FOREST RESERVE

Name	**IUCN Category**	**Gazetted**	**Management**	**Acres**
Vaca Forest Reserve	VI	2003/137	Forest Department	34,887

Map 9: Land Cover in Vaca Forest Reserve



Vaca Forest Reserve lies on Belize's western border with Guatemala. It is part of the MMM and an integral part of the Central KBAs.

Map 9 shows the ecosystems of the Vaca Forest Reserve, possessing broad leaf forests, both lowland and sub-montane. The map also demonstrates that there is significant agricultural activity within the forest reserve. These activities include cattle pasture and crop production.

Vaca Forest Reserve includes steep slopes that need to be maintained forested. It is the headwater for the Vaca Dam so maintaining the forest cover is a critical environmental service. Some of the actions required in this PA include:

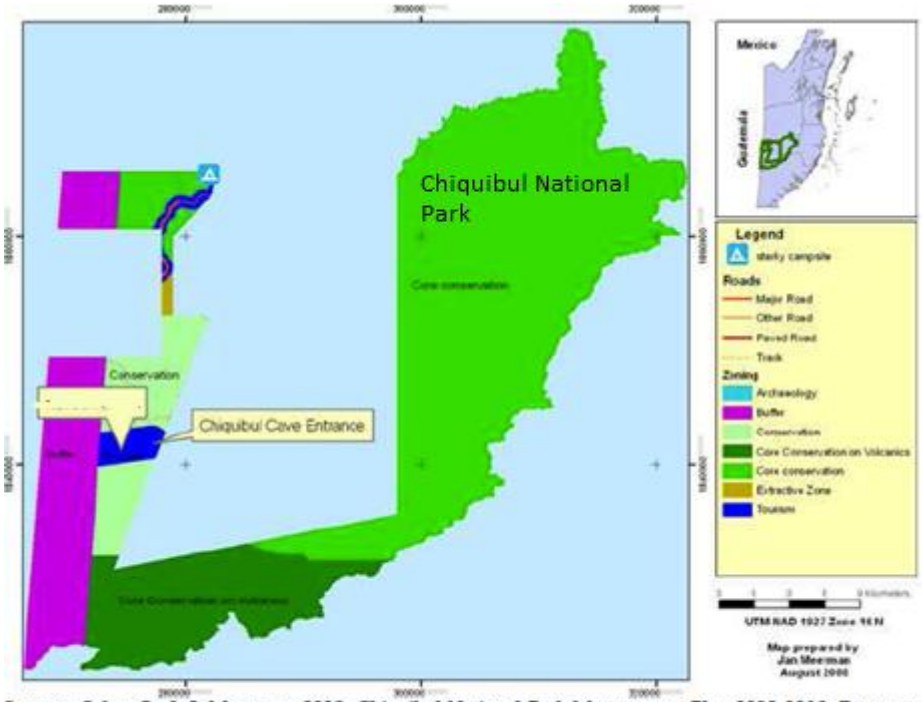
- Ensure that the reserve remains an integral part of the NPAS.
- As a priority, strengthen security against border incursions.
- Implement areas of communities' sustainable use, based on approved Community Sustainable Use Plans and concession agreements. It is critical that these uses retain the forest canopy for future water security and viability of dam reservoirs.
- Needs active engagement and monitoring – engage NGO partner – FCD.
- Promote livelihood activities that reduce the pressures on the biodiversity of the area.

- Needs a diagnostic study to identify an effective restoration program.
- FCD has conducted a social assessment with farmers.
- FCD has a landscape management strategy, which would include acreage.

CHIQUIBUL NATIONAL PARK

Name	IUCN Category	Gazetted	Management	Acres
Chiquibul National Park	II	1995/55	Forest Department	264,003

Map 10: Chiquibul National Park



Source: Salas, O. & J. Meerman. 2008. Chiquibul National Park Management Plan 2008-2013. Report to FCD. 192 pp.

Chiquibul National Park is the largest of the six PAs targeted for this proposed Project within the KBAs and the only national park. It is also the largest single PA in Belize found within a KBA.

According to the rationalization exercise, Chiquibul National Park is one of the six highest priority terrestrial PAs. It protects steep slopes and ensures that the water flows into the Challio Dam, which is used to supply more than 50% of the potable water needs of the country.

The Chiquibul forest faces significant cross boundary pressures. These include illegal hunting, looting and looting of archaeological sites, harvesting of xate, and poaching of birds.

Some of the actions that need to be taken by the proposed Project include:

- Strengthen against border incursions.
- Maintain connectivity with other protected areas of the Maya Mountains Massif.
- Reduce transboundary incursions and associated fire risks.
- Ensure mining activities do no compromise water quality and availability downstream.
- Private sector (resort/lodges) impacts the PA through extraction of resources.
- Local (surrounding) communities do not impact the national park, but the forest reserve, if not monitored, can expand into the national parks.

It is co-managed by Friends for Conservation and Development.

3.2. Stakeholders' Consultation Process

The consultation process was undertaken at the beginning of the EMF consultancy in November, 2012 to help to finalize the sub-project categorization near the more vulnerable KBAs. This was a critical step for the stakeholders to explicate their position on the Project and define the most important factors to determine the most efficient use of the available resources within the confines of the Project objective. There were two approaches to this phase of the consultation process. Firstly, all the pertinent stakeholders were invited to participate in a group session at a central location in an initial workshop. Secondly, the Project consultants made field visits to a cross-section of buffer communities near the pre-selected KBAs, from north to south of the country, among the areas that we likely to be participants in the Project or recipients of Project funds.

The first consultation was to facilitate information sharing and ensure participation throughout the different stages of the process leading up to sub-project selection. The initial workshop was arranged into four segments. The first segment was a presentation by the consultancy team that explained the Project objectives and broad components, along with the outcomes and outputs as defined by the PIF. The second segment was divided into two sub-groups that participated in breakout discussions in their areas of interest. One session combined Components 1 and 2, and the other Component 3, with a special focus on the Project's environmental issues and protection by the regulators and other stakeholders. The third segment was a plenary discussion to consolidate the contributions of the two breakout sessions, and the final segment was a wrap up determining what had been achieved and how the consultancy team would move forward. **Annex I** provides a list of stakeholders' representatives that participated in the breakout session on Component 3.

In the breakout session, each output was discussed under Component 3, "Institutional Strengthening & Capacity Building for Enhanced Enforcement of Environmental Regulations", and comments were compiled as to its effectiveness in meeting the overall Project objective.

Annex II summarizes contributions from the discussions with the stakeholders that participated. The information was used by the consultancy to formulate appropriate principles of environmental management.

4.0 Local and International Legal and Institutional Framework

In Belize, protection of the biosphere from degradation is primarily the responsibility of the Department of the Environment (DOE) under the portfolio of the MFFSD. However, environmental protection also lies within the purview of other agencies, such as the Forest Department and Department of Fisheries that have responsibility for protection of terrestrial and marine ecosystems generally, and they provide management oversight through issuance of licensing and carrying out monitoring and enforcement of the pertinent local regulations. With the current environmental and forest protection laws, enforcement is concentrated at the government and department levels; not with local authorities. The municipal authorities do not monitor or enforce environmental and forest regulations and neither would have the capacities to do so. Therefore, all infractions in this regard are handled by the national authorities.

4.1. Environmental Protection Act (EPA)

Chapter 328 of the Laws of Belize contains the Environmental Protection Act (EPA), which was passed into law in 1992. The Act gives broad sweeping powers only to the DOE for the control and prevention of pollution on land, water and air, prohibitions on dumping of waste, environmental impact assessment (EIA) and the control of nutrients deposited into the environment. One of the DOE's key mechanisms for environmental protection under the EPA is the EIA Regulation number 107 of 1995, amended in 2007. The Act requires that all person, organization or entity is required to prepare an EIA if their proposed programme or project will have significant impacts on the environment. Once a project proposal is submitted to the DOE, a screening exercise is undertaken to determine the necessary level of environmental assessment. The DOE regulation categorizes projects in three schedules **(Annex III)**. It is mandatory that an EIA be developed for proposals that fall under "Schedule I" of the regulations. These are usually projects that will have significant negative long term impacts and cause irreversible damage on the biophysical environment. Under "Schedule II", the DOE retains the discretion in determining the level of necessary assessment. These projects usually only differ from "Schedule I" projects in scope. The "Schedule III" is where the magnitude of the project impacts is minimal and does not fit into "Schedule I or II". To avoid delays or the suspension of a programme or project after commencement, it is strongly recommended by DOE that a letter be submitted to them indicating the nature of the programme or project being undertaken, so that they can be properly assessed and issue environmental clearance or a no objection, as necessary.

Under the EIA regulations, the DOE can apply different levels of environmental assessment to determine the likely environmental impacts of a proposed development. They may request an EIA which is highest level of assessment, or a Limited Level Environmental Study (LLES) that is normally applied to "Schedule II" projects. For those projects that do not require either an EIA or LLES, immediate environmental clearance is granted, without a request for a study. Once a project requires a study, applicants follow the procedures outlined in the EIA regulations and guidelines (Department of the Environment Belize, 2011). LLES are usually required for Schedule II proposals. In the case of an EIA, a public consultation is mandatory, while for LLES a public consultation is discretionary on the part of the DOE.

If the DOE determines that an EIA or LLES is required, then a screening phase is followed by a scoping phase which determines the focus area of the study in conformity with guidelines set out in the regulations. Following this, the preparer is given permission to conduct the EIA or LLES. Upon completion and approval on an EIA or LLES by the DOE, the report can proceed to full submission to DOE. A National Environmental Appraisal Committee (NEAC) reviews the reports and makes recommendations to the DOE on the merits and demerits of each study. DOE is responsible to issue a final approval or disapproval. The NEAC is made up of a cross-sector of technical professionals that are called upon based on the nature of the project to give their recommendations to the DE.

Once the studies are completed and approved by DOE, an Environmental Compliance Plan (ECP) is developed by the DOE. The ECP is a legally binding agreement between the DOE and the developer. It outlines what should be done after the environmental assessment is approved in terms of mitigation and monitoring necessary for environmental protection. Breach of the ECP or EPA can lead to penalties that include revoking of the development licence, fines, and/or confinement to a local prison.

The DOE is located in Belmopan, in the Cayo District, almost in the centre of the country. It is led by a Chief Environmental Officer (CEO) supported by a Deputy CEO, a legal counsel, and environmental officers and technicians. The department coordinates all its activities in Belmopan, as there are no branch offices in the districts. There are scheduled and random monitoring and enforcement activities throughout the year for the country and emphasis is placed on the most sensitive sites. The Environmental Enforcement and Compliance Units and Project Evaluation EIA Units are two sections that are responsible for the review and follow-up on projects. With their current volume of work, the department is already at its capacity and has even been criticized in the public of not doing sufficient monitoring and enforcement as it is required to do. The DOE receives additional support for monitoring and enforcement for other departments, such as Fisheries, Forestry, Petroleum, and Geology that also have a mandate to monitor and enforce their legislation that overlaps with that of the DOE. As it stands, the sub-

projects will require on-going monitoring and it is likely that the department will need additional human resources to do so.

4.2. Forest Department Legislation

The Forest Department has the responsibility for administering five pieces of legislation. The Forest Act Chapter 213 of the Laws of Belize provide for the protection and preservation of trees and 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. Depending on the nature of a sub-project, it may also be required for the proponent to consult with other important local legislation or international conventions from time to time **(Table 4)**.

Table 4: Pertinent Legislations

Article/Publication	Department/Ministry
Belize National Park Acts, Chapter 215 - Revised Edition 2000	Forest Department, Ministry of Forestry, Fisheries and Sustainable Development (MFFSD)
Belize National Parks System Act, Chapter 215 Revised Edition 2003	Forest Department, MFFSD
Private Forest (Conservation) Act, Chapter 217 - Revised Edition 2003	Forest Department, MFFSD
Protected Areas Conservation Trust Act, Chapter 218 - Revised Edition 2003	Forest Department, MFFSD
Wildlife Protection Act, Chapter 220	Forest Department, MFFSD
National Institute of Culture and History (NICH) Act, Chapter 331 - 2000	Institute for the Research and Management of Material Culture
Fisheries Act of 1948, Chapter 210 – Revised Edition 2000	Fisheries Department/Ministry of Agriculture and Fisheries
Draft Fisheries Act - Sept 2011	Fisheries Department, Ministry of Agriculture and Fisheries

In addition to the local environmental mechanisms in place, over the past fifty years, Belize has signed a number of International Conventions aimed at protecting the environment in ways that are both nationally and globally important. These agreements listed must be kept in mind when evaluating any sub-project **(Table 5)**.

Table 5: International Conventions and Regional Agreements

International Conventions and Regional Agreements	Ratified	Purpose
International Convention for the Protection and Conservation of Sea Turtles for the Western	1997	To promote the protection, conservation and recovery of sea turtle population and the habitats on which they depend

International Conventions and Regional Agreements	Ratified	Purpose
Hemisphere		
Alliance for the Sustainable Development of Central America	1994	Regional alliance supporting sustainable development initiatives
Convention on Biological Diversity	1993	To conserve biological diversity to promote the sustainable use of its components, and encourage equitable sharing of benefits arising from the utilization of natural resources
Convention on the Conservation of Biodiversity and the Protection of Priority Wilderness Areas in Central America	1992	To conserve biological diversity and the biological resources of the Central American region by means of sustainable development
United Nations Framework Convention on Climate Change	1992	An overall framework for intergovernmental efforts to tackle the challenge posed by climate change. It recognizes that the climate system is a shared resource whose stability can be affected by industrial and other emissions of carbon dioxide and other greenhouse gases
UNESCO Man and the Biosphere Programme	1990	To promote the sustainable use and conservation of biological diversity and for the improvement of the relationship between people and their environment globally, through encouraging interdisciplinary research, demonstration and training in natural resource management
Central American Commission for Environment and Development	1989	Regional organizations of Heads of State formed under ALIDES, responsible for the environment of Central America. Initiated Mesoamerican Biological Corridors and Mesoamerican Caribbean Coral Reef Programs
Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region	1983	To protect the marine environment of the wider Caribbean region for the benefit and enjoyment of present and future generations
United Nations Convention on the Laws of the SEA	1983	A legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the

International Conventions and Regional Agreements	Ratified	Purpose
		conservation of their living resources, and the study, protection and preservation of the marine environment
Convention on the Conservation of Migratory Species of Wild Animals	1979	To protect migratory species
Convention on the Protection of Archaeological, Historical and Artistic Heritage of American Nations	1976	To protect the Archaeological heritage of signatory countries. Several Maya Archaeological sites exist, four of which have been identified during the Maya Mountain Project - including the second largest site in Southern Belize
Convention on International Trade in Endangered Species of Wild Fauna and Flora	1973	To ensure that international trade in specimens of wild animals and plants does not threaten their survival
Convention Concerning the Protection of the World Cultural and Natural Heritage	1972	To encourage the identification, protection, and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity
Convention on Wetlands of International Importance	1971	To stem the progressive encroachment on and loss of wetlands now and in the future, recognizing the fundamental ecological function of wetlands and their economic, cultural, scientific, and recreational value
International Planet Protection Convention	1951	To promote the protection, conservation and recovery of sea turtle population and the habitats on which they depend

5.0 World Bank Safeguards Applicable to the Project

5.1. Safeguard Measures

It is anticipated that the sub-projects selected at the implementation phase will have varied characteristics, and they will therefore require different environmental protection measures to safeguard against degradation of the natural environment. The World Bank instituted Safeguards Policies, in environmental and social aspects to be applied to all projects financed by the WB. The WB favours preventive measures over mitigatory or compensatory measures, whenever feasible[6]. The safeguard measures serve to ensure that there is sustainable use of the natural resources, transparency in information provided to the public, and to ensure that the impacts of a project are properly assessed so that mitigation measures or alternatives can be

[6] World Bank Environmental Assessment safeguard, OP/BP 4.01

adequately formulated. The application of the safeguards does not stop at the end of project implementation, but continues into its operational phase. Once a sub-project is in its operational phase, safeguards are continuously applied and are informed by a comprehensive monitoring and evaluation plan so that corrective measures can be taken at the earliest, if necessary.

Safeguards that will be applied under the MAPKBA are determined based on the type of sub-projects that are likely to be approved. These safeguards include: the Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), Pest Management (OP/BP 4.09), Indigenous Peoples (OP/BP 4.10), Physical Cultural Resources (OP/BP 4.11), and Forests (OP/BP 4.36). Therefore, all sub-projects submitted for approval by the MAPKBA must be assessed to determine if any safeguards must be applied. In such instance, the necessary steps will have to be taken to address the impacts based on the instructions provided in this document.

The following table presents the common settings under which the safeguards are applied and the rational and objectives of the policies **(Table 6)**. More information on the World Bank Safeguard Policies can be accessed at http://go.worldbank.org/WTA1ODE7T0.

Table 6: World Bank Safeguards Policies

Safeguard	Operational Policy/Bank Procedure No.	Rational and Objectives; Application under the Project
Environmental Assessment	4.01	EA is a process whose breadth, depth, and type of analysis depend on the nature, scale, and potential environmental impact of the proposed project/activity. EA evaluates a project/activity's potential environmental risks and impacts in its area of influence; examines alternatives; identifies ways of improving project selection, siting, planning, design, and implementation by preventing, minimizing, mitigating, or compensating for adverse environmental impacts and enhancing positive impacts; and includes the process of mitigating and managing adverse environmental impacts throughout implementation. The Bank favours preventive measures over mitigatory or compensatory measures, whenever feasible. Derived from the very development objective of the Project, its principal expected environmental impacts are positive. However, as the Project applies an integrated socio-environmental approach to sustainable natural resources management and biodiversity conservation, a part of the Project-financed conservation efforts target improved local livelihoods

		through community-based sustainable use of ecosystem goods and services that demand socio-environmental management as presented and guided in this document.
Natural Habitats	4.04	Ensures that infrastructure and other development projects take into account the conservation of biodiversity, as well as the numerous environmental services and products which natural habitats provide to human society. The policy strictly limits the circumstances under which any WB supported project can damage natural habitats (land and water areas where most of the native plant and animal species are still present). The Project will help rehabilitate, restore, and protect targeted KBA, which are important to preserve local biodiversity and the quality of water resources. Regarding Project-financed sustainable livelihood activities, activities that would lead to conversion or degradation of critical natural habitats or their supporting areas are not eligible.
Pest Management	4.09	Promotes the use of biological or environmental control methods and reduces reliance on synthetic chemical pesticides. Regarding promotion of alternative livelihoods on agriculture and/or forestry, the Project will determine the extent of pest use and establish a baseline of existing practices at the sub-projects' site level so that an adequate and effective pest management plan can be developed as needed.
Indigenous Peoples	4.10	Ensures that indigenous peoples are consulted with, participate in and benefit from WB-funded operations in a culturally appropriate way – and that adverse impacts on them are avoided, or where not feasible, minimized, mitigated, or compensated.
Physical Cultural Resources[7]	4.11	Cultural resources are important as sources of valuable historical and scientific information, as assets for economic and social development, and as integral parts of a people's cultural identity and practices. The loss of such resources is irreversible, but is often avoidable. The objective is to avoid or mitigate adverse impacts on cultural resources from development projects financed by the WB, and build national capacity for protection of cultural heritage.

[7] Defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above or below ground, or under water. Their cultural interest may be at the local, provincial or national level, or within the international community (source: http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTOPMANUAL/0,,contentMDK:20970737~menuPK:64701637~pagePK:64709096~piPK:64709108~theSitePK:502184,00.html, accessed, May 30, 2013

		The Project can involve small structural works and Belize has thousands of Mayan Antiquities buried under the forests and chance finds might occur within the Project's direct intervention areas. Belize has a well-developed program for management of Mayan Antiquities in situ and ex situ. If antiquities are encountered during Project implementation, the Institute of Archaeology will be notified immediately, and as the competent authority, it will make the decisions on how any chance find will be managed. Additionally, any activity that could negatively impact any known cultural site is not eligible for Project financing. Further, in case of any difference/gap between the national legislation and the OP/BP 4.11, the stricter approach will prevail.
Forests	4.36	Assists countries to harness the potential of forests to reduce poverty in a sustainable manner, to effectively integrate forests into sustainable economic development, and to protect the vital local and global environmental services and values of forests. Where forest restoration and plantation development are necessary to meet these objectives, the WB assists countries with forest restoration activities that maintain or enhance biodiversity and ecosystem functionality. Assists countries with the establishment of environmentally appropriate, socially beneficial, and economically viable forest plantations to help meet growing demands for forest goods and services. The Project will support rehabilitation/restoration of critical forested areas (e.g., watersheds) through community-based activities. Regarding Project-financed sustainable livelihood activities, any activity that would lead to clearing or degradation of forests or forest ecosystems is not eligible for Project financing.

5.2. World Bank Project Categorization

In order to apportion an appropriate response, the WB, like Belize's EIA regulations, counts with a project classification system to ensure that they are correctly assessed based on the potential impacts occurring as a result of the implementation and operation of the programme or projects **(Annex IV)**. In the WB's system there are four categories of projects. They range from A being the ones to have the highest impact to C being those that would cause little to no impact and therefore do not require any environmental assessment. A fourth category is not based on potential impacts but to ensure that projects financed by the WB through an intermediary are also subject to evaluation. In the WB's system the sub-projects will be generally classified based on the likely outcome of the impact and the potential effects (physical, social, and economical).

Alternative livelihoods initiatives are important in reducing dependency on forest products. Agro/eco-forestry and forest conservation through carbon accounting and trading schemes can provide viable alternatives to resource extraction. These are likely to be a major portion of the sub-projects that will be funded under the Project. Agriculture provides benefits such as self-sufficiency, and supplying local markets near to production point, especially for small land holders, leading to poverty reduction and improving of rural household income. Agriculture empowers many subsistence farmers to earn an income to support their families while being entrepreneurs and having more control over their own employment status. However, agriculture can also have negative consequences, e.g. where a pest that is prevalent in a crop production is a problem. Pest control requires either chemical or biological intervention. Pesticides are substances that can be hazardous and harmful to the environment and/or human or animal health if a proper pest management plan is not in place to appropriately reduce impacts. On the other hand, biodiversity protection through the conservation of forests or reduction of forest degradation and deforestation are viable approaches to improved income with potentially less risks than agriculture.

5.3. Application of the World Bank Forests and Pest Management Policy

The WB does not finance projects/plantations that

- would involve significant conversion or degradation of critical forest areas or other natural habitats;
- contravene applicable international environmental laws; and
- involve any conversion or degradation of critical natural habitats, including adjacent or downstream critical natural habitats.

The WB only finances

- commercial harvesting operations or the purchase of logging equipment in areas that it has determined are not critical forests or related critical natural habitats.
- industrial-scale commercial harvesting operations in areas outside critical forest areas, where such operations are either certified as meeting standards of responsible forest management under an independent forest certification system acceptable to the WB, or adhere to a time-bound, phased action plan acceptable to the WB for achieving certification to such standards

In areas outside of critical forest areas, the WB may finance harvesting operations by small-scale landholders, local communities under community forest management, or entities under joint forest management. Such financing can be provided where these operations have either achieved a standard of forest management developed with the meaningful participation of affected local communities that is consistent with the principles and criteria of responsible forest management outlined in paragraph 10 of OP 4.36, or adhere to a time-bound action plan

to achieve such a standard that has been developed with the meaningful participation of affected local communities and acceptable to the WB. All such operations must be monitored by the client, with the meaningful participation of local people who are affected.

The WB uses environmental assessment to address the impact of all WB–financed investment projects on forests and the rights and welfare of local communities.

The WB ensures that WB–financed investment projects involving the management of forests

- incorporate measures to strengthen the fiscal, legal, and institutional framework in the borrowing country to meet defined economic, environmental, and social objectives that address, among other issues, the respective roles and legal rights of the government, the private sector, and local people.
- give preference to small-scale, community-level management approaches where they best harness the potential to reduce poverty in a sustainable manner.

The WB ensures that the design of WB–financed investment projects that use forest resources evaluate the prospects for the development of new markets and marketing arrangements for non-timber forest products and related goods and services, taking into account the full range of goods and environmental services derived from well-managed forests.

Pesticides can be extremely hazardous and thus a high risk to the environment if they are not properly handled, stored, used, and disposed of. Most commonly used pesticides are complex chemicals that are often difficult to break down in the environment and can therefore persist for many years. Pesticides contaminate water, soil, and air due to direct application and when water runoff into streams, river and lagoons. They are also known carcinogens (cancer causing), if the necessary precautions are not taken in their use. As such, the WB has approved safeguard measures for pesticide use.

5.3.1. Screening for Pesticide Use

Pesticides have a high potential for harm to the environment, and the WB requires that the respective capacities to manage and safely use them be assessed both at the beneficiary country and (sub-)project level. Regarding projects that require or can imply application of pesticides, the Pest Management safeguard ensures that their use is properly assessed and managed from the conception to operation throughout the life of a project. The first, country level assessment requires that a general screening be conducted to determine capacity of the country to secure appropriate control of pesticide trade and usage, and ideally apply an integrated pest management strategy. Procedural guidelines on this preliminary screening are provided in **Annex V**.

On completion of the preliminary screening and after a framework project has been approved, a second level of screening shall occur before concrete implementation of project activities. The purpose is to determine, at the site level, the extent of pest use and to establish a baseline of existing practices so that an adequate and effective pest management plan can be developed as needed. **Annex VI** provides a questionnaire for determination of pest use at the site level.

In Belize, the pesticide control is well developed and regulated by a Pesticide Control Board (PCB) that was established under the Pesticide Control Act, Chapter 216 of the laws of Belize. The Act gives authority to the PCB to enforce the law and to control the manufacture, importation, sale, storage, use and disposal of pesticides by administering of the following functions to control and monitor the use the pesticides (*Pesticide Control Act, Chapter 216 - Revised Edition 2003 Showing Substantive Laws as at 31st May, 2003*):

- To register pesticides;
- To license persons to import or manufacture pesticides;
- To classify any pesticide as a registered, restricted, or a prohibited pesticide;
- To authorise persons to sell restricted pesticides;
- To register premises in which a restricted pesticide may be sold;
- To authorise pesticide applicators to use restricted pesticides;
- To consider and determine applications made pursuant to this Act and to deal with all aspects of the importation, manufacture, packaging, preparation for sale, sale, disposal, and use of pesticides, and to advise the Minister of Agriculture on all matters in relation thereto;
- To do such other things as may be expedient or necessary for the proper performance of its functions under this Act; and
- To train, or to arrange for the training of persons in the safe use of pesticides.

The PCB maintains a website that provides information on its board of directors and organizational structure, pertinent laws, regulations, and publications highlighting training manuals, booklets, and information pamphlets on pesticide use, management, safe application, and proper disposal of containers. Since the passing of the Act, four regulations have been passed to provide the specifics of pesticide management in Belize as follows:

- Statutory Instrument No. 8 of 1989 - Registered and Restricted Pesticides (Manufacture, Import and Sale) Regulations, 1988
- Statutory Instrument No. 77 of 1995 - Registered and Restricted Pesticides (Registration) Regulations, 1995
- Statutory Instrument No. 30 of 1996 - Registered and Restricted Pesticides (Manufacture, Import, and Sale) (Amendment) Regulations, 1996

- Statutory Instrument No. 112 of 1996 - Restricted Pesticides (Certified User) Regulations, 1996
- Statutory Instrument No. 71 of 1998 - Pesticides Control (Sale and Confiscation) Regulations, 1998
- Statutory Instrument No. 18 of 2003 - Registered and Restricted Pesticides (Registration) (Amendment) Regulations, 2003

The monitoring and control of pesticides is carried out by a team of technicians employed by the PCB that check regularly those that are licensed to sell, buy, and use pesticides. Persons who contravene any of the provisions of the Act are guilty of an offense and liable to a fine that does not exceed $5,000 and/or imprisonment for a period that does not exceed 5 years.

6.0 Application of Local Environmental Instruments and Work Bank Safeguards to the Sub-project Cycle

Sub-projects approved under the MPKBAB project will be required to pass the requirements set forth both by the local environmental laws and the WB safeguards.

It is clear that the local environmental legislation and WB safeguards consist of similar mechanisms used to ensure environmental and societal protection. The Belize's EIA regulations identify the level of environmental assessment required based on the type and nature of project. On the other hand, WB categorizes projects based on their likely socio-environmental impacts prior to applying mitigation measures. **Table 7** shows the equivalency of the two classification systems. The DOE under the national EIA regulation categorizes projects under three schedules, while the WB utilizes three categories. Therefore, in evaluating a sub-project, both mechanisms will be applied and the one that results in the highest level of protection and transparency will be utilized to guide the process.

Table 7: Comparison of the DOE EIA Regulations and World Bank's Environmental Assessment Safeguard

DOE EIA Regulations (Annex III)	World Bank's Environmental Assessment 4.01 (Annex IV)	Description of Impacts
Schedule I	Category A	Projects of a nature and magnitude that will cause adverse and significant environmental impacts both beyond the local or specific site area. Both systems require an Environmental Impact Assessment. Sub-projects falling in this category will not be eligible

		for Project funding.
Schedule II	Category B	Impacts are in most cases reversible and can be adequately managed.
Schedule III	Category C	Low or no impacts and no form of environmental assessment is necessary.

Impacts may differ dependent on numerous factors including the level of human activities. A good example is the potential impacts of sewage being discharged into a river. This is not in itself automatically a high impact, but will be dependent on the amount and quality of sewage discharge, and the rate and volume of flow of water in the river to dilute the concentration of the waste. The impacts may also vary depending on the location and/or sensitivity of the area. Therefore, sewage, even though it has a relatively high potential for being harmful, cannot be classified as having a high level of impact simply because of intestinal origins. Level of treatment of the waste, ability of receiving water body to dilute and dissipate the waste where the waste is discharged and if other waste sources are in the area will be contributing factors to the potential for pollution and hence the impacts. Thus, it is important that impacts are properly identified based on the different circumstances, cumulative effects and likelihood of it occurring and severity of its consequences. On the other hand, it is imperative that impacts of the sub-projects be equally identified, across the different locations, before commencement of their implementation in order to make certain that the recommended mitigation measures are based on the right characterization of the impact within their specific area of influence.

6.1. Nature of Potential Sub-projects

Since sub-projects have not been fully identified or located at this stage, it is not possible to appropriately address their factual impacts. Therefore, a strategic approach to preliminary environmental impacts identification will be employed to ensure proper environmental management at the sub-project level. Principles of a higher level assessment mechanism can be utilized with the advantage that they can identify cumulative impacts on a waster area to guide the development at each sub-project site.

Based on the Project objective, selected sub-projects are to be low impact without requiring extensive environmental assessment such as an EIA. The sub-projects should be developed with environmental protection consciousness through-out the project cycle stages. At the conception or planning stage, the sub-projects will be screened to determine if the activities will result in significant environmental impacts and if the location is in a sensitive ecosystem that may suffer irreparable damage. Therefore, during the planning stage, sub-projects will be selected based on key environmental protection principles that, when applied, will reduce the

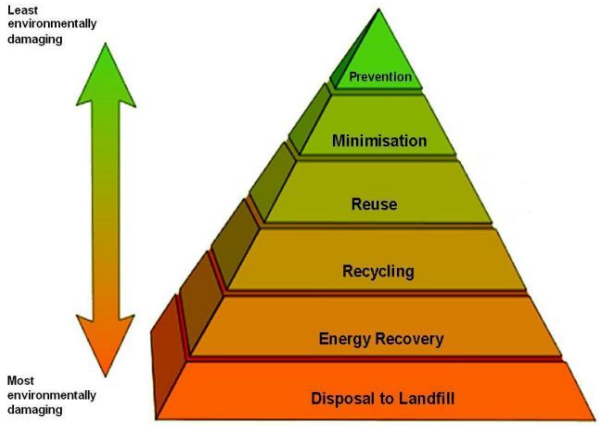
impacts on the environment and ensure sustainable use of resources. The principles are as follows:

- **Sustainability:** Is the sub-project capable of sustaining itself in the long term, beyond Project funding?

- **Compliance with the National Legislation and WB safeguards:** Any sub-project must not only comply with the environmental protection legislation but also with other relevant complementary legislation and the WB safeguards.

- **Consultation and Transparency:** Public education and awareness are important elements in the development of any sub-project. People that are likely to be affected need to be adequately informed through pertinent channels. Communication must be in a format that is specifically targeted at the right people and in the appropriate language. Those with high influence and interest should be the first to address. Depending on the nature of the sub-project and the target group, the type of engagement should be devise to ensure the most effective means of communication with the different communities. Timing and venue are also essential elements of this process.

- **Pollution Prevention and Waste Minimization:** Some minor efforts can have significant impacts through the maximization of resources and waste minimization. Sub-projects should seek to reduce the use of natural resources where possible and find alternate uses for residual materials to reduce the disposal to dump sites. The waste hierarchy should be considered and enforced in utilizing any natural resources[8].



- **Monitoring and Evaluation:** M&E is central to a project's success. Monitoring needs to take place throughout project implementation to ensure that it is complying with the applicable environmental requirements. A monitoring plan needs to clearly define the activities to be monitored under each sub-project, including identification of indicators and feasible means of verification. Finally, M & E is to measure the impacts or results of each sub-project.

[8] Source: http://upload.wikimedia.org/wikipedia/en/4/44/Waste-hierarchy.png

At no time during the sub-projects' implementation phase ought there be deviation by beneficiaries from the activities approved by the MFFSD-based Project Management Unit (PMU). The conditions laid out in respective environmental compliance agreements shall be strictly enforced and monitored by the PMU. Approval shall only be approved if monitoring plan is completed and approved.

During operation, in many cases the final phase of a sub-project cycle, it is important to properly identify the evaluation activities, targets, and means of verification. More information on M&E is provided in Section 10.

7.0 Impact Identification, Assessment, and EA Process

Environmentally responsible development is essential to the project success. It is therefore imperative that the sub-projects on alternative livelihoods conform to the environmental protection principles. The sub-projects need to be developed and approved based on the overall Project objective on strengthening NRM and biodiversity conservation in KBAs.

The selection of sub-projects to be funded by the Project under Component 1 will be based on two main activities: 1) determination of a set of options for community based activities from a feasibility and risk analysis of and around the 6 target sites, and 2) needs and priorities identified by the communities around the 6 target areas. Based on this information, there will be a call for proposals from relevant communities and NGOs working in or around the target sites.

Once the Project makes a call for proposals, the Technical Advisory Committee will evaluate the proposals based on the following criteria:

- Sustainability of the proposed activity
- Identification of social and environmental impacts
- Ability to mitigate threats in the priority areas
- Ability to enhance or develop an existing skill set
- Demonstrated active involvement of the communities affecting the priority areas

Once these conditions are met, the Technical Advisory Committee (TAC) will determine if the grant size is appropriate for the activity and PACT will manage the fiduciary aspect of sub-projects with the PMU being responsible for monitoring and reporting on sub-projects.

In identifying impacts, all sub-projects will be screened by the Project Management Unit (PMU) with the assistance of the TAC to assess the impact of activities proposed for funding in order to deem their socio-environmental eligibility and identify adequate mitigation measures that need to be applied to ensure their socio-environmental sustainability and thus compliance with the local environmental and WB protection measures. To make certain that this occurs, all sub-project proposals will need to be accompanied by a preliminary sub-project screening form **(Annex VI)**. The intention is to provide a standard format for initial screening of all sub-projects to ensure that assessment takes in the wider system and not only the local sub-project area.

Categorizing of sub-projects is the first important step in properly identifying likely perceived impact on the environment, based on the characteristics of proposed activities and their specific location. Therefore, at this stage a generic impact assessment matrix and guide adopted from an IDB Sustainable Tourism Project in Belize and is introduced and recommended for use to properly screen sub-projects **(Annex VII)**. The process of sub-project categorizing is based on the combined likelihood and severity of the consequences and allows for an unbiased and consistent preliminary assessment of sub-projects regardless of their location. This categorizing carried out by the PMU-DOE will be utilized to identify and assess the major impacts, both negative and positive, at an initial stage of sub-project preparation.

Properly identifying the impacts that a sub-project will have on the environment or vice-versa is critical to plan for an adequate mitigation response. The impact identification matrix will provide the platform on which all impacts will be assessed to ensure that they will be equally quantified across sub-projects and thus all proposed activities shall be vetted using the procedures set out in this EMF. This will facilitate reliable and accurate screening processes and traceability in determining the expected impacts.

The impact identification matrix consists of four levels of consequences and likelihood of those consequences occurring. By corresponding the consequence with the likelihood, three levels of preliminary impacts can be determined: significant, medium, and low **(Annex VII)**. Therefore, the level of risk is determined at the point where the consequence and likelihood of it occurring intersects.

8.0 Mechanism for Application and Responsible Agencies

The purpose of the EMF is to provide a practical and user-friendly guide stipulating the local and WB environmental requirements that must be met before a sub-project can be approved for implementation under the Project. Since the specific sub-projects will be defined during Project implementation, the EMF includes a Project Appraisal and Approval Map **(Annex VIII)** that guides the PMU staff regarding the entry points of environmental management throughout the sub-project cycle.

The PMU will be responsible for the overall implementation of sub-projects and activities with the assistance of technical Departments including Forestry, Environment and Agriculture in addition to oversight provided by the members of the TAC. The TAC, will also be able to co-opt members from other regulatory agencies such as Pesticide Control Board on an as needed basis to review and advise on matters pertaining to their area of expertise.

Furthermore, since the DOE is the entity that has the legal mandate to evaluate project proposals on the basis of their environmental suitability geared towards protection, the sub-project proposals will need to also comply with the national environmental screening process to obtain environmental clearance prior to implementation.

8.1. Consultation Process for Preliminary Sub-Project Selection

During the initial stakeholder consultations during preparation, it became evident that the Project will entail two types of activities: those geared towards institutional capacity building and strengthening primarily benefitting the regulatory and licensing agencies, and sub-projects geared towards alternative livelihoods aimed at reducing pressures on KBAs.

Activities to consider for financing under the first segment includes:

- Institutional capacity building and strengthening involving managerial, technical, and financial assessments for managers, technical officers and technicians based on the outcomes from diagnosing needs to determine the existing capacity and training needs or needs to increase available human resources to effectively manage projects.

- Certification for EIA preparers with an aim of increasing the quality of the EA reports.

- ICT training for increased efficiency in monitoring and evaluation of impacts. This will facilitate enhanced adoption of corrective measures at an early stage as needed.

- Consolidation of the EA reports to build scientific database on information collected across the country to build data on time series necessary to predict impact trends due to development plans. The efforts will help to identify and address cumulative impacts and make it easier for the regulatory agencies to verify information through the EA process and other sources. The initiative can also be combined with development trends such as projected population growth and changes in land use (agriculture, tourism, residential, commercial industrial) that can be used to guide higher decision making to meet Horizon 2030 Framework (2010) objectives. These initiatives will

require development of institutional memorandums of understanding to help foster the necessary collaborative relationships.

The other segment includes sub-projects on community based alternative livelihoods that will be developed during the Project implementation. Possible sub-projects may include:

- Agro-forestry/ecological farming,
- Reforestation of abandoned milpa to forest status,
- Forest management through controlled burning,
- Small scale pasture and aquaculture initiatives, and
- Local craft development with residual timber and NTFP

However, in order to identify specific activities to be funded under sub-projects, a detailed socio-economic assessment of the target areas and surrounding communities will be conducted by a team of consultants during the first months of Project implementation. The assessment will result in the identification of specific Project activities that could be implemented and the potential socio-environmental impacts that those activities could have, including the livelihood activities that will be impacted, and the options that the Project could offer as sustainable alternatives. The support of the community leaders and residents will be sought through meetings and discussions to identify those who would be directly impacted by the Project and what actions will need to be taken to ensure positive social and environmental benefits.

9.0 Estimated Budget for the EMF Implementation

The guidance from the EMF will be required over the sub-project cycle from planning to operation. Sub-projects will be monitored in the frequency outlined in respective Environmental Management Plans developed by the PMU after sub-projects' approval.

The Project Manager, with the assistance of the Project Officer will be responsible for the implementation and monitoring of sub-projects during the sub-project cycle. Therefore, the PMU will be required to have substantive work experience in environmental science, natural resource management or a related field and have a working understanding of the local environmental legislation and the World Bank safeguards.

Component 4 of the Project includes cost for Project management, monitoring and evaluation and as such the cost for PMU site visits and consultations for Project activities. Therefore, implementation of the EMF will be covered from this component, as well as the relevant component under which each activity falls, as needed. Particularly, costs associated with the environmental screening, potential licensing, and monitoring process will need to be included in the budget for the sub-projects.

An estimated $1.25 million US dollars is dedicated to livelihood, restoration/diversification activities for communities.

10.0 Monitoring and Evaluation

The purpose of the following outline on the Project's environmental monitoring and evaluation plan is to guide the PMU throughout the implementation of the sub-project cycle to completion and operation. It will be developed by the PMU based on the actual activities outlined for a sub-project, its aims, objectives, outcomes, outputs, identified impacts, and mitigation and other management measures as applicable. The monitoring will provide feedback in order to determine if a sub-project is in compliance with the requirements for environmental protection set forth in the sub-project document. Regardless if a sub-project requires an environment assessment, its overall M&E must reflect the core environmental activities to be monitored. Since sub-projects have not been developed prior to Project implementation, development of the sub-project-specific EMPs will be used to determine what information to monitor during sub-project implementation. For example, monitoring potential impacts on physical cultural heritage is addressed in **Annex IX**, item 4, Part B of Part II in the EMP checklist and **Annex X** on the change find procedures.

Final evaluation takes place after implementation of each sub-project to identify whether the expected positive impacts or results were achieved and/or the negative impacts prevented or mitigated. Establishment of applicable baseline values is critical for environmental monitoring, for example in case of sub-projects that can impose a risk on local water quality. The baseline values allow measuring of the changes that occur due to the sub-project implementation.

Overall, indicators for environmental monitoring need to be time bound and the activities completed within the timeframe provided in the work plan. The PMU will be responsible for ensuring that the expected results are achieved during sub-project implementation.

Annexes

Annex I: Stakeholders Representation at Inception Workshop held on November 23, 2012

	Name	Organization
1.	Amanda Acosta	Belize Audubon
2.	Stevan Reneau	BWS/ASF
3.	*Daedra Haylock*	*Communications Consultant*
4.	*Ian Morrison*	*Environmental Consultant*
5.	Derric Chan	Friends for Conservation and Development
6.	Amoldo Melendez	Friends for Conservation and Development
7.	Anthony Mia	GoB Department of the Environment
8.	Jorge Franco	GoB Department of the Environment
9.	Celi Cho	GoB Department of the Environment
10.	Martin Alegria	GoB Department of the Environment
11.	Leonide Sosa	GoB Department of the Environment
12.	Aldo Cansino	GoB Department of the Environment
13.	Icaras Majil	GoB Fisheries Department
14.	Saul Cruz	GoB Forest Department
15.	Arlene Maheia-Young	GoB National Protected Areas System
16.	Angela Usher	GoB Protected Areas Conservation Trust
17.	Reynold Cal	Runaway Creek Nature Preserve
18.	Cecy Castillo	University of Belize

Annex II: Contributions from Stakeholders Workshop

Expected Outcomes	**Expected Outputs**	**Comments/Suggestions**
3.1 Enhanced coordination among Government agencies charged with conservation	3.1.1 A functional Departmental Steering Committee on conservation established	Two models suggested i. TOR for NEAC expanded to include additional responsibilities to meet the outcome of 3.1. ii. A committee parallel to the NEAC be established but with the legislated inclusion of only governmental department s but with the power to call on stakeholders (NGOs, CBOs) depending on the issue
3.2. Strengthened capacity for compliance monitoring and enforcement of key agencies responsible for environment	3.2.1 Staff in key agencies trained and equiped with better assessment and compliance monitoring tools and capacities	Methodology for "rapid environmental assessment" developed to make training easier for trainers and trainees
	3.2.2 Partnerships with the private sector for monitoring of natural resource use improved	Ongoing training extended to the private sector players to ensure that the process is understood and assistance effective
	3.2.3 Collaboration with civil society in natural resource management strengthened	Funding current available from PACT and NPAS project for local NGO's, that do not meet criteria, to build capacity (do not need to be addressed through this project)
	3.2.4 Forest licensing mechanisms that foster the use of forests in a sustainable manner	This output is better served under Components 1 or 2 for harmonization
	3.2.5 Co-management agreements for PAs modernized and enhanced	Co-management recently signed but ongoing review needed for modernization but not an immediate priority

Expected Outcomes	**Expected Outputs**	**Comments/Suggestions**
3.3 Enhanced effectiveness of the Environmental Impact Assessment (EIA) System	3.3.1 . EIA certification program for enhanced environmental compliance established	• Qualitative and quantitative criteria established for address structure, grammar, referencing, guidelines for presentation and unification of impacts, mitigation and monitoring across reports • Methodologies for the determination of impacts • Review and modification of existing certification programmes locally and regional as a starting point • Update of EIA preparers guidelines
3.4 Climate Change mitigation and resilience considerations mainstreamed into the National Protected Areas System Plan (NPASP)	3.4.1 The 2005 NPASP to capture relevant climate change issues reviewed and updated	• Better to address this in component 2 • Ongoing initiatives (Ann Gordon Climate Change Office and CCCCC)

SCHEDULE I

The following shall be considered as Schedule I projects:

An Environmental Impact Assessment shall be completed for any project, program, undertaking or activity with the following purposes:

1. Aquaculture Projects

(a) Any research or commercial scale aquaculture project within wetland and floodplain areas.

(b) Construction or expansion of an aquaculture research or commercial facility with production capacities of 75 Tons Per Annum or more of unprocessed aquaculture produce.

(c) Any seabed-based marine culture or fresh water cage culture aquaculture facility to be established within 15 acres of production area for the purpose of producing any aquaculture produce.

(d) Any marine aquaculture facility to be established within 5 miles radius of the Belize Barrier Reef or any major coral reef system.

(e) Any aquaculture facility or operation involving the culture of any aquatic flora or fauna not native or not commercially cultured in Belize.

(f) Any freshwater aquaculture facility either utilizing a total pond production area of 50 acres or more, or a total daily water abstraction rate greater than 5 million gallons per day.

2. Cement

(a) Production of cement.

3. Chemical Industry

(a) The treatment of intermediate products and production of chemicals (insecticides, fungicides, herbicides and other pesticides).

(b) The production of pesticides or pharmaceutical products, paints, varnishes, elastomers or peroxides.

(c) The production of industrial carbon.

(d) The production of alkalis.

(e) The installation of electrochemical (metallic sodium, potassium and magnesium chlorides, perchlorates and peroxides) plant.

(f) The production of electro-thermal products (artificial abrasive, calcium carbides).

(g) The production of phosphorous and its compounds.

(h) The production of nitrogenous compounds (cyanide, cyanamide and other nitrogenous compounds).

(i) The production of halogens and halogenated compounds (chlorine, fluorine, bromine and iodine).

(j) The production or storage depots of explosives (including industrial explosives, detonators and fuses).

(k) The production of any hazardous substances listed in Part I of the Schedule to the Act.

4. Dams and Waterworks

(a) Major waterworks: alteration of river banks and shoreline, alteration of ground water, diversion of water courses, modification of stream flows.

(b) Construction of large dams, impoundments or other installation designed to hold water or store it on a long-term basis.

(c) Large irrigation works.

(d) Construction of Large drainage canals.

5. Drugs and Pharmaceuticals

(a) Manufacturing of drugs and pharmaceuticals including vitamins and antibiotics.

6. Energy Generation and Distribution Projects

(a) Any large installation for the production of 15 megawatts of electricity or other forms of energy.

(b) A large industrial installation for the storage of natural gas, or more than 10,000 barrels of fuel/petroleum products.

(c) Any major project involving the transmission or distribution of energy by overhead or underwater project outside of an existing corridor.

7. Housing/Subdivisions

(a) Large scale housing developments or a subdivision on mainland involving the proposed construction of more than 300 houses.

(b) Housing developments of more than 50 houses on the Cayes or Islands.

8. Infrastructure Projects

(a) The construction of industrial estate developments for heavy industries.

(b) The construction of new national highways, and other roads of more than 10 miles in length.

(c) The construction of new townships.

(d) The construction of a large harbour, a marina, shipping port, trading port, an inland waterway which permits the passage of vessels or a port for inland waterway traffic capable of handling such vessels.

(e) A waste-disposal installation for the incineration or chemical treatment or disposal of waste, or installation designed solely for the temporary storage of waste.

(f) Any airport having an airstrip of 2,000 metres or longer.

(g) Any major installation of transmission lines by overhead, underground, or underwater cables or other methods of installation.

(h) Construction of hotels, resort facilities and golf courses within or in close proximity of the boundaries of a protected area or a World Heritage Site.

9. Land Reclamation and/or land Creation

(a). Dredging for land reclamation and/or creation of projects utilizing a volume of material of more than 50,000 cubic yards along the coast, cayes and ecologically sensitive waterways.

(b) Any land reclamation or creation project in excess of ten

(10) acres along the coast or within a wetland.

10. Mining and Industrial Processing of Ores

(a) Any large installation for the processing of mineral ores.

(b) An installation for the processing of metallic ores (including smelting, electro-plating, refining, drawing or rolling).

(c) Any large- scale mining of minerals.

11. Paper Industry

(a) The manufacturing of paper for writing, printing and wrapping.

(b) The manufacture of newsprint paper.

(c) The manufacture of wood pulp (mechanical, chemical including dissolving pulp).

12. Petroleum

(a) Petroleum development and production.

(b) Petroleum refining.

13. Rubber Industry (natural and synthetic)

(a) The manufacture and treatment of elastomer-based products.

(b) Production of natural and synthetic rubber.

(c) Production of tires and tubes.

(d) Production of surgical and medical products including prophylactics and latex products.

(e) The manufacturing of Footwear, and other rubber goods.

14. Other Projects

(a) An integrated chemical installation, that is to say, an industrial installation or group of installations where two or more linked chemical or physical processes are employed.

(b) Lease or sale of more than five hundred (500) acres of National Lands.

(c) Any logging operation within a forest reserve.

(d) Logging or conversion of forest land, employing the clear fell method covering more than 300 acres.

(e) Logging operations of more than 100 acres adjacent to any protected area declared under the National Parks Systems Act.

(f) Any Large - scale agro-processing plant.

(g) Clearing of more than 300 acres of land.

(h) Clearing of more than 10 acres of mangroves in ecologically sensitive areas.

(i) Ground water abstraction works of more than 5 million gallons per day.

(j) The establishment of Commercial Free Zones (CFZ)

(k) The establishment of an Export Processing Zones (EPZ).

(l) Any proposed development project, undertaking or activity within any protected area (terrestrial and marine).

SCHEDULE II

The following projects may require an environmental impact assessment or limited level environmental study depending on the location and size of the project:

1. Aquaculture

(a) Construction or expansion of a marine aquaculture research or commercial facility with production capacities of less than 75 Ton Per Annum of unprocessed aquaculture produce.

(b) Any seabed-based marine aquaculture facility which will utilize less than 15 acres of production area for the purpose of producing any aquaculture produce.

(c) Any aquaculture facility or operation involving the culture of any aquatic flora or fauna already under commercial production in Belize.

(d) The establishment of any processing facility in Belize for the processing of any aquaculture commodity.

(e) The establishment of any hatchery facility in Belize for the purpose of producing freshwater and marine seedstocks either for aquaculture or restocking purposes.

2. Agriculture

(a) Commercial poultry-rearing.

(b) Commercial pig-rearing of more than 10 sow breeding herd.

(c) Planting and cultivation of agriculture plots of more than 200 acres (e.g. citrus, banana, sugar cane, vegetable).

(d) Cultivation of cotton (Gossypium spp) in a plot larger than 50 acres.

(e) Cultivation of high agrochemical input commodity (e.g., bananas for export) on plots larger than 50 acres or near to sensitive water resources.

(f) Post-harvest treatment utilizing radiation energy.

3. Chemical Industry

(a) The storage of any petroleum, petrochemical or chemical products.

4. Dredging and Land Reclamation schemes

(a) Dredging for land reclamation and/or creation for projects utilizing a volume of material of less than 50,000 cubic yards along the coast, cayes and ecologically sensitive areas.

5. Energy Industry

(a) The surface storage of natural gas, coal or lignite on a large scale commercial basis.

(b) The underground storage of combustible gases.

(c) The storage of fossil fuels of 5,000 gallons or more.

(d) The industrial briquetting of coal or lignite.

(e) Any installation for the production of electricity, steam and hot water.

6. Fertilizers

(a) Production of Nitrogenous fertilizer.

(b) Production of Phosphatic fertilizer.

7. Fisheries

(a) Construction of fishing harbours or large fishing piers.

(b) Expansion and restoration works for fish processing plants, harbour or large piers involving 50 percent or more in fish landing capacity per annum.

8. Food Industry

(a) The manufacture of vegetable or animal oils or fats.

(b) The packing or canning of animal or vegetable products.

(c) The manufacture of dairy products.

(d) Brewing or malting.

(e) Confectionery or syrup manufacture.

(f) An installation for the slaughter of animals and/or subsequent processing activities related thereto.

(g) An industrial starch manufacturing installation.

(h) Any citrus processing installation.

9. Forestry

(a) Conversion of hill forest land (with slopes greater than 25 degrees) to other land use.

(b) Logging or conversion of forest land use within the catchment area of reservoirs used for municipal water supply, irrigation or hydro-power generation or in areas adjacent to national parks or protected areas.

(c) Logging or conversion of forest land adjacent to national parks, nature reserve, wildlife sanctuary, archeological sites or any protected area declared under the National Park Systems Act.

(d) Logging or conversion of forest land, employing the clear fell method, covering areas between 100 and 300 acres.

(e) Clearing of fringing mangrove vegetation on islands or adjacent to marine or forest reserves for industrial, housing or agricultural use.

10. Glass or Ceramic Making

(a) The manufacture of glass or ceramics.

11. Housing

(a) Large scale housing developments or subdivisions involving the proposed construction of more than 100 houses but less than 300 houses.

(b) Housing developments, subdivisions, agricultural developments or any other type of developmental project that could affect established biological corridors.

12. Infrastructure Projects

(a) An urban development project of less than 300 acres.

(b) The construction of a road, or airstrip or an airport of less than 2000 meters in length.

(c) Canalization or flood relief works.

(d) A dam or other installation designed to hold water or store it on a long-term basis.

(e) An oil or gas pipeline installation of less than 5 miles in length.

(f) A long-distance aqueduct.

(g) The lease or sale of less than 500 acres of National Land.

(h) Any activity involving stream alterations or diversions.

13. Medical Facilities

(a) The construction of hospitals.

14. Mining and Processing of Minerals

(a) Any small scale mining and processing of minerals

(b) Extracting minerals such as marble, sand, gravel, shale, salt, phosphates and potash.

(c) Mining of river sand and gravel of volumes greater than 15,000 cubic yards.

15. Paper and Pulp (including Paper Products)

(a) Paper board.

(b) Paper for packaging (corrugated papers, craft paper, paper bags, paper containers and the like).

(c) Sanitary paper.

(d) Cigarette paper.

(e) Other paper products.

16. Petroleum

(a) Petroleum exploration activities such as seismic surveys.

17. Resort and Recreational Development

(a) Construction of hotels, golf courses or large scale coastal resort facilities.

(b) Development of tourist or recreational facilities in or adjacent to national parks or protected areas.

(c) Development of tourist or recreational facilities on cayes or islands.

18. Textile, Leather, and Wood Industries

(a) A wool scouring, de-greasing and bleaching factory.

(b) The manufacture of fiber board, particle board for plywood.

(c) A fibre-dying factory.

(d) A leather tanning or leather dressing factory.

19. Water Abstraction (Ground and Surface Water)

Annex IV: World Bank Project Categorization for Environmental Assessment (World Bank, 2012)

Category	Potential Impact	Description/Response
A	Likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented (A potential impact is considered "sensitive" if it may be irreversible (e.g., lead to loss of a major natural habitat) or raise issues covered by OP 4.04, *Natural Habitats*; OP/BP 4.10, *Indigenous Peoples*; OP/BP 4.11*, Physical Cultural Resources* or OP 4.12, *Involuntary Resettlement)*	• EA for a Category "A" project examines the project's potential negative and positive environmental impacts, compares them with those of feasible alternatives (including the "without project" situation), and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance • The borrower is responsible for preparing a report, such as normally an EIA (or a suitably comprehensive regional or sectoral EA) that includes, as necessary, elements of the other instruments such as Strategic Environmental and Social Assessment (SESA), environmental audit, hazard or risk assessment, environmental management plan (EMP) and environmental and social management framework (ESMF).
B	Potential adverse environmental impacts on human populations or environmentally important areas--including wetlands, forests, grasslands, and other natural habitats--are less adverse than those of Category "A" projects. (When the screening process determines, or national legislation requires, that any of the environmental issues identified warrant special attention, the findings and results of Category "B" EA may be set out in a separate report. Depending on the type of project and the nature and magnitude of the impacts, this report may include, for example, a limited environmental impact assessment, an environmental mitigation or management plan, an environmental audit, or a hazard assessment. For Category "B" projects that are not in environmentally sensitive areas and that present well-defined and well-understood issues of narrow scope, the Bank may accept alternative approaches for meeting EA requirements: for example, environmentally sound design criteria, siting criteria, or pollution standards for small-scale industrial plants or rural works; environmentally sound siting criteria, construction standards, or inspection procedures for housing projects; or environmentally sound operating procedures for road rehabilitation projects)	• These impacts are site-specific; few if any of them are irreversible; and in most cases mitigatory measures can be designed more readily than for Category "A" projects. • The scope of EA for a Category "B" project may vary from project to project, but it is narrower than that of Category "A" EA. • Like Category "A" EA, it examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. • Findings and results of Category "B" EA are described in the project documentation (Project Appraisal Document and Project Information Document

Category	Potential Impact	Description/Response
C	Likely to have minimal or no adverse environmental impacts	• Beyond screening, no further EA action is required.
F1		A proposed project is classified as Category “F1” if it involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental impacts.

Annex V: Pest Management Screening Framework[9]

The purpose of this document is to provide a strategic framework for the integration of best agricultural and pest management considerations in the planning and implementation of the activities to be implemented within the sub-projects.

This document has been prepared as a guide for initial screening of the subprojects for positive and negative impacts which would require attention and/or mitigation prior to their implementation.

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1. In assisting borrowers to manage pests that affect either agriculture or public health, the Bank supports a strategy that promotes the use of biological or environmental control methods and reduces reliance on synthetic chemical pesticides. In Bank-financed projects, the borrower addresses pest management issues in the context of the project's environmental assessment

- Does the project assist the borrower in any form of pest management?
- What type of assistance is provided?

	Assessment	YES	NO
1.1	Strengthening of extension systems which cover pest management		
1.2	Strengthening of vector control		
1.3	Funding of pest management related research		
1.4	Direct pesticide purchasing		
1.5	Strengthening of pest management policy issue		

- Will the implementation of the project have an indirect effect on (or influence) pest management?

	Assessment	YES	NO
1.6	Promotion of agricultural intensification		
1.7	Promotion of credit systems that may result in increased pesticide use		
1.8	Promotion of agricultural irrigation with impact on public health issues		

- Which level of EA is required for the project?

	Assessment	YES	NO
1.9	Has an EA been made?		
1.10	See World Bank BP 4.01 Annex C for more specific assessment issues on the need for a comprehensive Pest Management Plan and the Screening of Pest		

[9] Provided by the World Bank.

	Control Products.		

- Does the project support / promote the use of biological or environmental control and reduce the reliance on synthetic chemical pesticides? (See under 4 for more specific questions) Yes_____ No_____

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2. In appraising a project that will involve pest management, the Bank assesses the capacity of the country's regulatory framework and institutions to promote and support safe, effective, and environmentally sound pest management. As necessary, the Bank and the borrower incorporate in the project components to strengthen such capacity.

- Has an assessment been made (in the PAD or other official project appraisal document) of the country's capacity to regulate pest management?

	Assessment	**YES**	**NO**
2.1	Is a pest management legislation is in force in the country?		
2.2	Is related legislation in force that influences pest (and pesticide) management? (e.g. environmental, economic, health, ….)		
2.3	Is legislation operational and effectively being enforced?		
2.4	Is legislation effective?		
2.5	What are the gaps in legislation and enforcement compromising provision 2 of OP 4.09? _____ _____ _____ _____		

In case gaps have been identified, what activities have been included in the project to improve pest management legislation and enforcement?

- Is the timeline of these activities in comparison with the pest management activities in the project (e.g. does it allow large scale pesticide use before legislation is effective?) Yes _____ No_____ if yes, explain why.

_____
_____
_____

---

3. The Bank uses various means to assess pest management in the country and support integrated pest management (IPM) and the safe use of agricultural pesticides: economic and sector work, sectoral or project-specific environmental assessments, participatory IPM assessments, and adjustment or investment projects and components aimed specifically at supporting the adoption and use of IPM.

Which means have been used, in preparing the project, to assess pest management issues in the country?

Which means have been proposed or used, in preparing and executing the project, to support IPM and safe use of pesticides.

- What data were assessed before project implementation, and have been collected during project execution, on :

	Assessment	YES	NO
3.1	Agricultural productivity of the crops covered by the project?		
3.2	Crop losses due to agricultural pests?		
3.3	Use of pest management practices, including pesticides?		
3.4	Impact of project activities on agricultural productivity?		
3.5	Impact of project activities on crop losses?		
3.6	Impact of project activities on pesticide use or other pest management practices?		
3.7	Impact of project activities on farmer revenues?		
3.8	Environmental and health impact of pest management practices?		

---

4. In Bank- financed agriculture operations, pest populations are normally controlled through IPM approaches, such as biological control, cultural practices, and the development and use of crop varieties that are resistant or tolerant to the pest. The Bank may finance the purchase of pesticides when their use is justified under an IPM approach.

Which pest management approaches will be developed, promoted or used in the project?

- What technical recommendations and/or extension packages will be developed in the project? What is their (potential) impact on pest management (practices).
- Have any surveys been carried out by the project to assess farmer needs and requirements? What type of pest management problems do they encounter?
- What farmer (demonstration) field trials have been or will be carried out? Were pest management techniques involved?
- What research has been or will be carried out within the framework of the project? What is its (potential) impact on pest management (practices)?

Will pesticides be financed (directly or indirectly) by the project?

- Is the proposed financing/procurement of pesticides or other pest control products justified under an IPM approach?
- **See Annex VI** – Questionnaire on Pesticides and IPM for more detailed screening

Annex IV: Pesticide Use Screening Questionnaire[10]

Project:	**Year:**
Interviewer:	Date:
Comments:	

General information for the farmer		
Name:	**Age**	**Occupation:**
GPS Coordinates:	**Cluster ID**	**Dist. to Homestead:**
District:	**Division:**	**Group name:**
Location:	**Sub-location:**	**Village:**

1) **<u>Pest Control practices</u>**

a) Do you use any pesticides to control pests (insects, diseases, weeds) of crops/livestock?

Yes ☐ No ☐

If yes, complete the table below

[10] Provided by the World Bank.

CROP/ LIVESTOCK	**PESTS (**insects, diseases, weeds**)** **Stage of Pest**	**PESTICIDE USED** **(Brand, common and chemical names)**	**GROWTH STAGE**	**No. OF TIMES USED**	**DATES WHEN USED**	**QUANTITY USED**

If Not applying why?

……

b) If you use any of the above pesticide, do you keep records of the;

Application location / area / animals (sprayed) Yes ☐ No ☐

Pesticide product trade name: Yes ☐ No ☐

Operator name: Yes ☐ No ☐

If not why? ……

c) When do you decide to use the pesticides (tick all that apply)?

☐ Use pesticides at regular intervals throughout the season (calendar)

☐ Use pesticides when pests are seen in the field/on livestock (control)

☐ Use pesticides after field sampling and finding a certain number of pests or a certain level of damage (scouting)

☐ Told by someone to apply (Verify who?) ……

Others (specify) _____

d**) Do you use a sprayer?** Yes ☐ No ☐

- If yes, do you own it? Yes ☐ No ☐
- Do you rent **it?** Yes ☐ No ☐
- Do you borrow it? Yes ☐ No ☐

Was there any pesticide(s) which was not effective at all after spraying?

- Yes / No
- If yes, name the pesticide(s): _____

- **e) From your experience, are there any negative effects of using pesticides?**

Yes ☐ No ☐

If yes, list the negative effects:

1_____

2 _____

3 _____

4 _____

5 _____

f**) Do you use any kind of protective clothing while applying or handling pesticides?**

Yes ☐ No ☐

If no why? _____

If YES, what kind? _____

2. Knowledge of pesticide handling and storage (tick one in each row)

Activity	Sometimes	Always	Never
Do you read labels on the pesticide container before using?			
How often do you wear protective clothing and other accessories like nasal mask, hand gloves, eye goggles and boots while applying pesticides?			
Do you mix pesticides with your hands? Where do you mix pesticides? Where do you rinse your sprayer and mixing equipments?			
Do you observe pre- harvest intervals and pre- entry intervals (Waiting periods after applying pesticides)			

Do you wash your hands after spraying? Yes / No If yes, with: water only / use soap / use soil			

e) What do you do with the pesticide container after the pesticide is finished?

☐ Burn

☐ Burry

☐ Dispose in Latrine

☐ Wash and use e.g drinking water, storing salt.

☐ Use to make tin lamps

Annex VI: Guidelines for Preliminary Screening of Sub-Projects[11]

Section 1: General Information

Preparer: _____ Date of Assessment: _____

Submitted by (Company/Person): _____

Section 2: Sub-Project Details

Sub-Project Name: _____

Location (District/City/Town/Village):

_____

General Sub-Project Description (200 words):

_____

_____

_____

_____

_____

List of Major Activities:

_____

_____

_____

In what area of the Government National Development Plan does the sub-project contribute (e.g. Agriculture, Education, Public Utilities, Infrastructure)

_____

_____

_____

_____

_____

[11] Developed by the consultant.

Identify the following for the sub-project with respect to environmental management:

Strengths:

Weaknesses:

Opportunities:

Threats:

Section 3: Classification of Project

Note: The classification resulting in the highest level of assessment will take precedence in terms of EA required

Department of the Environment (Annex I) World Bank (Annex II)

Schedule I: ____ Schedule II: ____ Cat A: ____ Cat. B: ____ Cat. C: ____
Schedule III: ____

If a sub-project falls under Schedule 1 for DOE or Category A for World Bank, it will not be considered eligible under the MAPKBA project.

Will the sub-project form a part of a development programme or existing activity for the area or is likely to significantly increase pollutant release? If yes, go to Section 4. If no, state the influence area of the sub-project below.

Yes ____ No ____

_____
_____
_____

Section 4: Project Influence (Cumulative Impacts)

Other related development or activity in the area:

Name: _____

Type/Nature: _____

Distance away: a. < 5 miles ____; b. 5-10 miles ____; or c. > 10 miles ____)

Say if the location of the above activity is in relation to typical wind or natural river flow direction (e.g. upstream or downstream, cardinal directions or town/village/etc.)

N ____ NE ____ NW ____ S ____ SE ____ SW ____ E ____ W ____

State the part of the biosphere that is likely to be affected by emission of pollutants generated as a result of the implementation of the proposed sub-project:

Land _____ Water _____ Air _____

State the type and likely quantity of Greenhouse Gasses that will be emitted or saved in metric tons or gigagrams.

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EIA required ( ) project rejected

EIA not required ( ) proceed to identify level of assessment necessary (Annex I and II)

_____

Other World Bank safeguard policies that are likely to apply:

Natural Habitats _____ Pest Management _____ Physical Cultural Resources _____

Forests _____

If any of the above safeguard policies are likely to apply, state the appropriate action to be taken before final approval is given. For example, preparation of a pest management plan (see Annex III and IV for screening and a questionnaire), Environmental Monitoring Plan (see Annex VII), or Forest Management Plan, etc.

_____
_____
_____
_____

Identify environmental impacts using **Annex VII**.

No.	Major Activities*	Impacts	Level of risk (Annex VII)			Mitigation Measure
			Significant	Medium	Low	
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

Note:
* More impacts can be added if necessary.

Once the above table is completed, the proposed mitigation measures will be assessed and the proponent will be informed if to submit a sub-project proposal for full screening by the NPAS/PMU and DOE.

Annex VII: Impact Assessment Matrix and Guide

Based on specific issues, a matrix was adopted and customized to assess the level of risk according to the likelihood and consequence of the impact occurring at a given sub-project site and its surroundings. The impacts to be assessed are both individual and cumulative based on the location of the project.

Guidelines for assessment are as follows:

LIKELIHOOD: What is the likelihood that the assessed activity will have an impact on the environment?

Certain Will occur at a frequency greater than every week if preventative measures are not applied.

Likely Will occur more than once or twice but less than weekly if preventative measures are not applied.

Unlikely May occur once or twice during the sub-project construction/operation if preventative measures are not applied.

Rare Unlikely to occur during a sub-project construction/operation even if controls were missing.

CONSEQUENCE: How severe will the potential impact be?

Catastrophic Significant damage or impact on environment or community on one or several aspects as listed below:

- severe and/or persistent waterway/water source/storm-water pollution
- death of fauna/flora
- widespread and/or significant changes to ecosystems
- soil contamination over an area > 10 m^2, contamination of off-site soil or contamination of soil with prescribed or hazardous materials
- widespread community impact resulting in illness, injury or inconvenience
- loss or destruction of archaeological/heritage places, sites or objects
- receiving a fine/s is a certainty or works will be halted

Major Major adverse environmental or social impacts on one or several aspects as listed below:

- medium-term, noticeable/measurable change in waterway/water source/storm-water quality
- isolated deaths of non-vulnerable fauna/flora species
- noticeable, localized changes to ecosystems
- soil contamination over an area $1m^2 – 10\ m^2$ (excluding contamination of offsite soil or contamination of soil with prescribed or hazardous materials)
- annoyance or nuisance to community
- frequent, partial damage or off site movement of archaeological/heritage places, sites or objects
- fining likely or works may be halted

Moderate Moderate undesirable environmental or social impacts on one or several aspects as listed below:

- localised, short term noticeable/measurable change in waterway/water source/storm-water quality
- short term, minor changes to ecosystems
- soil contamination over an area $< 1\ m^2$ (excluding contamination of offsite soil or contamination of soil with prescribed or hazardous materials)
- some annoyance or nuisance to community
- isolated, partial disturbance or movement of archaeological/heritage places, sites or objects
- fines unlikely

Minor No or minimal adverse environmental or social impacts as listed below:

- no measurable effect on waterway/water source/storm-water quality and ecosystems
- no or isolated community complaints
- no or isolated events where areas of soil $< 1m^2$ is contaminated (excluding contamination of off-site soil or contamination of soil with prescribed or hazardous materials)
- no or unlikely impact on archaeological/heritage places, sites or objects
- no likelihood of being fined

The table below will be used to determine the level of risk based on the likelihood of occurrence and the potential severity of a consequence.

Consequence	Likelihood			
	Rare	Unlikely	Likely	Certain
Catastrophic	Medium	Significant	Significant	Significant
Major	Medium	Significant	Significant	Significant
Moderate	Low	Medium	Significant	Significant
Minor	Low	Low	Medium	Medium

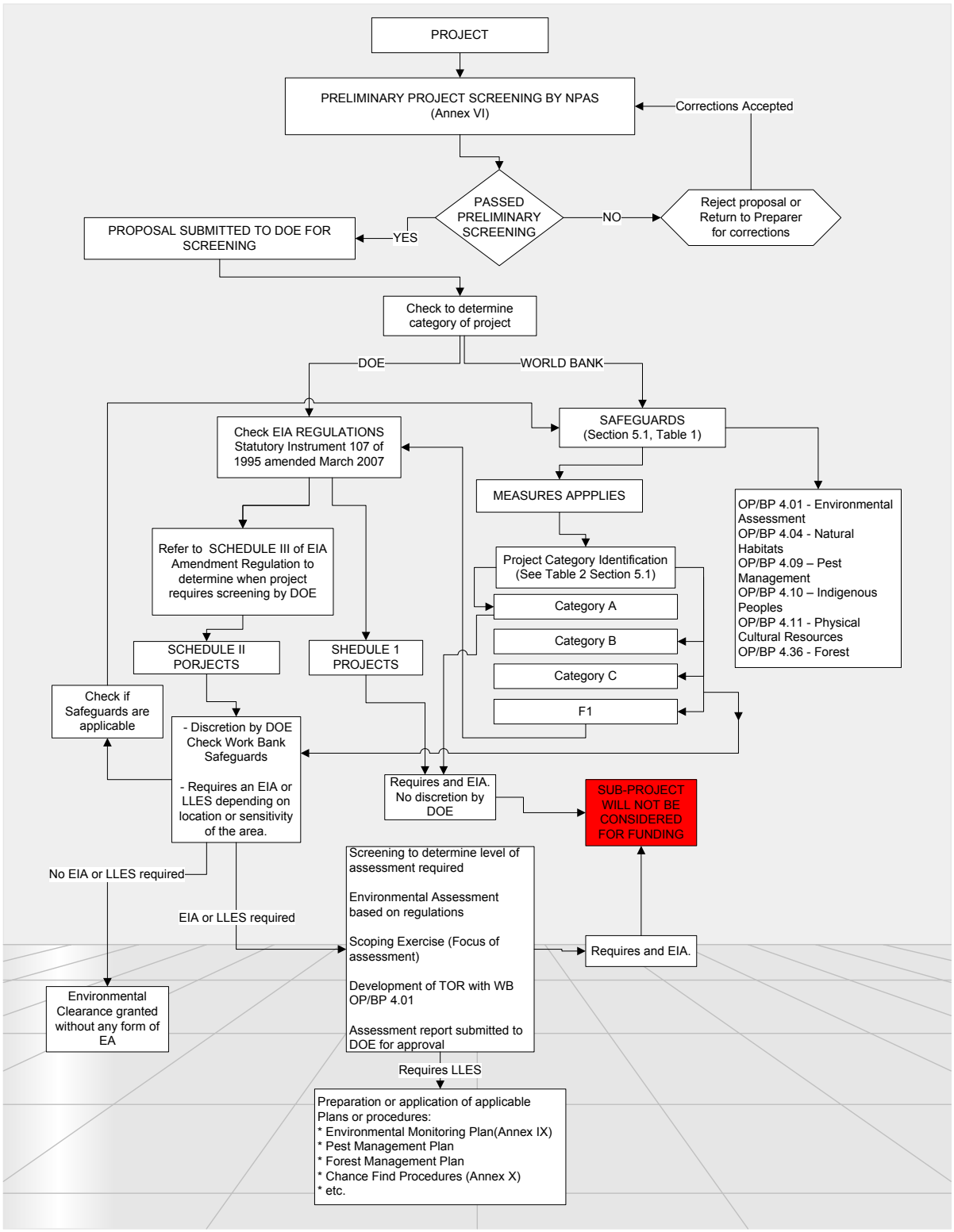
The level of risk indicated is a guide to determine the type and amount of environmental protection measures required on-site as follows:

Significant Risk
Where a significant risk to the environment has been identified, environmental protection measures are a priority and must be implemented to reduce the risk to an acceptable level.

Medium Risk
Where a medium risk has been identified, practicable best management measures need to be implemented if these can further reduce risk.

Low Risk
Where the impact has been assessed as a low risk, best management practices should be followed where feasible.

Annex VIII: Project Appraisal and Approval Map[12]



[12] Developed by consultant.

Annex IX: Environmental Management Plan Checklist and Format for Low-risk Topologies[13]

This EMP applies to sub-projects below Schedule I for DOE and Category A for the World Bank OP/BP 4.01, this format have a checklist approach. The goal is to provide a more streamlined approach to preparing EMPs. This checklist-type format ("EMP Checklist," **see Part II**) has been developed to provide "pragmatic good practice" and designed to be user friendly and compatible with safeguard requirements. A blank sample is attached as part **(b)**.

The checklist-type format attempts to cover typical mitigation approaches to common low-risk topologies with temporary localized impacts. It is anticipated that this format provides the key elements of an Environmental Management Plan (EMP) to meet World Bank Environmental Assessment requirements under OP 4.01 (**part (a)**).

The EMP **part (b)** format has two sections:

- **Part I:** constitutes a descriptive part ("site passport") that describes the project specifics in terms of physical location, the institutional and legislative aspects, the project description, inclusive of the need for a capacity building program and description of the public consultation process. This section could be up to two pages long. Attachments for additional information can be supplemented if needed.
- **Part II:** includes the environmental and social screening in a simple Yes/No format followed by mitigation measures for any given activity and the monitoring plan for activities during project construction and implementation. It retains the same format required for standard World Bank EMPs.

Application of the EMP-Checklist

The practical application of the EMP-checklist would include the filling in of **Part I** to obtain and document all relevant site characteristics and activities. In **Part II** the type of foreseen works, as obtained from the design documents, would be checked and the resulting provisions listed below highlighted (e.g. by hatching the field or copy pasting the relevant text passages into the special provisions of the tender documents.

The whole filled in tabular EMP is additionally attached as integral part to the works contract and, analogous to all technical and commercial terms, has to be signed by the contract parties.

For the monitoring of the Contractor's safeguards due diligence the designated environmental officer works with **Part C** of the EMP Checklist, the **Monitoring Plan**. This should be developed site specifically and in necessary detail, defining clear criteria and parameters which can be

[13] Provided by the World Bank.

included in the works contracts, which reflect the status of environmental practice on the construction site and which can be observed/measured/ quantified/verified by the inspector during the construction works.

Part C would thus be filled in during the design process to fix key monitoring criteria which can be checked during and after works for compliance assurance and ultimately the Contractor's remuneration.

Part (a) Documents generally required by World Bank's Safeguard Policies (only applicable OP should be applied)

Policy No.	Topic	Documents / deliverables required during		
		preparation	implementation	operation
OP 4.01	Environmental Screening / Assessment (EA)	EA process, including EMF, EIA, EMP, MP	EMP / MP	(EMP) / MP
OP 4.04	Natural Habitats	included in EA under OP 4.01	compensation plan, included in EMP + MP, OP 4.01	included in EMP + MP, OP 4.01
OP 4.09	Pest Management	included in EA under OP 4.01	Pest Management Plan (PMP)	(reference in ISR/ICR)
OP 4.10	Indigenous Peoples	social assessment, IPP	IPP / RAP	(reference in ISR/ICR)
OP 4.11	Physical Cultural Resources	included in EA under OP 4.01	PCR management plan (part of EA)	(reference in ISR/ICR)
OP 4.12	Involuntary Resettlement	RAP (and other instruments)	RAP (and other instruments)	(reference in ISR/ICR)
OP 4.36	Forest	included in EA under OP 4.01	included in EMP + MP, OP 4.01	included in EMP + MP, OP 4.01
OP 4.37	Safety of Dams	dam safety report (DSR), TOR for PoE	DSR & emergency preparedness plan (ERP)	DSR & emergency preparedness plan[14], dam instrumentation & monitoring plan
OP 17.50	Disclosure	SIR	SCR, disclosure of	contd. information

[14] This is commonly not released to the Public.

		ESIA & EMP	& consultation
OP/BP 7.50	International Waterways	notification of all affected riparian states	
OP/BP 7.60	Disputed Areas	legal / political negotiations	

Fields hatched in grey: no specific documents required at preparation stage

Acronyms:

DSR	dam safety report	EA	environmental assessment *process*
EIA	environmental impact assessment *report*	EMF	environmental management *framework*
EMP	environmental management *plan*	ESIA	environmental / social impact assessment
ERP	emergency response plan	IPP	indigenous peoples plan
ICR	implementation completion report	MP	monitoring plan
ISR	implementation status report	PoE	Panel of Experts
PCR	physical cultural resources	RAP	resettlement action plan
SCR	stakeholder consultation report	SIR	stakeholder identification report

Part (b): Format for Environmental Management Plan

Environmental Management Plan (EMP)
[Title]

[Country]

(Date)

PART I: Activity Description

1. Introduction
2. Project Objective
3. Project Description
4. Environmental Footprint
5. Policy, Legal and Administrative Framework
6. Relevant World Bank Policies
7. Implementation Arrangements
8. Environmental Screening, Assessment and Management
9. Potential Environmental Impacts
10. Environmental Management Approach
11. Monitoring and Reporting

Part II: EMP Checklist for Activities

PART A: INSTITUTIONAL & ADMINISTRATIVE				
Country				
Project title				
Scope of project and activity				
Institutional arrangements (Name and contacts)	WB (Project Team Leader)	Project Management	Local Counterpart and/or Recipient	
Implementation arrangements (Name and contacts)	Safeguard Supervision	Local Counterpart Supervision	Local Inspectorate Supervision	Contactor
SITE DESCRIPTION				
Name of site				
Describe site location			Attachment 1: Site Map [ ]Y [ ] N	
Who owns the land?				
Geographic description				
LEGISLATION				
Identify national & local legislation & permits that apply to project				

activity	
PUBLIC CONSULTATION	
Identify when / where the public consultation process took place	
INSTITUTIONAL CAPACITY BUILDING	
Will there be any capacity building?	[ ] N or [ ]Y if Yes, Attachment 2 includes the capacity building program

PART B: ENVIRONMENTAL /SOCIAL SCREENING

Will the site activity include/involve any of the following potential issues and/or impacts:	**Activity and potential issues and/or impacts**	**Status**	**Additional references**
	1. Building rehabilitation • Site specific vehicular traffic • Increase in dust and noise from demolition and/or construction • Construction waste	[ ] Yes [ ] No	See Section **B** below
	2. New construction • Excavation impacts and soil erosion • Increase sediment loads in receiving waters • Site specific vehicular traffic • Increase in dust and noise from demolition and/or construction • Construction waste	[ ] Yes [ ] No	See Section **B** below
	3. Individual wastewater treatment system • Effluent and / or discharges into receiving waters	[ ] Yes [ ] No	See Section **C** below
	4. Historic building(s) and districts • Risk of damage to known/unknown historical or archaeological sites	[ ] Yes [ ] No	See Section **D** below
	5. Acquisition of land[15] • Encroachment on private property • Relocation of project affected persons • Involuntary resettlement • Impacts on livelihood incomes	[ ] Yes [ ] No	See Section **E** below
	6. Hazardous or toxic materials[16] • Removal and disposal of toxic and/or hazardous demolition and / or construction waste • Storage of machine oils and lubricants	[ ] Yes [ ] No	See Section **F** below

[15] Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/transferred and affects people who are living and/or squatters and/or operate a business (kiosks) on land that is being acquired.

[16] Toxic / hazardous material includes and is not limited to asbestos, toxic paints, removal of lead paint, etc.

PART B: ENVIRONMENTAL /SOCIAL SCREENING			
	7. Impacts on forests and/or protected areas • Encroachment on designated forests, buffer and /or protected areas • Disturbance of locally protected animal habitat	[ ] Yes [ ] No	See Section **G** below
	8. Handling / management of medical waste • Clinical waste, sharps, pharmaceutical products (cytoxic and hazardous chemical waste), radioactive waste, organic domestic waste, non-organic domestic waste • On site or off-site disposal of medical waste	[ ] Yes [ ] No	See Section **H** below
	9. Traffic and Pedestrian Safety • Site specific vehicular traffic • Site is in a populated area	[ ] Yes [ ] No	See Section **I** below

ACTIVITY	PARAMETER	GOOD PRACTICES MITIGATION MEASURES CHECKLIST
A. General Conditions	Notification and Worker Safety	(a) The local construction and environment inspectorates and communities have been notified of upcoming activities (b) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works) (c) All legally required permits (to include not limited to land use, resource use, dumping, sanitary inspection permit) have been acquired for construction and/or rehabilitation (d) All work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. (e) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) (f) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.
B. General Rehabilitation and /or Construction Activities	Air Quality	(a) During interior demolition use debris-chutes above the first floor (b) Keep demolition debris in controlled area and spray with water mist to reduce debris dust (c) Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site (d) Keep surrounding environment (sidewalks, roads) free of debris to minimize dust (e) There will be no open burning of construction / waste material at the site (f) There will be no excessive idling of construction vehicles at sites
	Noise	(a) Construction noise will be limited to restricted times agreed to in the permit (b) During operations the engine covers of generators, air compressors and other powered mechanical equipment should be closed, and equipment placed as far away from residential areas as possible

PART B: ENVIRONMENTAL /SOCIAL SCREENING		
	Water Quality	(a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers.
	Waste management	(a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. (b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. (c) Construction waste will be collected and disposed properly by licensed collectors (d) The records of waste disposal will be maintained as proof for proper management as designed. (e) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)
C. Individual wastewater treatment system	Water Quality	(a) The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities (b) Before being discharged into receiving waters, effluents from individual wastewater systems must be treated in order to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment (c) Monitoring of new wastewater systems (before/after) will be carried out
D. Historic building(s)	Cultural Heritage	(a) If the building is a designated historic structure, very close to such a structure, or located in a designated historic district, notify and obtain approval/permits from local authorities and address all construction activities in line with local and national legislation (b) Ensure that provisions are put in place so that artifacts or other possible "chance finds" encountered in excavation or construction are noted, officials contacted, and works activities delayed or modified to account for such finds **(See Annex VIII)**.
E. Acquisition of land	Land Acquisition Plan/Framework	(a) If expropriation of land was not expected and is required, or if loss of access to income of legal or illegal users of land was not expected but may occur, that the bank task Team Leader is consulted. (b) The approved Land Acquisition Plan/Framework (if required by the project) will be implemented
F. Toxic Materials	Asbestos management	(a) If asbestos is located on the project site, mark clearly as hazardous material (b) When possible the asbestos will be appropriately contained and sealed to minimize exposure (c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust (d) Asbestos will be handled and disposed by skilled & experienced professionals (e) If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately (f) The removed asbestos will not be reused

PART B: ENVIRONMENTAL /SOCIAL SCREENING		
	Toxic / hazardous waste management	(a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information (b) The containers of hazardous substances should be placed in an leak-proof container to prevent spillage and leaching (c) The wastes are transported by specially licensed carriers and disposed in a licensed facility. (d) Paints with toxic ingredients or solvents or lead-based paints will not be used
G. Affects forests and/or protected areas	Protection	(a) All recognized natural habitats and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities. (b) For large trees in the vicinity of the activity, mark and cordon off with a fence large tress and protect root system and avoid any damage to the trees (c) Adjacent wetlands and streams will be protected, from construction site run-off, with appropriate erosion and sediment control feature to include by not limited to hay bales, silt fences (d) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas.
H. Disposal of medical waste	Infrastructure for medical waste management	(a) In compliance with national regulations the contractor will insure that newly constructed and/or rehabilitated health care facilities include sufficient infrastructure for medical waste handling and disposal; this includes and not limited to: ▪ Special facilities for segregated healthcare waste (including soiled instruments “sharps”, and human tissue or fluids) from other waste disposal: a. Clinical waste: yellow bags and containers b. Sharps – Special puncture resistant containers/boxes c. Domestic waste (non-organic): black bags and containers ▪ Appropriate storage facilities for medical waste are in place; and ▪ If the activity includes facility-based treatment, appropriate disposal options are in place and operational
I. Traffic and Pedestrian Safety	Direct or indirect hazards to public traffic and pedestrians by construction activites	(b) In compliance with national regulations the contractor will insure that the consruction site is properly secured and construction related traffic regulated. This includes but is not limited to ▪ Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards ▪ Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. ▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement ▪ Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public. ▪ Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public.

PART C: MONITORING PLAN							
Phase	**What** (Is the parameter to be monitored?)	**Where** (Is the parameter to be monitored?)	**How** (Is the parameter to be monitored?)	**When** (Define the frequency / or continuous?)	**Why** (Is the parameter being monitored?)	**Cost** (if not included in project budget)	**Who** (Is responsible for monitoring?)
During activity **preparation**							
During activity **implementation**							
During activity **supervision**							

Annex X - Chance finds procedures[17]

This should be incorporated into the EMP and civil works contracts.

1. If the Contractor discovers archaeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:

    a. Stop the construction activities in the area of the chance find;

    b. Delineate the discovered site or area;

    c. 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 National Institute of Culture and History (NICH) administration take over;

    d. Notify the supervisory Project Environmental Officer and Project Engineer who in turn will notify the NICH immediately (within 24 hours or less);

2. The NICH will take charge in protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archaeologists of the NICH. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage, namely the aesthetic, historic, scientific or research, social and economic values.

3. Decisions on how to handle the finding shall be taken by the NICH. This could include changes in the layout (such as when finding irremovable remains of cultural or archaeological importance) conservation, preservation, restoration and salvage.

4. Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities.

5. Construction work may resume only after permission is given from the responsible local authorities or [Culture Department of Province] concerning safeguard of the heritage.

[17] Provided by the World Bank.

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