United Nations Development Programme

Country: GRENADA

PROJECT DOCUMENT

Project Title:	Implementing a "Ridge to Reef" Approach to Protecting Biodiversity and Ecosystem functions within and around Protected Areas in Grenada
UNDAF Outcome(s):	Outcome 1 - Improved governance and regulation of environmental and energy issues for more resilient economies by 2016

UNDP Strategic Plan Environment and Sustainable Development Primary Outcome: 2.3. Solutions at local level for sustainable management of natural resources, ecosystems and environmental services, for expanded jobs and livelihoods; and 3.5. Transparent and non-discriminatory legal and regulatory frameworks and policies enabled for sustainable management of natural resources, biodiversity and ecosystems (in line with international conventions and national legislation)

UNDP Strategic Plan Secondary Outcome: From UNDP's Biodiversity and Ecosystems Global Framework 2012-2020 Signature Programme #1 Promoting holistic valuation of biodiversity and ecosystem services to strengthen the case for government investments

Expected CP Outcome(s): Outcome #1: Enhanced capacity of national, sub-regional and regional institutions and stakeholders to: effectively manage natural resources; build resilience to the adverse impacts of climate change and natural and anthropogenic hazards; improved energy efficiency and use of renewable energy; improved policy, legal, regulatory and institutional frameworks for environmental and energy governance.

Expected CPAP Output (s) Output 4: Knowledge and good practices disseminated and capacity development in the areas of natural resource management, disaster risk reduction, climate change, renewable energy, energy efficiency, low carbon emissions, biosafety and adherence to international standards and norms

Executing Entity/Implementing Partner: Ministry of Agriculture, Lands, Forestry and Fisheries and the Environment.

Implementing Entity/Responsible Partners: United Nations Development Programme

Brief Description

The project will provide multiple global and local benefits by strengthening land, forest and reef management processes (eco-systems functions) and biodiversity conservation on all terrestrial landscapes and marine and seascapes in Grenada, especially within and around marine and terrestrial protected areas. This will be achieved through a multi-focal strategy having a "Ridge to Reef" approach that increases protected areas' management effectiveness and applies targeted land management practices to include: (i) Development of a policy-based legal, planning and institutional /regulatory framework in support of a sustainably managed network of TPAs and MPAs; (ii) Development and management of landscapes and seascapes by adopting the approach of integrating SLM and SFM/REDD+ principles and practices as a matter of public policy (integrated approach for managing forest ecosystems, protection and sustainable use of the biodiversity, prevention of land/sea degradation, and integration of peoples livelihood objectives within the management of forest and marine eco-systems.); (iii) By piloting SFM/REDD+ and SLM practices in the Annandale/ Beausejour watershed to improve Carbon stocks, reducing deforestation, reducing susceptibility to drought (and forest fires) and consequent land degradation that would impact downstream landscapes and seascapes.

Programme Period: 2014 – 2019	Total Resources Required:
ATLAS Award ID:	Total Allocated Resources (Cash):
ATLAS Project ID:	GEF: US$3,031,666
GEFSec Project ID: 5069	GIZ/KfW/ICCAS US$6,100,000.
PIMS#: 5087	UNDP: US$250,000
Duration: 60 Months	Total In-kind Contributions: US$ 15, 426,822
Start Date: 2014 (June)	Ministry of the Environment: US$6,130,525.
End Date: 2019	Ministry of Agriculture-Fisheries: US$4,629,630.
Management Arrangement:	Ministry of Agriculture-Fisheries: US$2,250,000.
PAC Meeting Date:	Ministry of Tourism: US$2,166.667.

Agreed by (Government):

Date/Month/Year

Agreed by (Executing Entity/Implementing Partner):

Date/Month/Year

Agreed by (UNDP):

Date/Month/Year

Acronyms

APR	Annual Project Report
AR	Afforestation and Reforestation
AUD	Avoided Unplanned Deforestation
AWP	Annual Work Plan
BD	Biodiversity
BMPs	Best Management Practices
CBD	Convention on Biological Diversity
CC	Climate Change
CCM	Climate Change Mitigation
CSO	Civil Society Organization
CBO	Community-based Organization
EIA	Environmental Impact Assessment
FFEM	French Fund for the Environment
GEF	Global Environment Facility
GHG	Green House Gas
GIS	Geographical Information System
GRN	Government of Grenada
GPS	Global Positioning System
IPCC	Inter-Governmental Panel on Climate Change
IUCN	International Union for the Conservation of Nature
LD	Land Degradation
m.a.s.l.	Meters above sea-level
M&E	Monitor and Evaluation
LULUFC	Land Use, Land Use Change and Forestry
MoA	Ministry of Agriculture and the Environment
MCS	Monitor Control and Surveillance
MMER	Monitor Measurement Evaluation and Response
NGO	Non-Governmental Organization
PA	Protected Area
PC	Project Coordinator
PD	Project Description
PIF	Project Identification Form
FSP	Full Size Project
PIR	Project Implementation Review
PIU	Project Implementation Unit
PPG	Project Preparation Grant
PPP	Project Preparation Process
PSC	Project Steering Committee
RBLAC	UNDP Regional Bureau for Latin America and the Caribbean
RCU	Regional Coordination Unit
REDD+	Reduction of Emissions from Deforestation and Degradation of Forests
ROAR	Results Oriented Annual Report
SFM	Sustainable Forestry Management
SLM	Sustainable Land Management
SOP/P	Standard Operating Procedures and Practices
SRO	Statutory Rules and Orders
TOR	Terms of Reference
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme

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SECTION I: ELABORATION OF THE NARRATIVE

PART 1: SITUATION ANALYSIS

1. A: CONTEXT AND GLOBAL SIGNIFICANCE

1.A.1 Environmental Context

1. Grenada is the most southerly of a group of volcanic islands in the Eastern Caribbean called the Windward Islands. The Grenada state has a total land area of approximately 344 sq. km and consists of three populated islands forming an archipelago of: Grenada, Carriacou and Petite Martinique.

Figure 1. Map of Grenada

2. The main island of Grenada, about 310 sq. km., like the other Windward Islands to the north is very mountainous, covered with rich volcanic soils and drained by numerous small rivers and streams. This topography divides the island's landscapes into a set of micro-watersheds, each having the bigger or smaller impact in run-off on the near shore coastal zone and island shelf. The island is therefore drained from 'ridge to reef' since the pattern of drainage is one in which impacts would travel from upper landscapes through lower landscapes and into coastal seascapes. The only noteworthy cases of inland landscape drainage are three small volcanic lakes, the main one being the Grand Etang at an altitude of 600 m.a.s.l.

3. At 12°N Latitude, Grenada is highly impacted by the prevailing moisture-laden Northeast Trade Winds coming off the Western Central Atlantic Ocean. The average annual rainfall is about 1500mm with the greatest precipitation during the annual rainy season from May/June to December and with a distinct dry season from January/February to May. As a result of the high rates of precipitation, the biodiversity is considered as an island representation of that of the East Coast of Northern South America. The landscapes of Grenada, once heavily covered with forested species especially in upper altitudes are now being increasingly threatened by encroaching Agriculture, Housing and other Urban Developments. Special features of the Grenada landscapes and seascapes include: low lying landscapes, small out-islands and an island shelf to the north and south of mainland Grenada. These outer islands are considerably less mountainous than the central part of the main island and notable for their white sand beaches generated by coral reef derivatives. They are also noted for being relatively dry when compared with the mountainous areas of the main-island; the local area BD distinctly reflects the wetter or drier environments. The central core of volcanic Grenada's main island rises to an elevation of about 840m at the highest point. There are virtually no upper landscapes that are void of tropical vegetation or scarred by exposed rockslides.

4. The Grenada mainland (approximately 90.2% of the Grenada Territory) is mountainous with moderately wet landscape and with average annual rainfall of about 1500mm. The volcanic nature of the island, with its steep hillsides, creates numerous small watersheds that are drained by a number of year-round rivers and several ravine-type outfalls. Historically, forest coverage was in excess of 75% up to about 50 years ago and these forests occupied the middle and upper altitude while agriculture and housing occupied the middle to low-lying landscapes. Although Grenada's Agriculture was in large part based on tree crops, now in distinct decline, it is estimated that about 50% of Grenada's landscape is still covered in Forest. Historical data also shows that CO2 emissions for Grenada are estimated at about 245,000 metric tonnes or 2.4 tonnes per capita.

5. Typical of small island volcanic landscape, Grenada forests and vegetation are characterized mostly based on altitude zones and are classified under the following types [1] (See Fig 2):

Cloud Forest (montane thicket, palm break and elfin woodlands) – Generally these forests, located in the inaccessible upper areas of Grand Etang and on Mt. St. Catherine, have suffered little degradation and appear to be under no serious threat from human land uses such as agriculture or urban developments;

Rain Forest and Lower Montane Rain Forest – These forests occur below the cloud forests where rainfall exceeds 2500 mm per annum. There is little difference in floristic composition between the very tall rainforest proper and the less tall lower montane rainforest. They are largely located in the lower areas of Mt. St. Catherine and the best remnants are found in Grand Etang Forest Reserve;

Evergreen and Semi-evergreen Forests – These forests occur where the rainfall is between 2000 – 2500mm per annum. A 40-60 ha. area of this forest-type occurs at Morne Gazo in the south of the island, due to a 'cloud track' which causes more rain to fall in this area than expected;

Deciduous Forest and Cactus Scrub – These occur at lower elevations where the rainfall is between 1000 – 2000 mm per annum, usually falling in a five month period. They are found in the south and north of the mainland of Grenada and on Carriacou and Petite Martinique;

[1] Beard J.S.(1949) The Natural Vegetation of the Windward and Leeward Islands, Oxford.

Littoral Woodlands – These occur along the coast in small stretches and should be found in Grenada, Carriacou and Petite Martinique. However, most of this woodland has been lost, although a small patch still exists at the edge of Levera woodland in the north east of Grenada;

Mangrove Woodlands – Grenada contains 21 patches of mangrove along the eastern coastline from Levera to Telescope, and along the south eastern coastline from Requin to True Blue, and on the north and south coasts of Carriacou. The largest are at Levera, Conference, Upper Pearls, Westerhall, Calivigny and Tyrrel Bay.

6. Grenada's terrestrial wildlife is thought to consist of four amphibian species, eight species of lizards and five species of snake, 150 species of birds, of which 18 species are thought to be threatened or endangered, four native species of terrestrial mammals and 11 native species of bats. There is little information available on invertebrates in Grenada but several species of fresh-water shrimps and land crabs are noted. There is one possible endemic species of weevil (*Diaprepes sp.*) [2].

7. The dry forest found in the south and north of the island is considered prime habitat for two endangered and endemic species of birds – the Grenada Dove (*Leptotila wellsi*) and the Grenada Hook-Billed Kite (*Chondrohierax uncinatusmurus*). Grenada is also home to four bird species which are endemic to the Lesser Antilles (CCA/GOG/USAID, 1991) –the Grenada flycatcher (*Myiarchus nugatory*), the Scaly-breasted thrasher (*Margarops fuscus*), the Lesser Antillean bullfinch (*Loxigilla noctis*), and the Lesser Antillean Tanager (*Geochelome carbonaria*) (CCA/GOG/USAID, 1991). Several species have become extinct in Grenada since the arrival of the Europeans, including the Manatee (*Tricheu smanatus*), the Grenada parrot (*Amazona sp.*), the Agouti (*Dasyprocta albida*), Neuweid's Moon Snake (*Pseudoboa neuweidi*) Shaw's Racer (*Liophis melanotus*) and the Morocoy Tortoise (*Geochelonecarbonaria*) (CCA/GOG/USAID, 1991). A list of species found in Grenada is given by Groome (1970), but this may have been incomplete when written, and some of the species mentioned may no longer exist. Other studies such as Blockstein (1991) and Glen (1994) provide detailed data about the Grenada Dove (*Leptotila wellsi*) and the Mona Monkey (*Cercoithicus monadenti*) respectively.

8. Currently the most important nesting areas for Grenada seabirds are the unpopulated islets between Grenada and Carriacou; especially the islands close to Isle De Ronde. Boobies are by far the most important species group and significant rookeries are to found at "Gwizo" (near Isle De Ronde), Les Tantes and "Upper Rock" with some at "Le Rock". Significant numbers of Frigate Birds called "Scissors-Tail" are resident at Sandy and Green Islands. All these birds depend on schools of anchovies and various fry (Pischet) very common at the Isle De Ronde zone.[3] Notably, although fishermen and other poachers target the young (fat chested) boobies and Ramier for food, populations have remained vibrant over the years (pers. Comm. B. Calliste, current fisherman). Ramier, Columba squamosa seems to nest in the rocks among the boobies. Various species of birds embark on daily migration patterns between the main islands (Levera area) the islands of Sugar Loaf, Green and Sandy Island[4].

9. With regards to introduced species, during colonial times the mongoose (*Herpestesaur opunctatus*) was brought in for snake control and the Mona monkey (*Cercoithicus monadenti*) as pets. The Mongoose is now considered a pest and the Mona monkey has become a tourist attraction particularly in Grand Etang Forest Reserve.

10. Fresh water animals, ranging from fish to snails to insects and worms can be found in Grenada, but not much is known or documented on them. The most extensive listing of marine and fresh water fish

[2] Groome, J.R. 1970.A Natural History of the Island of Grenada W.I. Caribbean Printers, Trinidad.
[3] Devas; R.P. 1954 Birds of Grenada and the Grenadines Yule Printers, Trinidad.
[4] Vincent, G. 1981 (See S. Aucoin Outcomes of the FSP Project Preparation Process (2013/14)

fauna for Grenada is provided by the International Centre for Living Aquatic Resource Management (ICLARM, 1998): 233 marine species, 69 marine/brackish water species and 17 species for fresh water. Fresh water fishes include: Tete chien or Yoca, Tititree or Suckstone (*Sicydium plumieri*); Mullet (*Agnostromus monticola*), Mullet (*Mugil sp*), Zandomay (*Eleotris sp*), River Coco (*Centroporanus sp*), Tilapia (*Tilapia mosambica* and *T. nilotica*), Guppy or millions (*Gambusia sp, Poecillia reticulate*), and Sword tail (*Xiphophoru shelleri*), among others. Records of fish landings classified the range of marine species into pelagic finfish, demersal finfish, crustaceans and shell fish and then unclassified fish (mainly demersals). The near shore and offshore ocean provides Yellow-fin Tunas, Oceangar (sailfish), Marlin, Dolphin fish, and King fish among others; mainly scads, i.e. jacks and robins, are harvested by beach seines very close to shore when such fish come off the ocean deep on a daily basis[5]. Crustaceans and other shellfish such as lobsters, turtles and conch (lambi), are traditionally harvested by divers in significant quantities.

11. The three coastal habitats that are important for maintaining Grenada's near shore fishery are: the mangrove swamps, sea grass beds and coral reefs. Mangrove ecosystems provide substrate for marine organisms, feeding and breeding, foraging, and refuge areas for many commercial species and act as nurseries for their offspring. A very good example of mangrove vegetation exists at Levera Pond, St. Patrick and at Harvey Vale Carriacou. Other areas include Conference/ Pearls area and the bays between St. David and Prickly Bay on the south coast off the island. The main species of mangrove include red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*) and button-wood (*Conocarpus erectus*). Sea grass beds act as a transition point and ecosystem Energy Bridge between mangrove communities and the reef system and fishing grounds. Marine turtles, e.g. Atlantic Green Turtles, depend on healthy sea grass communities as a source of food. Coral reefs provide excellent shelter for some resident and transient species (to offshore fishing grounds) as well as substrate for algae and other organisms which form part of a rather complex food web.

12. The rest of the coastal area is considered dry woodland and cactus shrub made up of a mixture of species including *Ipomeas p.* in some sandy beach areas, sea grape (*Cocolobauvifera*), coconuts (*Cocos nucifera*), almond (*Terminali acattapa*) and manchioneel (*Hippomane mancinella*). Marine plants include sea grass communities in the Telescope area and within the barrier type reef extending from Grenville Bay to Prickly Bay in the south; at Carriacou in the L'Esterre Bay and Machineel Bay and within the reef at North Bay, Isle De Ronde. The main species are turtle grass (*Thalassia testudinum*) and manatee grass (*Syringodium filiforme*). Other marine plants include various species of green, blue green, brown and red algae, some of which are used locally as food. A variety of sea weeds or sea moss (red marine algae, mainly *Gracilaria sp)* is harvested at notable sand-mud locations at Calliste, Conference, Pearls and Telescope as well as locations at Carriacou and Isle de Ronde. The algae are processed into a milk-based beverage primarily for local consumption, though some of the dried plants are exported on a small scale to other islands. Sustainable harvesting of *Gracilaria sp* has been maintained at Calliste, St. George among other areas.

13. Most of the reefs around Grenada and the Grenadines, especially along the East and South East Coast are in varying stages of degradation and recuperation. The islands adjacent to Levera Bay have reef systems, with Sugar Loaf being in the best state of recovery and dominated by Elkhorn coral (*Acropora palmata*). The Grenada Preliminary Data Atlas (1980) shows areas of living reef along the East Coast which are basically a combination of various species of branching and boulder coral in varying stages of degradation and recovery. There is one barrier type of reef stretching from Telescope Point to Marquis Islands with Elkhorn, finger coral (*Porites porites*) and some boulder coral, including mustard, and brain

[5] Finlay (1999) (See S. Aucoin Outcomes of the FSP Project Preparation Process (2013/14)

coral. Small fringe reefs, mainly of Elkhorn coral, exist along the south east and south coast to Point Salines. These reefs show some signs of recovery but most of them remain overgrown with algae.

14. On the North West Coast, the reef at Red Rock, originally dominated by Elkhorn coral has suffered much physical damage probably from strong storm swells (Ground Sea) which frequently hit the area. Reefs that exist at Beausejour and Moliniere are being steadily degraded by overuse mainly by tourists (snorkeling and scuba diving). At Grand Anse, the Three Fathoms reef is badly degraded; however, the Six Fathoms reef which consists of a combination of hard and soft coral is still in good shape. Large barrier reefs occur along the East coasts of Carriacou, Petite Martinique and some of the smaller islets of the Grenadines. These are strongly dominated by Elkhorn corals in the shallow areas and boulder coral in the fore reef. Saline and White Islands have an excellent reef system as well as the best species combination in the area.

1.A.2 Ecosystem Functions and Uses:

15. Forest ecosystems cover approximately 20.8% of Grenada. Years of hurricanes, deforestation and replanting in Grenada have led to the forest ecosystems that have evolved today, which are primarily secondary re-growth or cultivation, with the exception of some isolated areas on steep mountain slopes, and the Grand Etang Forest Reserve, which contains primary forests. Nonetheless, secondary forests and forest fragments are important in the landscape, particularly as they reduce the amount of edge effect around forested PAs and minimize the amount of agricultural land (and therefore the setting of fires and other impacts) directly abutting PA forests. Grenada's forests are important for the provision of water supplies, control of soil erosion and enhancement of soil productivity, various economic activities, and carbon sequestration (terrestrial PAs in Grenada are estimated to store a total of 322,158,3 tC). There has been a general phasing-out of timber production in Grenada over the past decades, but forests continue to be important for the livelihoods of many rural groups engaged in hunting, saw milling, handicraft making, animal grazing and tourism activities. As timber production has declined, non-timber forest products (NTFPs) have become a major contributor to the livelihoods of rural communities. For example, many individuals use screw pine (*pandanusutilis*) and bamboo as raw materials for the production of spice baskets and other handicrafts (although bamboo can have negative impacts through crowding out of invasive species and its vulnerability to fire). Other important NTFPs include fruits, charcoal, and medicinal plants. Hunting is a popular activity in Grenada for recreation and, for some, as a source of income. Degradation of forests after the passage of Hurricanes Ivan and Emily has seriously affected households who depend on NTFPs such as fruits and wild meat to supplement their diet and income, and mangroves and dry forests for timber for charcoal production.

16. Agricultural lands are primarily interspersed with forests in the low-lying and mid-level elevations of Grenada. Currently, 75% of the total land area that is not forested is under some form of agriculture. Agriculture is a major contributor to Grenada's economy, averaging 8% of GDP between 2002 and 2006, with primary agricultural exports accounting for approximately 57% of all exports during this period. As Grenada transitioned from a cotton and sugar producer to tree crops such as nutmeg, cocoa and bananas, land usage and production moved from the lower areas up the mountainsides, and today most agricultural land consists of small land holdings of 2 hectares or less. The absence of large areas of monoculture has allowed for wider biodiversity on agricultural land, and the wide use of permanent crops creates a better environment for biodiversity conservation in general (stands of cocoa, nutmeg or fruit trees are in place for many years and provide habitat for other plant and animal species). However, in recent years there has been a consistent trend towards the conversion of lands, particularly larger plantations, from agriculture into housing, tourism and commercial uses, and this encroachment on former agricultural land and key watersheds is a major concern as these agricultural lands are important for provision of food, control of soil erosion and water runoff, and as habitat for birds, pollinators and soil organisms. Freshwater ecosystems are important for water provision, drainage, aquatic habitat, nutrient

cycling and sustainable livelihoods -- numerous rural inhabitants harvest crustaceans and other shellfish in significant quantities for subsistence purposes and as a source of income.

17. Coastal/marine ecosystems include mangroves (primarily red mangrove, black mangrove, white mangrove and buttonwood), which occupy about 3.4 sq. km., coral reefs (primarily Elkhorn coral, Boulder coral, Finger coral, Mustard coral and Brain coral) that cover an estimated 12.5 sq. km., and sea grass beds (turtle grass and manatee grass). Grenada's fisheries sector, which is primarily semi-subsistence plus some small-scale commercial operations for yellowfin tuna (*Thunnus albacaves*), is highly dependent on the health of the coral reefs and other ecosystems. In addition, mangrove ecosystems filter runoff from land, provide substrate for marine organisms and birds, and provide feeding and breeding areas and nurseries for the fish stock. Seagrass beds act as a transition point and energy bridge between the mangrove communities and the reef system and fishing grounds. Grenada's beaches are dynamic ecosystems that protect the coastal area from wave action and provide habitat and nesting sites for marine species (including many crustaceans and Hawksbill and Leatherback turtles). Grenada's tourism sector, which has been the main driver of the economy of the country since the 1980s, is highly dependent on the health and aesthetic values of coastal and marine ecosystems. Although hurricanes in 2004 and 2005 destroyed some tourism infrastructure and slowed down tourism-related investment, the country's mix of traditional sun-sea-sand and cruise tourism as well as eco-tourism has rebounded strongly since then.

1.A.3 Protected Areas in Grenada

18. Grenada is considered to have special land management challenges in its attempts to adopt PA management as a key instrument for conservation and management of BD and ecosystems functions. Key issues for public policy and practice of a PA approach to conservation and management of BD and ecosystems functions relate to and stem from Grenada's current land tenure and land ownership. Records show that 85% of the terrestrial land in Grenada is privately owned rather than owned by a small dominant set of land barons or by Government. This means that much less than 15% of the terrestrial lands are expected to be under the direct 'command and control' of Government for programmatic management. As source and consequence of this land tenure situation are:

a. weak institutional arrangements for application of various land management policy instruments;

b. a compartmentalization of administrations requiring shared management of limited spaces that have multiple ecosystems functions;

c. pervasive small-plot mixed farming landscapes;

d. a legacy of ineffectual land zoning;

e. pressure on the Government to adopt policy instruments that actively manage shared public and private eco-assets for economic development that is driven by the imperatives of livelihood opportunities for the population;

f. lack of capacity to manage and conserve eco-assets using current cutting-edge knowledge and technologies in the context of "contested use" of public/private natural resources, the use of marine (Common Property) resources is a special case of note;

g. lack of sufficient applications of economic instruments for controlling the use of eco-assets in the face of a virtual land management policy that is controlled by market factors and a market pricing system than by Government directed public policy.

19. Grenada's Protected Areas System, including national parks, protected areas, marine reserves, heritage conservation areas and forest reserves, are designated and managed primarily under three Acts:

the *National Heritage Protection Act (1990), the National Parks and Protected Areas Act (1991),* and the *Fisheries Act (1986)* and its accompanying *Fisheries (Marine Protected Areas) Regulations (2001).* Other relevant legislation includes the *Physical Planning and Development Control Act (2002),* and the *Forest, Soil and Water Conservation Act (1947).* The *Soil and Water Conservation Ordinance (1956)* makes provision for declaration of forest reserves and establishes regulations on uses of protected forestlands. In addition, draft legislation was prepared in 2003 (draft *Protected Area, Forestry and Wildlife Bill*) to address concerns with overlapping legislation associated with protected areas, forestry and wildlife, but the draft bill was never finalized.

20. Management of protected areas is primarily the responsibility of the Ministry of Agriculture, Forestry and Fisheries (MAFF); within the MAFF, the Department of Fisheries (DF) is responsible for marine protected areas and management of fisheries resources, with 8 persons working primarily on MPA management. The Department of Forestry and National Parks (DFNP) within the MAFF has 15 full-time staff to manage forest reserves and other terrestrial protected areas, as well as 40-50 field staff providing forest ranger and foreman duties. The Ministry of Tourism is responsible for the management of 13 tourism sites associated with PAs (heritage sites and the visitor complex in the Grand Etang Forest Reserve). Two bodies oversee PA management in Grenada: the National Implementation Support Partnership (NISP), which supports implementation of the PoW on PAs in Grenada in partnership with various governmental and non-governmental agencies, and the National MPA Management Committee, which is responsible for setting MPA policy and for overseeing all aspects of MPA management nationally.

21. The Government of Grenada has committed to a national target of PA coverage of 25% of nearshore and 25% of terrestrial territory by the year 2020 as part of the Caribbean Challenge. To date, 10 terrestrial protected areas have been established in Grenada that together protect high elevation forest environments, critical habitat for the endangered Grenada dove, and Amerindian cultural resources; these existing PA sites account for approximately 6% of the terrestrial environment of Grenada. In addition, a number of other PA sites are in various stages of planning/approval. In the coastal/marine environment, 3 MPAs have been legally established in Grenada, encompassing approximately 4% of nearshore coastal resources (defined as territorial waters out to 12 miles) and protecting coral reefs, mangroves, beaches and recreation and tourism areas (see Table 1).

Table 1. Overview of Existing & Proposed Protected Areas in Grenada

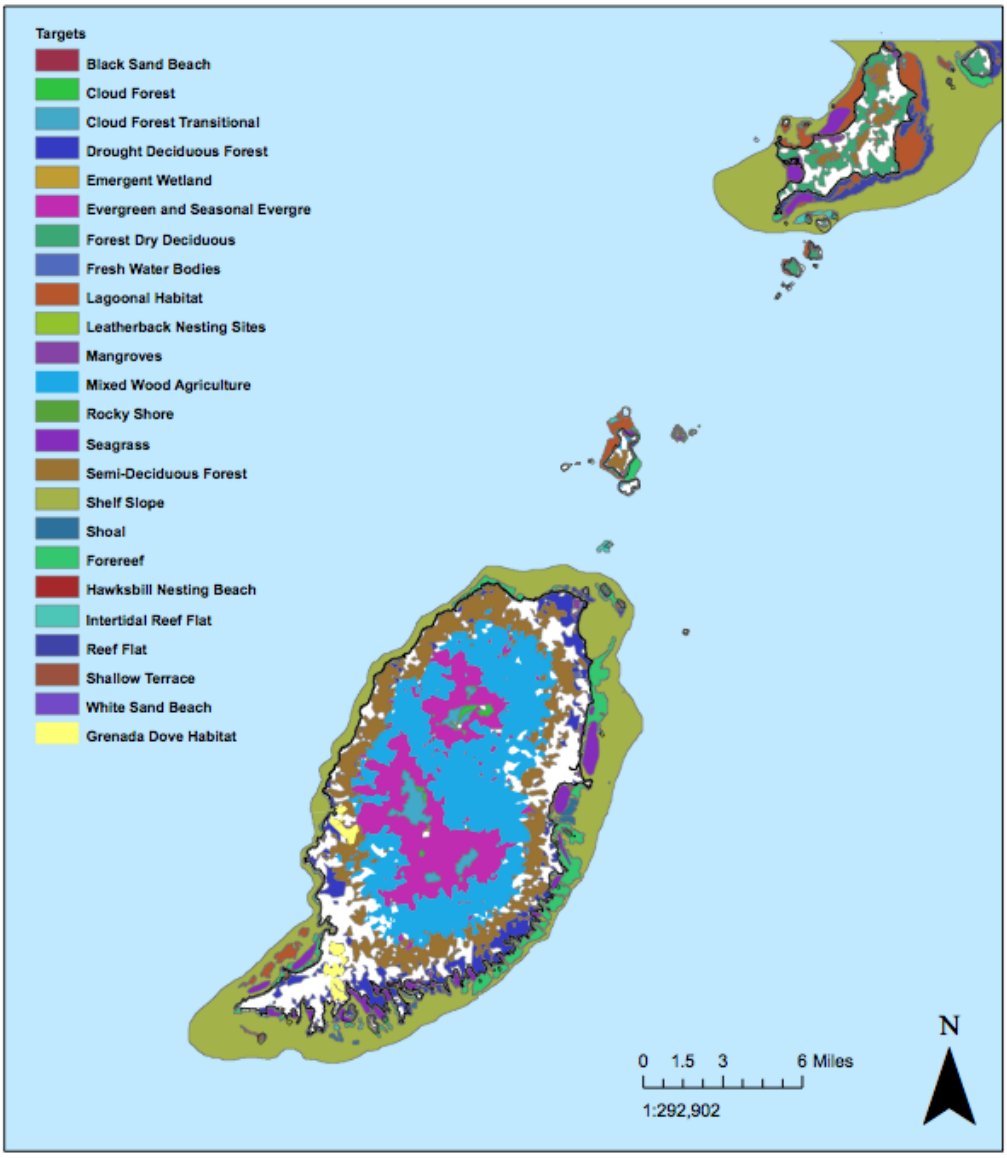
Type	Official Name	Status	Location (Island)	Terrestrial Area (ha)	Marine Area (ha)*	Total Area (ha)
Terrestrial Protected Areas						
Protected Area	Perseverance Protected Area and Dove Sanctuary	Legally established; has current management plan	Grenada	100	0	100
	Beausejour Protected Area	Cabinet approval (2011) for its addition to the Perseverance Protected Area. Legal establishment pending parliamentary approval and gazetting	Grenada	40	0	40
National Park	Mt. Hartman National Park and Dove Sanctuary	Legally established (1996), then de-gazetted in 2006. Re-designed boundaries received Cabinet approval in 2011; legal establishment pending in parliament; draft management plan (1998) is out of date.	Grenada	62	0	62
	Levera	Cabinet approval. Requires legalization/ gazetting; has only a draft management plan	Grenada	123	0	123

Type	Official Name	Status	Location (Island)	Terrestrial Area (ha)	Marine Area (ha)*	Total Area (ha)
	Lagoon Road	Proposed only	Grenada	Unknown	0	Unknown
Forest Reserve	Grand Etang	Legally established; has a current management plan	Grenada	1544	0	1544
	Annandale	Legally established; has a current management plan	Grenada	240	0	200
	Mt. St. Catherine	Has been surveyed, but not legally established (Govt. needs to buy private lands, but does not have the funds)	Grenada	1000	0	1000
	Morne Gazo	Legally established; no management plant	Grenada	25	0	25
	High North	Legally established; no management plant exists	Carriacou	Unknown	0	Unknown
	Richmond Hill	Legally established; no management plant	Grenada	8	0	8
	Grand Bras	Legally established; no management plant	Grenada	4	0	4
	Mt. Moritz	Legally established; no management plant	Grenada	8	0	8
Historical / Cultural	Pearls Crown Lands	Proposed; mostly private lands; boundaries unclear	Grenada	Unknown	0	Unknown
			Total – Terrestrial PAs	**3,154**	**0**	**3,154**
Marine Protected Areas*						
Marine Protected Area	Sandy Island/ Oyster Bay	Legally established; operating with management plan	Carriacou	100	780	880
	Moliniere/ Beausejour	Legally established; operating with management plan	Grenada	0	300	300
	Woburn/ Clarks Court Bay	Legally established; has management plan but not operational until early 2013	Grenada	0	600	600
	Grand Anse	To be legally established and managed by late 2013	Grenada	0	1,500	1,500
	Southeast Coast	To be legally established and managed by late 2013	Grenada	0	7,000	7,000
	Levera	To be legally established and managed by late 2013	Grenada	50	750	800
	White Island	To be legally established and managed by late 2013	Carriacou	100	2,000	2,100
			Total – Marine PAs	**250**	**12,930**	**13,180**

*Extent of marine areas in hectares is approximate

22. Currently, protection exists for only a few forest areas in Grenada, and not all forest types are represented in these areas. Grand Etang Forest Reserve has an area of 1526 ha. of cloud forest, rain forest and lower montane rain forest, and plantations which are fully protected by the legislation from any change in land use and from hunting. There are National Parks at Levera (123 ha.) in the north east of the island, primarily mangrove, and at Mt. Hartman in the south west and Perseverance Estate on the west coast which is dry forest. In Carriacou, 136 ha. of forested area are protected at High North. Work is currently in progress by the Forestry Department and the Forest Management Project surveying area to create three more Forest Reserves at Morne Gazo, Annandale and Mt. St. Catherine. This will result in approximately one third of the island's forest being protected. Ultimately, an effective Protected Areas System should include the conservation targets illustrated in Figure 2, below.

Figure 2: Protected Area Gap Analysis Conservation Targets



The Nature Conservancy
Protecting nature. Preserving life.

Caribbean GIS (S. W. Margles)
Map Projection: UTM Zone 20N
Geodetic Reference System: WGS 1984
Source: Grenada Dove Habitat, TNC

1.A.4 Socioeconomic Context

23. Grenada has a population of approximately 109,000 persons (Yr. 2010 census) and according to the UNDP is ranked 63rd out of countries on the Human Development Index (HDI). According to a survey held in 2008 and regarding poverty rates, 37.7% of individuals were under the poverty income level; likely a result of a large proportion of persons being involved in the informal economy. Within the period of 50 or more years ago when the economy of Grenada was predominantly agricultural, the population was characteristically rural. Since then, however, Tourism, Construction and Services have gradually come to be the main contributors to economic activity and livelihoods, and as a result most of the population is now distributed as virtual townships of the historical towns of St. George (Capital), Grenville, Gouyave, Sauteurs and Victoria. A distinct rural to urban drift makes South St. George the

most populated and most built up area in Grenada. A round-the-island road network and a historically rural population have allowed for a fairly equitable spread of schools and health facilities on the islands.

24. According to records from the Central Statistics of the Government of Grenada 2001, the population of Grenada was distributed by parish as follows: St. George (30.6%), St. Andrew (26.3%); St. Patrick (11.2%), St. David (12.3%), St. John (9.1%), St. Mark (4.5%) and Carriacou and Petite Martinique (6.0%). It was later estimated in 2010 that the population would have risen by about 5% overall. Due to rural to urban migration, it is estimated that the St. George population has increased significantly at the expense of the other parishes. The most economically active parish in Grenada is therefore St. George where the post-agricultural economic activity is notable and where the Tourism and Services infrastructure is mostly concentrated. This is the parish where the highest proportion of the population lives and works at livelihoods associated with job opportunity. St. George is also the parish where many persons from the other parishes work and then commute back to their residences on a daily basis.

25. A significant segment of the population depends on subsistence incomes and the informal economy. In 2005, a household survey estimated that the formal unemployment rate for females was 26.4%, the male rate 12.4%, the youth rate 32.9% and the overall rate 18.8% in 2008. A poverty assessment report revealed a poverty rate of 37.7% while the vulnerability rate was measured at 14.6%. The National Census of 2010 showed that the population had 53,008 (50.2%) males and 52,531 (49.8%) females. A high unemployment rate is associated with a high dependence, especially in the rural areas, on subsistence income and from traditional agriculture-associated livelihoods based on the terrestrial eco-assets from private or public lands on the one hand and from the marine (fisheries) eco-assets from the sea as Common Property, on the other hand. This high dependence of persons on subsistence livelihoods and informal economic activities coupled with a historical "open-access/free-entry" use of the natural terrestrial and marine resources is a significant challenge for programmatic management and conservation of BD and ecosystems functions.

26. Socio-economic-based threats to the BD and ecosystem functions are clearly identified as directly and significantly traceable to humans as they attempt to satisfy livelihood needs. Such threats include habitat destruction and fragmentation with respect to land and sea-use, degradation of land, water resources and ecosystems services, and the over-exploitation of biological resources, especially in the marine close-to-shore environments. For example, the utilization of forest resources is important as a result of the imperatives of subsistence livelihoods. Timber production from natural forests has declined considerably over the past decade due to poor re-stocking depleted by more than 100 years of logging activities, clearance for agriculture and hurricane destruction. Commercial production of Blue mahoe (*Hibiscuselatus*) which occupied 75% of the area under plantation was seriously damaged during an infestation of the pink mealy bug between 1994-1997. Other plantation species include pine (*Pinuscaribaea*), mahogany (*Sweitenia sp*.) and *Cupressuslusitanica*. Although the initial reasons for plantation establishment were to reforest and stabilize forest areas as a result of serious hurricane damage, local demand presented an opportunity for income generation.

27. The small island context, where representations of critical ecosystems are in such close contact with the segments of a population dependent on natural resources for direct livelihoods, and where the use of the BD and ecosystems functions are constantly in a state of contest, requires that emphasis be placed on a transition from the "open-access, free-entry" condition to the "controlled- access, controlled-entry" regime, especially with respect to the utilization of stocks, habitat and sea-space in the marine environment. An important start comes from the National Forest Policy development process (1999-2000), where the general public made it clear that the protection/conservation aspects of forests were more important than timber production. It was recommended that timber production by the Forestry Department should be phased out and that there should be a greater emphasis on the multiple-use aspects of forest management such as conservation and recreation; the use of forest resources for non-consumptive rather than consumptive use. Managing this transition calls for regulatory instruments, with

economic incentives where applicable and various innovative co-management instruments and models that are largely untried in Grenada.

1.A.5. Legal /Institutional Context

28. There are several policy instruments available to the Government of Grenada and related to management and conservation with respect to BD and ecosystems services. The small size of the Grenada jurisdiction, and the manner in which local areas are administered (no Local area government, rather a Central government), allows for policy instruments to be applied as cross-cutting by several Ministries and Competent Authorities; policy direction is then favored by the single Cabinet government. Each Ministry and/or Competent Authority is provided with legal and institutional capacity through the legislation they have to administer and with the institutional enablings available to it.

29. Several national level development policies oversee environmental management in Grenada. The National Strategic Development Plan (2007) proposes that environmental considerations should be integrally linked to national development, identifies the need to link livelihoods and environmental sustainability, and advocates for better enforcement of laws to protect biodiversity. In addition, both the Tourism Master Plan (1997) and the National Environmental Policy and Management Strategy (NEMS, 2005) recognize the need to strengthen Grenada's protected area system through the establishment of additional PA sites and the consolidation of legal and institutional frameworks to manage the PA system.

30. The objectives of Grenada's National Biodiversity Strategy and Action Plan (NBSAP, 2000) are: to provide broad-based support for conservation and sustainable use of biodiversity, to protect key ecosystems from negative human-induced impacts, and to develop and encourage sustainable utilization of biological resources that are essential to the livelihoods of local communities. The objective of the National Action Plan (NAP, 2006) to support the UN Convention to Combat Desertification includes identifying the factors contributing to land degradation and the physical measures required to combat land degradation and mitigate the effects of drought, and the National Climate Change Policy, which identifies the need to address linkages between climate change and biodiversity. Other national policies and plans include Grenada's National Forest Policy, which emphasizes the role of forests in maintaining biological diversity, promoting soil and water conservation, and generating income through ecotourism activities; the Government's "Grenada Forest Rehabilitation Project" that is undertaking re-vegetation of forested areas in the aftermath of Hurricane Ivan; and the Government's strategy to implement the Grenada Protected Area System Plan (2011).

31. Grenada is also working to meet its obligations under the Grenada Declaration, as well as the Caribbean Challenge. Specifically, the Grenada Declaration is a pledge made at the 8th Meeting of the Conference of Parties to the Convention of Biological Diversity in 2006 to effectively conserve at least 25% of its near shore marine area and at least 25% of its terrestrial area by 2020 as a means to contribute to the sustainable livelihoods for its people and to contribute to the world's biodiversity. Grenada's compliance with the Caribbean Challenge (2008) includes a pledge to legally protect 20% of near shore areas by 2020 via expansion and improved management effectiveness of its marine protected area system[6].

32. Finally, Grenada has a body of local laws and regulations (SROs) to more effectively respond to conventions such as UNCBD, UNCCD and UNFCCC that are in effect outcomes of the various preceding Conventions and Protocols; Conventions and Protocols acceded to be ratified or signed (as soft law) and then enacted local legislation (as hard law), as provided in Table 2.

[6] Roberts, D (See Outcomes of the FSP Project Preparation Process (2013/14)

Table 2. Specific Legislation in Support of Environmental Management

Name of Local Legislation	Function and/or Origin
1. Yachting Act#17 (2000)	Promotes Yachting that impacts marine biodiversity
2. Beach Protection Act#67 (1979), Cap. 29 of 1990	Control the removal of aggregates from the sea shore
3. Bathing Places Act Cap.28 of 1990	Control of Public bathing spaces
4. Petroleum and National Gas Deposits Act Cap. 240 1990	Control of exploration/mining having potential impacts on biodiversity/ecosystems functions
5. Civil Liability for Oil Pollution Damage (International Convention.) Act#6, 1998	Provide for local compliance with the 1992 compensation fund for oil pollution damages
6. Pollution Damage Compensation Fund (International Convention.) Act#6, 1998	Local level implementation of the International Convention Fund (1992).
7. National Water and Sewage Authority Cap.208, 1990	Competent Authority for sequestration of potable water and for disposal of liquid wastes.
8. Land Settlement Act Cap.161, 1990	Allocate/Control use of the lands to persons for housing and agro-production
9. Land Acquisition Act Cap. 159, 1990	Government Authority to acquire, promote land with compensation
10. Land Acquisition (Partial Abandonment of land (at Belmont) Act, #25, 1996	Acquisition for partial abandonment pursuant to Act#59, 1990
11. Fisheries Act, #15, 1986	Promotion of fisheries in the fisheries waters of Grenada
12. Land Development and Utilization (Surrender and Repeal) ordinance #32, 1984	To surrender leasehold interest compulsorily acquired by Government by previous law
13. Grenada Ports Authority Acts#14 (1978), #5 (1986), #52 (1989) and others	Seaports Authority as corporate body to control shipping and facilitate Customs and immigration services
14. Physical Planning and Development Control, #25 (2002)	Control of all physical development and protection of physical and cultural heritage
15. Forest, Soil and Water conservation Act Cap.129 (1958), Cap12 (1967) and Cap34 (1984)	Provide for conservation of soil, water and forest resource shows gaps with respect to UNCBD, UNCCD, UNFCC, SPAW
16. Oil in Navigable Waters Act (Sanitation-based) Cap218 (1990)	Control of discharge or escape of oil in the territorial waters of Grenada
17. Marine Protected Areas (Amendment) Act#1, 1999	Legal definition for MPAs and provides for management arrangements.
18. Application For Developing Land And Land Development Control Cap160	Provides for accepting applications for land development

33. While the Land Tenure and applications of policy-based management control of landscapes by Government is so constricted, there is considerable law and Administrative Authority provided by the historical "Land Development control regime" available to the Government. A major challenge and objective for the project will be to facilitate legislative enhancements, mainly providing for enactment of a draft bill: "Protected Areas, Forestry and Wildlife Bill" that would bring provisions for forestry management to be more in line with expectations of UNCBD, UNCCD and UNFCCC; and especially for rule-based applications of INRM (SLM; SFM/REDD+, CC provisions). Another objective will be to provide institutional enhancements that will enable the Government to better conserve and manage BD and ecosystems functions. The project will also facilitate enhancements to legal provisions with respect to the current Act governing Marine Protected Areas and their application as instruments for the management and conservation of BD and ecosystems functions in Grenada.

Part I B Baseline Analysis

1.B.1. Threats to Biodiversity & Ecosystem Services:

34. The threats to BD and ecosystem services in both terrestrial landscapes and marine seascapes are characteristic of small volcanic islands with steep hillsides and Marine Island shelves adjacent to the deep of the ocean. Threats include: loss of indigenous forms, degradation of ecosystems, fragmentation of habitats, overexploitation of terrestrial wildlife, over-exploitation of marine stocks and habitat, forest fires, and multiple climate change impacts, including variation in seasonal marine and land-based water quality. These threats and their underlying root causes/drivers are elaborated as following:

- Habitat Destruction / Fragmentation: Forest ecosystems, which are primarily found in high elevations where most of Grenada's terrestrial PAs are located, are threatened by fragmentation and destruction of habitat. The most important ongoing threat is encroachment from expanding agriculture and human settlements, particularly on privately owned forested lands, where there are few controls, but also on the edges of PAs. Other significant threats are slash and burn agriculture and invasive species (bamboo) encroaching into native forests. There is evidence that due to changing land use from declines in tree crop agriculture and with the "outing" of banana cultivation on a large scale in recent times, some increases in dry and mountain forest (bush) have been observed[7]. There are, however, notable threats to middle altitude forested landscapes due to annual forest fires, destabilization of land due to hurricane impacts and encroachments of housing, and "slash and burn" farming practices. Burning of agricultural waste and setting of fires to clear land also pose a threat to forest ecosystems, including the edges of protected areas; in 2009-2010, approximately 30% of the Beausejour watershed was destroyed by fire. In the past, natural forest regeneration kept pace with the effects of encroachment, fire, and other pressures, but current rates of deforestation and fragmentation threaten the existence of species such as the Grenada Dove, the Grenada hook-billed kite, and the iguana.

  The historical causes of loss in forest cover in Grenada relate to both natural and human threats; some natural threats coupled with human practices while some human practices are driven by compelling socio-economic contingencies reflected in unsustainable forest, land and sea management activities. The main causes include: expansion of agriculture and urban development, forest fires, subsistence logging and firewood sequestration, forest pests, and natural disasters, such as hurricanes. The drivers of deforestation in the Grenada jurisdiction as a whole, as well as in the pilot area of Beausejour, are: (i) structural drivers; (ii) direct drivers, and; (iii) indirect drivers.

  The main ***structural drivers*** of deforestation relate to the high demand for land for agricultural crop farming, until 50 years ago, followed by the fragmentation of the historical "Agricultural estates" and the complexity in property rights created by this land fragmentation. Currently, 85% of the lands are privately owned with few land reserves and with a virtual dual land development control regime; one for the urban area, and other for the agricultural and high altitude forested areas. The strong policies that used incentives to promote small-holdings, multi-crop agriculture in the rural areas as a counter measure to replace the dominance of "Agricultural estates" allowed for this wide spread fragmentation of lands, encroachment into steeper landscapes, and scattered semi-subsistence farm holdings in the rural areas where the semi-evergreen and mountain forests existed. Urban expansion allowed for systematic land clearance for housing or for crop farming of stocks such as lowland cocoa, sugarcane and cash crops. Furthermore, the emphasis of land development control in the urban areas has been for Monitor Control and Surveillance (MCS) of building standards and compliance control measures, rather than application of strategic land use controls in urban areas. In short the rural land development regime has historically produced land fragmentation, multi-cropping and multiple incentives for agriculture; the urban land control and

[7] Bibliographic evidence provided in Annexes 1 and 2.

development regime has been an emphasis of building standards. Land use zoning continues to be challenging strategy to pursue.

The ***direct drivers*** of deforestation in Grenada include: (a) "Change-of-use" of land where, during various periods in the evolution of rural agriculture, the focus was on crops such as tobacco and sugarcane in the lower altitudes, cocoa and nutmegs in higher landscapes, citruses and other exotic fruits, bananas, etc. Each to a greater or lesser extent encroached on the upper forested landscapes, with little abandonment of lands, and little natural regeneration of forests when crop preferences changed. (b) Coupled with change of use of land, especially in the dry land forested areas on the lower altitudes, consumption of dry woods for firewood was significant since "coals" from fire wood had and still have a vibrant market in rural areas. (c) Within the last 10 years, lowlands and high woods fires have been very significant as a threat to forest cover. Forest fires on the south-west, west and eastern landscapes have been severe, extensive and lasting for days and weeks covering several watersheds and local areas (Villages). These fires have been exacerbated by severe dry spells and apparently by the detachment that villagers now show for "outing" fires on their neighbor's landholdings. Annual fires in some locations have served to debilitate the capacity of the landscapes to regenerate forest cover. (d) Disease and pests have contributed also to the weakening of certain forest stocks on both the Highwood's species and the Lower Mountain and dry forest. Notably, the pink mealy-bug caused significant damage to the vibrancy of the forest cover during 1994-97, with a particularly strong impact on the Grand Etang forest reserve.

The ***indirect drivers*** of deforestation include: (a) High unemployment (formal and informal) in rural areas; poverty and lack of employment alternatives force people to clear high woods on private lands and on state lands considered to be Common Property. (b) Institutional weaknesses in monitoring, control and surveillance. Forest rangers employed by the government focus on the crown lands for monitoring threats to forests, but there are only a few such rangers; the few rangers that concentrate their monitoring efforts for government/Crown lands have little time for MCS on private lands. Private forests receive considerably less attention even though the law provides for compliance controls to be applied as well on private as on crown lands. (c) Until recently, public policies were strongly oriented to the promotion of all forms of agriculture and included incentives and support for tree crops as well as other types of farming and marketing. These strong support systems allowed for any farmer to adopt any of several crop options and for using any type of rural lands for a livelihood. These policies that encouraged crop farming and land clearance while taking advantage of almost any option for increased agricultural production and livelihood, ultimately encouraged deforestation.

Compounding this are the devastating impacts of hurricanes on forest structure and functioning in Grenada. In just the past 25 years, Hurricane Lenny (1999) destroyed many coastal wetland forests; Hurricane Ivan (2004) devastated forests at the Mt. Hartman and Perseverance protected areas, which were established for the protection of the critically endangered endemic Grenada Dove; and Hurricane Emily (2005) caused significant damage to dams, forest roads, bridges and watercourses and severely impacted forestry and conservation infrastructure and activities. The continual loss of habitat, especially in dry forested areas has made several endemic species, such as the Grenada dove, highly threatened.

Grenada's coastal ecosystems also are threatened with significant habitat destruction, primarily due to the concentration of housing and hotel / commercial development along the coastline. Mangrove ecosystems in particular have been severely reduced due to tourism development and the building of jetties, although other factors such as harvesting, pollution from solid wastes, pesticides sewage and oil spills, and sand mining have also contributed to mangrove decline. The threat of habitat degradation is mostly seen with the destruction of mangroves, which are significant seasonal refuge for birds, crabs and mammals, such as opossum. Mangroves are also ecological refuge for marine species sharing time on sea grass beds and coral reefs.

- Degradation of Land and Water Resources and Ecosystem Services: Terrestrial and coastal / marine ecosystems in Grenada are subject to numerous sources of degradation. In the marine environment, the most significant threat to coral reef ecosystems comes from upstream sources of pollution (sewage outflows; animals grazing along rivers), nutrient overload (fertilizers) and sedimentation (construction; erosion from agricultural practices). Both the Moliniere/Beausejour and Grande Anse MPAs are directly downstream from the Beausejour watershed and severely affected by such activities there. Sea grass beds are also degraded from pollution and nutrient loading from land-based sources. Despite the protective cover provided by forest and agricultural tree crops, soil erosion in Grenada is a significant problem and landslides are frequent following heavy rains and severe weather conditions.

  A variety of agricultural practices in upstream areas are responsible for degradation of coastal / marine ecosystems (coral reefs, mangroves, sea grass beds), including: sedimentation from clearing of steep slopes for agriculture (over 90% of Grenada's land area has a slope of 20º and above), the removal of riparian buffers for farming close to riverbanks, and the removal of trees on roadsides; fertilizer use contributing to pollutant loading in runoff following rains; the use of harmful chemicals and pesticides that negatively impact fresh and coastal waters; and the burning of agricultural waste and setting of fires to clear land threaten forest ecosystems, including the edges of protected areas. The National Water and Sewage Authority (NAWASA), the Competent Authority for the sequestration of potable water from landscapes and for disposal of sewage sequestered from some urban areas, is challenged to ensure the quality of potable water produced from upper landscapes, while also ensuring that coastal waters are not overloaded by the sewage outfalls on the south coast. The management challenge for Grenada as a small island with no reserve (single use) landscapes is to share ecosystems' sources of potable water sequestration with the need to farm the landscapes resulting in chemical outfalls of pesticides and fertilizers. This is further exacerbated by the disposal of sewage and mass wasting outfalls in coastal waters that are also used for tourism and recreation purposes. Although pollution in land and marine areas is not now considered as highly threatening, nevertheless the management challenge is for responding in the present in order to forestall future threats that would be highly costly to mitigate in the future.

  Uncontrolled grazing, particularly in riparian zones, contributes to the pollution and sedimentation of coastal / marine ecosystems (coral reefs, mangroves, sea grass beds). Some of these practices, especially the planting of crops and grazing of animals on steep slopes, also have negative impacts on forest ecosystem health. For example, in Carriacou, the largest out-island of Grenada, a major obstacle to the regeneration of natural vegetation, in addition to the conversion of land for development, is the effect of grazing by livestock. Many animals are tethered or allowed to roam freely in forest or scrub land (either private or public) and to graze, which prevents regeneration of trees and shrubs, since many seedlings or young plants are eaten. Grasses, sedges and unpalatable plants seem to dominate the ground cover in favorable conditions. Where grazing is intense, particularly in the dry season, soil erosion becomes more severe.

  Finally, indiscriminate mining and quarrying activity impacts both coastal ecosystems (sand mining, which was recently banned for construction purposes) and forest ecosystems (in higher elevation zones where overburden and spoil material is not contained and immobilized, so that runoff contributes to siltation of adjacent waterways and eventual pollution of near-shore waters.

- Overexploitation of Biological Resources: In the marine environment, there is some overexploitation of commercial fish species, as well as illegal fishing in contravention of closed seasons / areas and gear restrictions, but these have had a relatively minor impact to date on marine species. Although a significant segment of the national fishery remains semi-subsistence and small scale, the large majority of economic-based fishing efforts and recorded fish catches are attributed

to commercial operations; species catch abundance generally reflecting both natural abundance and also stocks targeted (and preferred by fishers because of market demand. As such, main species and stock catches may be ranked as follows (based on average catches for the year 1987- 1998): The first is Yellow-fin Tuna (*Thunnus albacares*), a highly sought-after species because if its market value and now accounting for the largest species catch of 49,895 kg (1981) to 340,194 kg (1994) and contributing 16% of catches, on average over the years. The second ranking species contributor, accounting for 12% of landings, is Big Eye Scad (*Sela rcrumenopthalmus*); the third is Flying fish (*Exocoetidae sp*); and the fourth is Blackfin Tuna (*Thunnus atlanticus*).

The sea egg fishery for White Sea eggs (Tripneustes ventricosus) maintained a consistently high production on both Grenada and the adjacent islands for about 10 years up to 1994 when a drastic decline in abundance (both catch and field observation) was noted and hence the fishery was closed in 1995 and remained closed until 2012 when the open season was held for one month. There is now evidence of a reasonable recovery of stocks of sea eggs on main sea grass beds. The trend in production, and therefore an implied abundance of economic stocks of marine species, has been more visible for mostly commercial fish landings, since semi-subsistence and subsistence landings are less well recorded at landing sites. The annual abundance has shown distinct cyclical trends over the period 1978 to 1998[8]. Of special concern is the fact that while the demand for demersal/rock fish species is high and seems to be steadily increasing, production does not appear to show corresponding increases over the years.

In the terrestrial environment, there is increasing use of non-timber forest products for subsistence livelihoods, but as the demand for commercialization of these products increases, there is inadequate baseline data to assess the impact that harvesting of these resources has on biodiversity and ecosystem functioning. For example, non-timber forest products from screw pine (*Pandanusutilis*) and bamboo (*Bambusa vulgaris*) are harvested and utilized for making baskets and other handicraft; and also extensively used in construction. Many naturally occurring herbs are believed by many persons to have medicinal properties. Consequently, NTFP areas are also used to produce herbal medicines, especially in rural areas.

Hunting is a popular activity in Grenada for recreation and as a source of food and income. The over-exploitation of wildlife by hunters is significant despite declared 'close seasons' for hunting activities. The virtual "open-access/free-entry regime" for the utilization of reef species, especially semi-sedentary shellfish, is reinforced by the policy of allowing opportunity for the economically challenged segment of the population to secure livelihoods from subsistence-based economic activities. The main animals hunted are: opossum or 'manicou' (*Didelphismarsupialis insularis*), armadillo or 'tattoo' (*Dasypus novemcinctus hoplites*), Mona monkey (*Cercoithicu smonadenti*), Ramier pigeon (*Columba squamosa*), and iguana (*Iguana iguana*). It is reported that Iguana numbers appear to be dropping, although the reason for this is uncertain. Members of the hunters association consulted during the Forest Policy development process indicated that the abundance of the game species was declining and suggested several measures for ensuring survival of these animals, as well as their willingness to assist in the implementation of such measures[9]. A number of snake species are also said to be under threat, partly because they are often killed on sight by many Grenadians, and, until recently, they were collected in large numbers for the 'djab-djab' during Carnival. It has been suggested that the recent increase in rat populations may be due to the decrease in population of one of their main predators: snakes.

- Climate Change Impacts: Climate Change is wreaking havoc on terrestrial and marine habitats. The Caribbean region is already experiencing an increase in hurricane frequency and intensity, coral bleaching, ocean acidification as a result of increased marine absorption of atmospheric CO_2,

[8] Finlay (1999) (See S. Aucoin Outcomes of the FSP Project Preparation Process (2013/14)
[9] Dunn (1999) (See S. Aucoin Outcomes of the FSP Project Preparation Process (2013/14)

coastal flooding due to sea level rise and loss of protective natural barriers, as well as both observed and predicted increases in sea level and sea surface temperature. As noted above, severe storm events such as hurricanes have a significant impact on forest and coastal ecosystems in Grenada. While hurricanes are part of the natural cycle, their effects are made significantly worse at locations where anthropocentric influences, such as infrastructure or inappropriate agricultural practices on steep slopes, or degradation of coral reefs and mangroves, have compromised the resilience of these ecosystems. Furthermore, the effects of increased hurricane frequency and severity and prolonged dry periods (e.g. 2009-2010), combined with lack of effective forest management to control fires, slash and burn agriculture, encroachment, and soil erosion, have significantly compromised the ability of Grenada's forests to maintain and re-generate forest cover. Forest fires are becoming increasingly devastating, especially in the annual dry season. When such fires impact an area that has suffered several years of CC-induced dryer-than-normal seasons, the forest habitat becomes severely degraded and the biodiversity takes decades to naturally regenerate.

The impacts of Climate Change are also visible in the quality of ocean currents since pelagic stock recruitment into the Grenada fisheries is influenced by the "Orinoco green water". Another impact of Climate Change is the drying out of various types of vegetation and the impact on ecosystems, depending on the type of dominant vegetation and the biodiversity they support. The secondary and compounding effects of Climate Change are of special concern. Degraded forests result in delayed seasonal recruitment of species, fragmentation of forest cover, exposed landscapes resulting in accelerated erosion during rainy seasons, and farmers miscalculating the appropriate times for planting. Furthermore, unseasonal ocean currents and weather also impact on fish recruitment in a significant way.

35. Both natural and human threats to the BD and Ecosystems functions are identified with climate related causes such as dry season forest fires and hurricanes. Soil erosion is one of the main human threats associated with contested uses of natural resources. Since the island condition of Grenada allows for no reserve landscapes or seascapes; then all terrestrial and marine ecosystems are shared and need to be the subject of active management of the BD and ecosystems functions, as eco-assets. An effective shift away from the traditional "free-entry/open-access condition" requires much more vigorous control than merely applying closed seasons and catch-size restrictions. The Ridge to Reef Approach to management is an acknowledgement that all terrestrial processes on landscapes (human or natural) will cross from upper altitude spaces across lower altitude spaces and onto to close shores seascapes. Hence, the project is designed to more aggressively educate the public at local levels to adopt agreed-upon measures to utilize resources under a "controlled access/ controlled entry regime" and become accustomed to area restrictions associated with effectively-managed Protected Areas.

1.B.2. Direct and Underlying Causes of Loss of Biodiversity:

36. The above threats have caused several wildlife species to be lost since the arrival of Europeans, including the manatee (*Tricheus manatus*), Grenada parrot (*Amazona sp*), agouti (*Dasyprocta albida*), Neuweids moon-snake (*Pseudoboa neuweids*), slaws racer (*Liophis melanotus*), and the Morocoy tortoise (*Geuclelone carbonaria*). The high level of overall poverty of 37.7%[10], with even higher levels in the rural areas where people depend so heavily on natural resources for subsistence livelihoods puts a significant amount of pressure on the local biodiversity. A persistent public policy strategy that recognizes and reinforces opportunities for individuals within the informal economy to utilize the biodiversity for livelihoods compounds the pressure on that biodiversity. Population growth and encroachments on landscapes for housing and other urban developments in an increasingly formal and commoditized economy is another significant contributor to loss of biodiversity and habitat. This need to

[10] Project Prep. Form (PIF)/PPP Docs: Report on Ecological and Socioeconomic Conditions with Respect to the PAs Management (2013); Ecological and Socio-Economic Conditions in the Beausejour Watershed (2013).

utilize biodiversity and habitat is even more troublesome in the marine near shore spaces where the sea spaces are common property and therefore less secure from the open-access/free-entry condition.

Land tenure:

37. The distribution of land relates directly to the utilization of BD and ecosystems functions. Since 85% of the land in Grenada is privately owned and land is distributed to a relatively large number of individuals within the population, meaning that land wealth is more evenly distributed than many jurisdictions in the region and beyond, then the small remaining percentage (15%) of crown (public) land available to government greatly weakens the Government's capacity to shape public policy regarding the utilization of the terrestrial land-based BD and ecosystems functions. The wide distribution of small land holdings in Grenada acts as a constraint on public management of landscapes as a corporate responsibility; a political challenge is identifiable; a unique political economy exists.

Deficient Environmental Planning and Weakness in Policy Formulation and Implementation:

38. The lack of adoption and application of environmental law and regulations as policy instruments has serious political implications, more so than economic ones. This makes underlying causes such as regulatory gaps, limited institutional inter-sectoral coordination, more of a reflection of the root causes themselves. While management and conservation of BD and ecosystems functions need to be more applicably reflected in enhanced law and regulations, they also need to be more explicitly reflected in the annual work plans and medium term strategies of the relevant Competent Authorities of Government.

Contamination of Water Sources:

39. Rural communities use rivers and streams for agricultural activities such as penned annual farming, irrigation, laundry and multiple forms of liquid wastes disposal, having no formal sewage disposal system at such locations. Under these circumstances, the accumulation of waste becomes more and more concentrated downstream and eventually release into marine habitats and MPAs. This occurs because there is neither a formal integrated protocol to address the causes of contamination of water sources, nor the monitoring measurement, evaluation and response system to account and diminish its impacts.

40. A baseline study commissioned in 2013 by the Organization of American States[11] was undertaken in order to assess the impact of discharges coming from the Beausejour and connected rivers that might have an impact on coral reefs in the Beausejour /Moliniere MPA. The study reported: (1) sedimentation levels decreased with distance from the main river mouth discharge point; (ii) a eutrophication gradient assessment in the Beausejour river showed phosphate and ammonia concentrations increasing with increasing distance down river with all phosphate and ammonia concentrations exceeding maximum allowed levels recommended by the Caribbean Environmental Health Institute; (iii) phosphate levels exceeded maximum levels recommended by CEHI for marine coastal waters, observed at a number of points; (iv) identification of which agriculture land use and domestic activities are considered the most likely causes of the types of pollution reported. Hence, project interventions in the Beausejour will have the potential to provide crucial lessons for future replication where the island landscapes and watersheds are highly similar to the one at Beausejour and where farming and domestic activities prevail.

1.B.3. Long Term Solution:

41. The long term solution for ensuring that biodiversity and ecosystems functions are protected against the multiple threats within and around PAs resides in the application of a suite of management and conservation measures using the "Ridge to Reef" approach that increases PA management effectiveness

[11] Nimrod et.al. 2013 Nutrient and Sediment Inputs of the Beausejour Watershed , OAS Wash. D.C.

and applies targeted SLM practices that engage civil society with Government Competent Authorities in innovative co-management arrangements.

1.B.4. Barrier Analysis

42. However, the following barriers stand in the way to achieving this long term solution:

1. Lack of a systemic approach and mechanisms for Protected Areas management and insufficient geographic coverage of TPAs and MPAs:

43. The mainstreaming of biodiversity into national policies, including the 2010 Protected Areas Systems Plan (PASP)[12], has received only tacit support from decision makers at the national level. Policy direction for protected areas is generally dependent on existing legislation, which only addresses the three existing Forest Reserves, and there are no comprehensive policies for the conservation of biodiversity within marine and terrestrial PAs, or for management of visitors and those whose livelihoods, in whole or in part, depend on PAs. Laws and regulations for protected areas management are in place, but these overlap and contradict each other in many ways, and there is a need to consolidate the legal framework based on the draft "Protected Area, Forestry and Wildlife Bill", and to strengthen enforcement mechanisms (particularly for wildlife conservation). Another priority is to establish legal mechanisms that allow for tax benefits to be granted to persons willing to donate lands to the PA system and/or to establish conservation covenants on their lands; with over 85% of Grenada in private ownership, including all of the islands within the proposed marine protected areas, expansion of the PA system will require significant contributions from private owners. This is an important factor because the existing PA system does not adequately represent Grenada's ecological diversity; of 26 environments classified in Grenada, only three terrestrial environments (cloud forest, transitional cloud forest and evergreen forest) currently meet the target of 25% or more representation as expressed in the Grenada Declaration.

44. Another issue is the absence of effective structures to coordinate the activities of disparate agencies involved in PA management, including the Department of Fisheries, the Department of Forestry and National Parks, and the Ministry of Tourism, who typically fail to coordinate their activities (for example, there is no coordination between management of forests within PAs and neighbouring productive landscape forests and forest fragments to ensure ecological connectivity, prevent fires, etc.), as well as a lack of institutional capacity for activities such as public education, enforcement and monitoring. Furthermore, while Grenada has recently expressed its intention to initiate community co-management of both terrestrial and marine PAs, as yet there is no experience with this approach among PA managers or local communities.

45. Financing for protected areas is another key issue: at present, the Government of Grenada spends US$1.8 million/year on PA management, which will not be sufficient to enable an effective expansion of the PA system (it is estimated that a total of 40 PA units will be in place when Grenada reaches its goal of 25% coverage). In addition to insufficient government budget allocations, other factors include the lack of a PA system business plan to increase efficiencies and prioritize use of financial resources, and the existing practice whereby visitor fees are not retained by PA units or management agencies but instead go into the government's consolidated fund. Finally, management of protected areas is constrained by a lack of information on the status and trends of Grenada's ecosystems, including information on changes in ecosystem coverage over time, composition of ecosystems and functions of various ecosystems services, and changes in species abundance and distribution.

46. The specific constraints to implementing INRM therefore include: (a) Lack of sufficient "command and control" of lands by government for the greater leadership role in INRM; (b) Constraints

[12] Turner, M. (2011) Grenada Protected Areas System Plan. OECS Sect

for adopting consistent public policy options that allow incorporation of private forested lands into an integrated PA network; (c) Lack of historical experience with a model for co-management with respect to BD conservation and eco-system services/functions as Eco-assets; (d) Absence of effective structures to coordinate the activities of disparate agencies of Government that must necessarily be involved in PAs management; (e) Lack of sufficient coordination between management of forests within PAs and neighboring landscapes that provide contesting eco-systems services such as water source versus agricultural services and prevents forest fragmentation for ensuring ecological connectivity; plus, (f) Lack of institutional capacity for public education enforcement and monitoring; (g) Lack of priority and sufficient financing for BD conservation and eco-systems services; (h) Lack of tracking concerning the *status* and *trends* at eco-systems, as starting point for responses to both anthropogenic and natural threats on BD and ecosystems functions.

2. Insufficient Planning and Technical Capacities for Landscape Level Resource Management:

47. Existing National Forest Policy does not incorporate climate change related objectives (e.g. carbon sequestration), and legislation to support the policy is still in draft form, so that forest management currently relies on many decades old legal framework (in addition, existing regulations for forest management do not apply to private lands). The separation of institutional authority and regulatory frameworks between protected areas and the broader landscape, and additionally between terrestrial and marine protected areas, act as a barrier to an integrated landscape level ("ridge to reef") approach to managing Grenada's territory and resources. There is no central entity with oversight for land development decisions; coordination between the many agencies responsible for environmental management is weak; and in some cases there are overlaps in jurisdiction or no clear competent authority (for example regarding regulations to control development in mangroves and coastal wetlands Grenada's National Physical Development Plan has limited policies and regulations, and even fewer enforcement mechanisms, to support sustainable land management, while the Physical Planning and Development Act makes no reference at all to conservation and sustainable use of biodiversity. In general, land use planning and management processes in Grenada do not take into consideration the maintenance of ecosystem services for the benefit of biodiversity or ecosystem functioning. Many private land owners, including those living in areas bordering PAs, can develop their lands with few restrictions and no need for compliance with land management plans, and land owners are not required by law to implement proper land management practices (e.g. there are no controls on grazing).

48. Insufficient financing of SLM and SFM activities is another constraint: funding limitations mean that field activities of the MAFF are limited to outreach programs focused on crop/livestock production and controlling illegal activities within forest reserves, and no programs are in place for activities to conserve ecosystem services, including research and monitoring. Capacities for forest management are also a limiting factor; forestry personnel require more technical training and better equipment. Another challenge is poor access to information on the status of land resources and ecosystem functions, which constrains both national level planning and the design and execution of appropriate watershed management interventions. Among the agencies that generate and utilize spatial information products (the Land Use Division of the Ministry of Agriculture; the Physical Planning Unit and the Cadastral Surveys Unit), systems of data collection, storage and dissemination are poorly coordinated and largely incompatible.

49. Finally, lack of awareness among farmers of viable SLM approaches inhibits the uptake of practices and technologies aimed at mitigating land degradation. In addition, environmental management is largely seen as the domain of government, and as a result a culture of conservation is not present in the utilization of land resources, directly leading to problems such as degradation of steep slopes through poor farming practices, and destruction of mangrove ecosystems for marine development projects.

50. Several limitations are identified with prospects for addressing problems concerning conservation and management of BD and ecosystems functions; and also in the context of CC adaptation. These limitations include:

a) Lack of existing provisions for incorporating a Climate Change objective (e.g. carbon sequestration) and of course with legal requirements for CC responses as policy instruments for effective actions;

b) Separation of responsibility for TPAs and the adjacent landscapes , and the separation of authority thereby providing a challenge for the integrated development of PAs in the context of BD and ecosystems functions;

c) Lack of a central agency for management of all land development since the physical planning development control functions for administration of land settlement seems to be separate from controls for agriculture promotion and expansion;

d) Lack of sufficient authority, law and institutional support to the forestry department for the conservation and management of the BD (and wildlife) and ecosystems services at landscapes, and in general;

e) Lack of sufficient 'command and control' by government with respect to incorporating the multiplicity of medium-sized land holding into an effective integrated natural resource management (INRM) system in the name of effective BD and ecosystems management and conservation;

f) Limited institutional financing for maintaining optimal manpower capacity to enforce and control for sustainable SLM and SFM;

g) Lack of capacity to make timely responses to unsustainable "LD hot-spots" and to degraded bio-stocks and habitats;

h) Lack of awareness or sensitivity by farmers concerning viable SLM and SFM practices including new technologies, and coupled with;

i) Lack of mechanisms to mobilize farmers and land owners in SLM, SFM initiatives that, only through corporate action could remedy "hotspots" that they are aware of;

j) Even as private land owners are aware that neither they nor government acting alone can make effective remedies for serious land management problems, the co-management approach is only in its incipient stage, and has yet to demonstrate itself as a fully profitable tool for effective management.

1.B.5. Stakeholder Analysis:

51. The project is expected to engage a diverse set of stakeholders and Table 3 provides a description of the principal stakeholders who have given tentative approval for and ought to be involved in the project. The project's success is dependent upon their active participation in project development and the implementation of project activities. As such the successful implementation of the project will in large measure depend on "designed-in" communication with these stakeholders and for administering a mechanism to be followed through in order to ensure their participation.

52. The FSP, in its design, recognizes that there are different categories of stakeholders in terms of responsibilities, roles and vested interests. For the Government Competent Authorities there are those

with direct biodiversity and ecosystem relevance whose roles and responsibilities would be virtual obligations. For the Competent Authorities that are beneficiaries of the enhanced environment, they will be mainly recipients of an enhanced water source (NAWASA) and with the Ministry of Tourism as recipients of enhanced Tourism sites as tourism products. For the Fisheries Division as Competent Authority it will be an opportunity to better fulfill their mandate of ensuring optimal utilization of fisheries resources. For the Forestry Department it will be an opportunity to better fulfill their objective of collaborating with allied agencies within the Ministry of Agriculture (Extension services, Agronomy, land use etc.) for ensuring optimal utilization of forested landscapes that perform multiple ecosystems service functions.

53. NGOs will be providers of technical assistance for empowering local area persons, and as such, they will be recipients of financial and other support, as well as responsible agents impacting local area communities in fulfillment of their mission of empowerment. Meanwhile, Community-based organizations (farmers, fishers and community development) will be both recipients of assistance and facilitators of development targeted at their individual vested interests. Finally, for the donor- funding co-financing agencies, the project provides an opportunity to contribute to conservation and management of the BD and ecosystems functions at the local level in support of global and local benefits which were designed into their individual projects whether bilateral or multilateral (Regional).

Table 3. Key Stakeholders considered highly relevant to the project

STAKEHOLDER (SH)	**EXPECTED ROLE/CONTRIBUTION IN PROJECT IMPLEMENTATION**
Ministry of Agriculture, Lands, Forestry, Fisheries and Environment (MoA as chief SH) • Allied Statutory Body: Grenada Cocoa/Nutmeg Associations; for marketing products of Tree-crop agriculture (Commodity Boards). • Allied Statutory Body: Marketing and National Importing Board (MNIB); for marketing of Agricultural products produced by small-crop farmers.	This Competent Authority(CA) of Government responsible for ensuring that the policy and legal framework are in place for effective management of natural resources, specifically BD and ecosystems services, and will have overall responsibility for implementation of the project. This CA as the agency with the widest scope of knowledge, skills, competencies and historical experience for dealing with various aspects of the implementation and with legal and regulatory authority is well placed to engage various divisions on the one hand and then engage land based/ sea based livelihoods communities on the other hand for the purpose of protecting the BD and ecosystems functions.
Division of fisheries (Management)	This CA within the Ministry of Agriculture is directly responsible for conservation and management of seashore stocks, habitats and sea space directly impacted by land based economic activities such as farming and various waste disposal outfalls; can contribute to education awareness on conservation management issues.
Department of forestry and wildlife	The CA within the MoA is directly responsible for conservation and management of forested landscapes with their BD and Ecosystems functions, notably the water source; can contribute to education and awareness on conservation and management issues.
Land use division	The CA within the Ministry of Agriculture responsible monitoring and measurement of land and water resources and maintaining a data base on the status and trends regarding Grenada's ecosystems.
Agri Extension Division	This agency of the MoA that maintain a Liaison relationship with farmers (crop and livestock) for the purpose of administering government support and for rendering technical advisory services with respect to sustainable agricultural technologies and practices.
Agronomy veterinary and related services	These agencies within MoA are responsible for providing specific support with respect to farming options such as cropping practices and preventative measures so that farmers might yield optimum benefits from their investments
Ministry of Physical Development	The Competent Authority responsible for controlling the exploration of

	aggregates from landscapes and seascapes and which authority through the physical planning development control authority (PPDCA) is responsible for ensuring sound SOP/P for land and building construction and development. In a policy environment where there is a virtual urban and a rural land development regime, a sustainable land management policy might have to be negotiated through the initiatives of the project
Non-Governmental Organizations (NGOs): - ART. (G)PIA. SPECTO. GRENCODA.	The registered NGOs as private, non-profit institutions set up for the purpose of delivering technical assistance and facilitatory services with the goal of empowering individuals and communities, especially the economically vulnerable; the role of these organizations will be to provide technical assistance and resources to CBOs and local area communities, acting as agents of the project or co-financing bodies that would provide financial resources in support. These agencies have accumulated knowledge, know-how and experience over the years.
Community Based Organizations: - North-East Farmers Org; South-West Development organization. - National Farmers and Fisheries organization.	Local area vested interest groups such as N/W Farmers' Organization; N/E Farmers' Organization; southern Fishermen's Organization INC., Grenada Federation of Agriculture and Fisheries organizations, Grenada Chamber of Industry and Commerce together with Commodity boards will all play a role in the effort. CBO's will be expected to perform roles as either or both recipients and as donor of assistance.
The Department of the Environment, now part of the Ministry of Agriculture	Agency within the ministry of Agriculture and environment – when each contributes to the suite of "Ridge-to-Reef" initiatives both within the overall island landscapes /seascapes and within the targeted Beausejour watershed (Pilot area) will contribute to enhanced management and conservation of the BD and ecosystems functions in Grenada; and with the concept of land/ sea impacts in focus.
Ministry of Tourism	Since parts of PAs are used as National Parks and as tourism product and such Parks are now managed by the Ministry of Tourism as tourism attractions, the ministry of Tourism has a responsibility for contributing to the process of expansion of the network of PA's and for facilitating the institutionalization of such parks within the protected areas network.
Allied Agencies Coast Guard, Grenada Board Of Tourism, Grenada Ports Authority Environmental Health Div. NAWASA Etc.	Such agencies as Competent Authority or as facilitators of their ministries mandates will have roles and functions for security, safety, licensing of crafts, for quality control of water, quality control of products of BD and ecosystems functions.
Education institutions and centers of excellence	The local St. Georges University (SGU) and regional institutions such as University of the West Indies (UWI) and Caribbean environmental health institutes (CEHI) have considerable experience in application of monitor, measurement evaluation and response (MMER) initiatives with respect to landscape/ seascape impacts when they collaborated with various regional and international agencies for such purposes.
Special initiatives of collaboration Government – GCIC GOG: Government of Grenada	The initiatives where collaboration was made for responses toward climate change adaptation where- 1. GCIC/ GOG collaborated for the "outing" of GHG as refrigerants. 2. GCIC/ GOG collaborated for promotion of non- Fossil energy consumption (Solar panel use) by pre incentives to persons buying loans and equipment
National Water and Sewerage Authority	Collaboration with various competent authorities for the purpose of ensuring that the water source is adequately protected from threats that would compromise potable water quality.

54. The contributing stakeholders under the command and control of government will have their institutional roles and responsibilities, as well as the support of baseline, recurrent enabling services. On the other hand, it is anticipated that the non-governmental stakeholders will be driven by mechanisms that are collaborative. Furthermore, the co-management model although as yet in its incipient stage of application within the Grenada community could offer an opportunity for lessons learned. Indeed,

implementation of the Ridge-to-Reef project offers a significant co-management challenge that must consider the following in the context of co-management as a model that is only in its incipient stage:

a. The Government's inter-sectoral co-management interventions could be made less challenging if the project is designed to offer opportunity for joint action; not merely at the Steering Committee level; but at the operational levels. The specific financial budgets should be creatively administered in collaboration with the relevant Government Competent Authorities and thus could be a powerful instrument for animating collaboration between and among agencies: CAs, CBOs/CSOs and NGOs.

b. The project must sufficiently specify roles, responsibilities, obligations, beneficiaries and recipients as specific stakeholders; and stating the specific resources (financial and other) allocated to and/or for each category of stakeholder.

c. An appropriate tracking must be applied throughout the project lifetime for recording and evaluating the co-management process and Best Management Practices, with Community-based "designed-in" tracking tools (TT),tailor-made and applied on the shorter term basis.

d. Emphasis must be placed on education and awareness of both agents of Competent Authorities and NGOs/CBOs in joint informal interactive sessions with the objective of clarifying ideas such as *Sustainable utilization/ development*, *BD conservation and management*, *ecosystems functions services*, *Eco-assets*, *Green Economy*, *Livelihoods* in its widest sense, etc., since all stakeholders could benefit considerably from such education/awareness sessions.

PART 2: PROJECT STRATEGY

2.1 Project rationale and policy conformity

55. The Grenada "Ridge to Reef Project" is designed to support Grenada's compliance with a number of agreed-upon International Environmental Management and Conservation Strategies, Policies and Plans (e.g MDGs and Aichi targets and goals) with the technical and financial assistance of the Global Environment Facility (GEF). The project intervention is essentially a complement to the Government of Grenada's efforts, on the local level, to fulfill its obligations to various United Nations Conventions and Protocols (MEAs) with respect to Biodiversity and Eco-systems Functions/services by applying program-based delivery systems; and with co-management initiatives that will accommodate the involvement of local area communities in a direct way. This project is therefore designed to address the GEF STAR 5 strategy for SLM, SFM/REDD+ together with focal areas such as BD, LD and climate change mitigation (ECM). The project will uniquely co-program with concurrent grant-aid initiatives having similar goals and purposes.

56. In particular, the project directly addresses and is consistent with the outcomes and outputs of GEF Strategic Objective #1– to improve sustainability of protected area systems. The project will support the implementation of key aspects of the Grenada System Plan for Parks and Protected areas and the Grenada Declaration (COP8) to effectively conserve at least 25% of its marine and territorial ecosystems by the year 2020. This project will enhance the capabilities of Grenada with respect to institutional, regulatory, and policy-based Strategic Planning. It will also provide Grenada with financial support for various materials that enable the process. The project will expand and enhance the existing PA system in the country by increasing the number of TPAs from 8 to 9 (increasing the number of hectares from 1,931 ha. to 2931 ha.) and increasing the number of MPAs from 3 to 7 (increasing the number of hectares from

1,780 ha. to 13, 180 ha.). Furthermore, the project will support the incorporation of a number of mini PAs into the national network as a minimum cost output. The consolidation and expansion of the PA system will be enhanced by the project's support in reducing threats to BD by addressing habitat degradation and over-exploitation of biological resources within PAs.

57. The project will also address GEF Land Degradation Strategic Object 3 – Reduce pressures on natural resources from competing land uses in the wider landscape. The proposed project will contribute to arresting and reversing current trends in land and forest degradation and deforestation, focused on an area (the Beausejour Watershed) that has direct and significant negative impacts on ecosystem services in adjacent Protected Areas, through implementation of Integrated Watershed Management and application of sustainable agricultural practices that will prevent erosion and sedimentation entering coastal and near shore waters, will create livelihood benefits for local communities, and will conserve important terrestrial, freshwater and marine ecosystems.

58. The project will also address GEF SFM-REDD+ Objective 1 – Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services, by reducing the threat of deforestation from fire, slash and burn agriculture, and encroachment by housing and tourism, and by increasing forest cover and carbon stocks through agro-forestry and the removal of invasive species.

59. The project will implement a "Ridge-to-Reef" approach that integrates BD, LD and SFM approaches, jointly implemented by government and local communities, and combines protection of biodiversity and habitats within a functional, representative and sustainable national system of terrestrial and marine protected areas with sustainable management of land and water resources in adjoining / upstream watersheds. In so doing, the project supports the Decision 11 / COP.10 of the UNCCD at its 9th Plenary Meeting in October 2011 that "encourages eligible Parties, taking into account the cross-sectoral nature of land degradation, to use existing potential to harness synergies across the Global Environment Facility focal areas in order further to reinforce the importance of sustainable land management for integrating environment and developmental aspirations globally."

60. Finally, the proposed project supports the following goals *inter alia* of the 2004 CBD Programme of Work on Protected Areas: 1.2 To integrate protected areas into broader land- and seascapes and sectors so as to maintain ecological structure and function; 1.4 To substantially improve site-based protected area planning and management; 1.5 To prevent and mitigate the negative impacts of key threats to protected areas; 2.2 To enhance and secure involvement of indigenous and local communities and relevant stakeholders; 3.2 To build capacity for the planning, establishment and management of protected areas; 3.1 To provide an enabling policy, institutional and socio-economic environment for protected areas; and 3.5 To strengthen communication, education and public awareness."

2.2. Country ownership: Country eligibility and responsibility.

61. The project is designed to be an instrument for the localization of agreed-upon International entitlements and obligations with respect to the conservation and management of BD and Ecosystems functions, goods and services. As such, it will be implemented in the context of national strategies and plans, or reports and assessment that have been sponsored by relevant conventions. The project is consistent with and will therefore support the goals of various National Development Policies in Grenada, including the *National Strategic Development Plan (2007),* which proposes that environmental considerations should be integrally linked to national development, identifies the need to link livelihoods and environmental sustainability, and advocates for better enforcement of laws to protect biodiversity. In addition, both the *Tourism Master Plan (1997)* and the *National Environmental Policy and Management Strategy (NEMS, 2005)* recognize the need to strengthen Grenada's protected area system

through the establishment of additional PA sites and the consolidation of legal and institutional frameworks to manage the PA system.

62. The proposed project will directly support Grenada's efforts to comply with its commitments related to International Environmental Conventions. In promoting the conservation and management of the country's biodiversity, the project is consistent with the Government of Grenada's priorities as set out in the *National Biodiversity Strategy and Action Plan (NBSAP, 2000)*, of which the key objectives are: to provide broad-based support for conservation and sustainable use of biodiversity, to protect key ecosystems from negative human-induced impacts, and to develop and encourage sustainable utilization of biological resources that are essential to the livelihoods of local communities. The project also promotes the objectives of the *National Action Plan (NAP, 2006)* to support the *UN Convention to Combat Desertification*, including identifying the factors contributing to land degradation and the physical measures required to combat land degradation and mitigate the effects of drought, and the *National Climate Change Policy*, which identifies the need to address linkages between climate change and biological diversity. Other national policies and plans are also supported by this project, including Grenada's *National Forest Policy*, which emphasizes the role of forests in maintaining biological diversity, promoting soil and water conservation, and generating income through ecotourism activities, and the Government's *Grenada Forest Rehabilitation Project* which is undertaking re-vegetation of forested areas in the aftermath of Hurricane Ivan.

63. Finally, by strengthening and expanding the country's protected areas system, this project (along with the *Grenada Forest Rehabilitation Project* and a proposed GIZ-funded project) will be a key component of the Government's strategy to implement the *Grenada Protected Area System Plan (2011)*, and will assist Grenada to meet its obligations under the *Grenada Declaration*, a pledge made at the 8th Meeting of the Conference of Parties to the Convention of Biological Diversity in 2006 to effectively conserve at least 25% of its near shore marine area and at least 25% of its terrestrial area by 2020 as a means to contribute to the sustainable livelihoods for its people and to contribute to the world's biodiversity. It will also support Grenada's compliance with the Caribbean Challenge (2008), where the country pledged to legally protect 20% of near shore areas by 2020 via expansion and improved management effectiveness of its marine protected area system[13].

64. The Ridge to Reef project is designed to enable Grenada to more effectively respond to conventions such as UNCBD, UNCCD and UNFCCC, while also supporting a body of local laws and regulations (SROs) that are outcomes of the various preceding Conventions and Protocols. Each of these national strategies, policy statements, plans, reports and assessments identify strongly and directly with livelihoods and with the conservation and management of ecosystem services and BD.

2.3 Design principles and Strategic considerations

UNDP's Comparative Advantage

65. The UNDP's comparative advantage for the GEF comes as a result of its global network of regional and country offices, its experience in integrated policy development and human resources development in Grenada and institutional and non-governmental and community participation specified in comparative advantage of the GEF agencies (GEFC .31 / 5 rev. I). The UNDP has formal engagements with the Government of Grenada for promoting, designing and implementing activities (based on multi-year cycles) consistent with the GEF mandate and the national sustainable development plans. UNDP has been identified as the appropriate GEF implementing agency by Government of Grenada based on its demonstrated experience working on multiple GEF BD projects. The program manager of the UNDP

[13] Roberts, D (See Outcomes of the FSP Project Preparation Process (2013/14)

Barbados and OECS office in Barbados will continue to provide technical, financial, administrative and management support. In addition, the regional technical advisor stationed at the Regional UNDP/GEF office in Panama will continue to support the project throughout its implementation by offering assistance in the thematic areas of BD, LD and SFM-REDD+.

Coordination with Other Regional and Local Initiatives

66. The Grenada Ridge to Reef project is designed to seek for and accommodate co-financing / co-programming for planned activities, as niche financing, from concurrent projects at the regional or local level. Implementation of the proposed project will be carried out in coordination with several other projects, as described below:

67. Implementing Integrated Land, Water & Wastewater Management in Caribbean SIDS project (2012-2016) with GEF funding of US$20.4 million. In Grenada, the lead agencies are the Ministry of Agriculture through the Land Use Division and the Forestry Department. Activities in Grenada will focus on: 1) Develop and apply national IW related indicators and strengthen the scientific basis for effective monitoring and assessment in the LD and related BD Focal Areas, by developing improved methods for multi-scale assessment and monitoring of land degradation trends, and for impact monitoring of GEF investment in SLM and ecosystem services maintenance; 2) Policy, legislative and institutional reforms and capacity building for IWRM / SLM, including reforms that address lack of financing and policy, tools and guidelines for the future sustainable use of water resources and sustainable forest management, waste-water management, and protection from drought; as well as coordination among relevant national sectors and strengthening and expansion of National Inter-sectoral Committees (NICs), harmonization with national plans, and implementation of programmes of cross-sectoral sensitization and awareness raising, along with training and capacity building in the identified national institutions and private sector; and 3) Knowledge Exchange, best-practices, replication and stakeholder involvement to identify and share best practices and lessons in relation to water resource management/use methodologies; consultative dialogues to ensure engagement of relevant policy, sectoral, local community and expertise (scientific, technical, etc.), ensuring input from local communities and associated structures (for instance fishers associations, farmers associations, NGOs, CBOs and local government).

68. Sustainable Financing & Management of Eastern Caribbean Marine Ecosystem Project: This GEF-WB-TNC project, launched in March 2012, has a total Budget of US$19.4 million, including $8.75 million from the GEF. Component 1 of the project, "Establishment of sustainable financing mechanisms", will establish a Caribbean Biodiversity Fund (CBF) for participating OECS countries (Antigua and Barbuda; Grenada; St. Kitts and Nevis; St. Lucia; and St. Vincent and the Grenadines) with an endowment of at least US$15 million to generate income for protected areas management, as well as national level trust funds (NPATFs) providing at least US$1.5 million per year in total to the five participating countries by the end of the project. Component 2 of the project, "Strengthening and phased expansion of Marine Protected Area Networks", will gazette at least five new marine protected areas and establish at least two demonstration sites to generate useful MPA management information and lessons for other countries in the Caribbean region. Component 3 of the project, "Deployment of a regional monitoring and information system" is intended to establish a database on status and trends in the protected area systems of the OECS countries, which could serve as a decision support tool to natural resource managers and policy makers. Although the emphasis of this component would be on Coastal and Marine Protected Area networks, the methods and indicators developed would be highly relevant to terrestrial protected areas. In Grenada, the Woburn / Clarke's Court Bay Marine Protected Area has been selected as one of the two demonstration sites in which a suite of activities to enhance management effectiveness will be supported by the project. Specific activities will be selected during project implementation, but possibilities identified include: development of managed dive and snorkel sites; multiple use zoning and demarcation activities; education and outreach programs; capacity building at the community level for ecotourism; incentives for fostering partnerships with research institutions; and

Sustainable Development Action Plans (SDAPs). The Ridge to Reef project will complement this regional project by (i) supporting the development of management plans; (ii) expanding the national network of both new and existing TPAs and MPAs, and improving on-the-ground protection at those sites; and (iii) developing other PA financing options (e.g. visitor fees).

69. Grenada's Ministry of Agriculture, Lands, Forestry, Fisheries & Environment launched the Caribbean Aqua-Terrestrial Solutions (CATS) regional development cooperation program between CARICOM and GIZ in November 2013[14]. CATS acts as an umbrella program for two other regional projects as part of its efforts to aid the Caribbean region to effectively coordinate the support provided by various international development partners and NGOs. These are: "Improving the Management of Coastal Resources and the Conservation of the Marine Biodiversity in the Caribbean Region" and "Enhancing the Adaptive Capacity of Rural Economies and Natural Resources to Climate Change in selected Caribbean Small Island and Low Lying Coastal Developing States." The R2R project has been in contact with these two regional initiatives to determine the feasibility of coordinating complementary activities and identifying synergies. The two regional projects are anticipated to contribute to future planning exercises by the R2R project proponents. While initial discussions with these initiatives highlighted potential areas for synergies, further contact needs to be made between MoA, UNDP and GIZ to solidify the interaction and collaboration between these initiatives.

70. Furthermore, the SLM and SFM practices and Ridge-to-Reef approach for BD-LD conservation demonstrated in the Beausejour watershed will be promoted in other baseline initiatives, such as the ongoing re-vegetation of forested areas in the aftermath of Hurricane Ivan; the Programme on Integrated Adaptation Strategies in Grenada, which is implementing Climate Resilient Integrated Water and Coastal Resource Management activities; and the Strategic Program for Climate Resilience, which is undertaking reforestation and sustainable forest management activities. These projects, among others, are potential sources of co-financing or co-programming, and collaboration with each will be negotiated and written commitments will be sought with regards to their preparedness to co-program deliverables in tandem with the Ridge to Reef Program.

2.4. Project Objectives, Outcomes and Outputs and Activities

71. The project's ***objective*** is to ensure that biodiversity and ecosystems functions within and around marine and terrestrial PAs in Grenada are better protected from threats through the adoption of an integrated "Ridge to Reef" approach that increases PA management effectiveness and applies targeted sustainable land (and coastal sea) management practices, while ensuring ecosystems resilience to climate change. The project area includes the whole island territory of Grenada (344 sq.km. of landscape) sitting on a volcanic-coralline island shelf raised from the depths of the Atlantic Ocean to the East and the Caribbean Sea to the West. The island is divided into small districts called parishes that include St. George, St. Andrew, St. Patrick, St. John, St. David, St. Mark and Carriacou/ Petite Martinique. It is important to note, however, that there is no local Government in parishes. The Pilot project area in Outcome 2 includes a land space of about 1547 ha. within the Annandale/Grenville Vale/Beausejour watershed where special attention will be given for demonstrating Ridge to Reef natural resource management..

Outcome 1. Establishment and effective management of new and existing Protected Areas:

72. This Outcome is designed to support the implementation of key elements of the *Grenada System Plan for Parks and Protected Areas (2011)* aimed at establishing new, and improving management of existing, terrestrial and marine protected areas, and to help Grenada meet its commitments under the Caribbean Challenge to protect 25% of its near shore habitat and 25% of its terrestrial habitat by the year

[14] http://caribbeanclimateblog.com/2013/11/25/caribbean-aqua-terrestrial-solutions-launched-in-grenada-7-countries-to-follow/

2020. The project is focused on sites that will enhance the representation of key ecosystems, based on a 2006 gap analysis study[15] conducted on representative marine and terrestrial ecosystems and specified wildlife habitats, which identified the degree of representation of representative habitats within the existing and proposed protected areas and brought a structured and scientific conservation approach to the selection process (see Table 4).

Table 4. Existing and proposed representations of terrestrial and marine ecosystems

	Existing % Representation	Proposed % Representation*
Terrestrial Environments		
Transitional Cloud Forest	66	100
Cloud Forest	27	100
Evergreen Forest	25	49
Emergent Wetlands	22	48
Grenada dove habitat	*11*	*71*
Dry Deciduous Forest	*1*	*27*
Semi-deciduous Forest	*2*	*15*
Drought Deciduous Forest	*1*	*19*
Mixed Wood agriculture	1	10
Streams	5	17
Rivers	1	2
Fresh Water bodies	1	74
Marine Environments		
Seagrass	10	68
Mangroves	1	54
Intertidal reef flat	5	77
Leatherback nesting site	0	53
White sand beach	2	41
Rocky shore	4	43
Reef flat	1	33
Hawksbill nesting site	0	53
Shelf structure	2	40
Fore reef	2	53
Black sand beach	0	68
Lagoon habitat	0	38
Shallow terrace	0	35
Shoal	0	36

* Representation targets as stated in Grenada Protected Areas System Plan (Mel Turner, 2009).

73. Through this Outcome, the project will support the creation of an enabling institutional, legal, regulatory and policy environment for integrating principles of SLM and SFM / REDD+ and climate change adaptation so as to ensure that BD and ecosystems services are managed and conserved within and around existing and new PAs in Grenada. This Outcome will allow for the enhancement (where capacity already exists) and development (where gaps exist) of a legal planning and institutional (Strategic and operational management) framework for integrating SFM/REDD+ and SLM principles and practices within the national environmental and development policies. This refers to an integrated approach to managing forest ecosystems, landscapes and coastal seascapes, adaptation and prevention of LD, as well as the integration of peoples' livelihoods objectives within the programs for management of BD and ecosystems functions.

[15] TNC/USAID (2006). Grenada National Protected Area System Gap Analysis.

74. Ultimately, it is expected that through this Outcome, the existing threats[16] facing PAs such as encroachments and unplanned developments on landscapes, mining and pollution will be reduced over an area of 16,111 ha. in and around PAs with no net loss of forest area. It is also expected that through avoided deforestation, by legally establishing Mt. St. Catherine as a TPA, a direct Carbon sequestration benefit of 81,652 5tC will be achieved. Additionally it is estimated that direct carbon benefits from institutional strengthening from avoided fire damage, control of encroachments, and slash and burn agricultural practices at all TPAs should conserve total carbon stock of 322,158.3tC. It is further expected that there will be no net loss of mangrove, sea grass and coral reef areas within MPAs. Finally, there will be significant net increase in the representation of terrestrial and marine environments within Grenada's Protected Areas' system (sourced from Grenada Protected Areas Systems plan 2011). The specific outcomes and outputs defined for this project component include the following:

Output 1.1. An Institutional Framework for Protected Area System Management

75. At the *systemic level*, the project will strengthen the policy framework for PAs by formally establishing bodies to oversee terrestrial and marine protected areas and develop strategic plans for these bodies. The project will also support the finalization of draft laws and regulations to allow for effective management and enforcement of regulations and penalties to be applied at all PA sites, including regulations to authorize PA visitor fee systems and to ensure that those fees go into the National Trust Fund for PAs, as well as legal processes for including private lands in the PA system and/or buffer zones, including: 1) options for incorporation and/or acquisition of private land into new PAs; 2) compulsory covenants on identified critical ecosystems; and 3) co-management mechanisms with private land owners.

76. This Output will support a programmatic approach for the purpose of mending gaps identified in national policy and, thereby, support compliance with obligations to UN Conventions and Protocols regarding BD, SLM, SFM/REDD+, LD responses and CC mitigation, and with a focus on both global and local benefits of project activities. Strategic management will be enhanced for a network of PAs with their adjoining landscapes and seascapes by providing a functional policy-based and law-based National Parks Advisory Council for TPAs and strengthening of the National MPA Committee for Marine Protected Areas; each national body to be constituted by a wide range of relevant stakeholders.

77. To strengthen PA system finances, the project will establish a visitor fee system at PAs (building on information from a recent willingness-to-pay survey[17] for Grenada's PAs), and will create a PA System Business Plan to plan for long-term revenue and spending. Capacity building for PA system management will be another priority. Building on the 2007 capacity assessment and development strategy for Grenada's PAs carried out by the OPAAL project[18], the project will implement a training program for PA management authorities on revised policies/laws/regulations, integrated management approaches, and sustainable financing.

Output 1.2. A Legal and Regulatory Framework for Management of Protected Areas

78. The current legal and regulatory framework concerning Protected Areas in Grenada has several law-based gaps that prevent effective PA management. While Forestry management is currently administered through legislation such as: *National Heritage Protection Act* (1990), the *National Parks and Protected Areas Act* (1991) and the *Forest, Soil and Water Conservation Act* (1947) as well as a few Standing Rules and Orders (regulations), there is a need for more adaptive legislation to accommodate

[16] Ecological and Socio-economic Conditions around PAs (S. Aucoin) and Ecological and Socio-economic conditions in the Beausejour Watershed (D. Roberts) as PPG Baseline Studies (2013/14). Detailed bibliographic references are provided in the corresponding Annexes to this ProDoc.

[17] Constantine, S. 2011. Supporting Country Action on the Convention on Biological Diversity Programme of Work on Protected Areas: Willingness-to-Pay Study for Grenada. 82p. However, given the small, dispersed parcels of some areas, baseline studies determined that some areas might not be ideal for a traditional Visitor Fee scheme, and therefore need to consider other revenue-raising mechanisms as well, to be determined in the individual PA Business Plans.

[18] OECS Protected Areas and Associated Livelihood (OPAAL), 2005-2011

better conservation of Biodiversity, better SLM, SFM/REDD+, LD and CC adaption principles and practices in TPAs. A draft bill: "*Protected Areas, Forestry and Wildlife*" as yet remains un-enacted, likely due to limited capacity to satisfy institutional requirements, among other reasons. Through this Output, the project will facilitate the thorough review, adaptation and enactment of this bill, taking into account current requirements. While the existing legal and regulatory provisions for MPAs are more complete than those for TPAs, they will also need to be reviewed and adjusted to ensure consistency with current requirements for active and effective management. This Output is critical to ensuring that clear policy is in place to guide and support the institutional strengthening in Output 1.1, including the development and administration of a Strategic Plan of Action for TPAs.

Output 1.3. Expanded Protected Areas System

79. The project envisions a long-term solution to the protection of BD and ecosystems functions through the implementation of strategic integrated management plans for TPAs and MPAs with their adjacent landscapes and seascapes. As a small island of about 133sq. miles/344 square kilometers, Grenada is able to accommodate a limited number of TPAs between 1544ha. and 8ha.; where island landscapes consist of micro-watersheds that directly impact island shelf seascapes; potable water sources are shared with farmers growing food crops scattered among several residential housing areas; and tree crops such as agro-forests on middle altitude landscapes are often threatened by agricultural expansion and forest fire and hurricane damage. Insufficiently managed "contested use" of landscapes and seascapes is a major challenge. Within this context, a PA network is being expanded where there are only 8 TPAs of more than 25 hectares; only three of these are legally established and have management plans; five others, although legally established, have no management plans. In Grenada, where 85% of lands are privately owned and much of the 15% Crown land is being allocated as opportunity for a large segment of the population to own residential plots, the hectares available for "green places, open spaces" (TPAs) is highly limited.

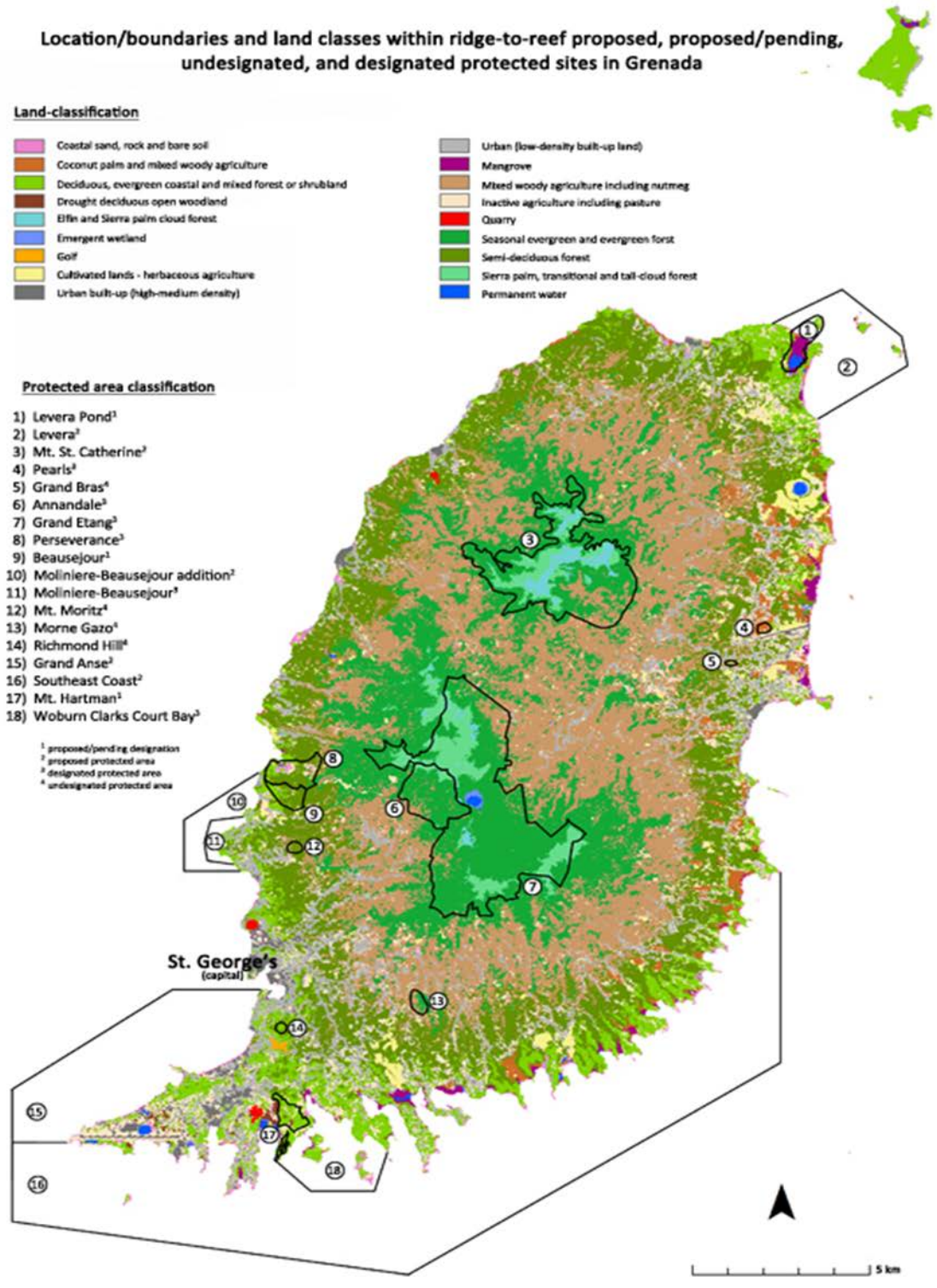
80. Consequently, the focus of the project at the PA site level would be to first work in the 8 existing and 1 new TPAs to convert them into 9 fully-functional TPAs, which together account for 5% of the landmass of Grenada; as well as 3 existing and 4 new MPAs for a total of 7 fully-functional MPAs. Four other micro-PAs are suggested for enhancements so as to boost the status of all as full TPAs in a complete network. Table 5 profiles the current classification/status at each of the 22 Ridge-to-Reef project sites and indicates their areal extent. Figure 3 identifies Ridge-to-Reef site locations (with their existing borders or projected boundaries) showing land classes and habitat types within and around project sites.

Table 5: Ridge-to-reef project site profiles

Official name / current designation / site status	Land (ha)	Sea (ha)	Total area (ha)	Source
Protected Area legally designated/established, approved management plan, actively managed				
Perseverance Protected Area[1]	113	-	113	Management plan
Grand Etang Forest Reserve	~1600	-	~1600	Management plan
Annandale Forest Reserve	236	-	236	Management plan
High North Forest Reserve	52	-	52	GPASP[2]
Moliniere-Beausejour Marine Protected Area	-	60	60	Management plan
Woburn Clarks Court Bay Marine Protected Area	-	438	438[4]	Management plan
Pearls	-	-	TBD	GPASP[2]
Proposed/pending designation active initiatives, draft management plan, in parliamentary process				
Beausejour Protected Area	60	-	60	Management Plan
Sandy Island/Oyster Bed Marine Protected Area	50[3]	737	787	Management plan
Mt. Hartman National Park and Protected Area[5]	62	-	62	GPASP[2], PIF[7]
Levera Pond Protected Area	65	15	80[6]	Management Plan
Undesignated protected area existing management activities, but no management plan; lacks legislative designation				
Morne Gazo	25	-	25	GPASP[2],
Richmond Hill	8	-	8	GPASP[2], PIF[7]
Grand Bras	4	-	4	GPASP[2], PIF[7]
Mt. Moritz	8	-	8	GPASP[2], PIF[7]
Proposed protected area priority area of interest established; projected initiatives				
Mt. St. Catherine	1000	-	1000	GPASP[2], PIF[7]
High North addition	-	160	160	GPASP[2]
Levera marine area addition	25[8]	725	750	GPASP[2], PIF[7]
Moliniere-Beausejour marine area addition	-	240	240	PIF[7]
White Island marine area	130[9]	1970	2100	GPASP[2], PIF[7]
Grand Anse marine area	-	1500	1500	GPASP[2], PIF[7]
Southeast Coast marine area	5[10]	6995	7000	GPASP[2], PIF[7]

1. Revised name: Perseverance Protected Area and Dove Sanctuary (unofficial)
2. Grenada Protected Area System Plan (Turner 2009)
3. Includes southeast mainland areas of mangroves, Mabouya and Sandy islands
4. Excludes Hog and Calivigny islands; includes yacht mooring areas
5. Revised name: Mt. Hartman National Park and Dove Sanctuary (unofficial)
6. Includes Sugar Loaf Island and area between Sugar Loaf Island and Levera Beach
7. *Ridge-to-Reef Project Identification Form*
8. Includes Green and Sandy islands
9. Includes White, Saline, Frigate, and Bird islands
10. Glover Island

Figure 3: Proposed Areas of PA Expansion



81. In the new TPA (Mt. St. Catherine Reserve and National Park) and the 4 new MPAs (Grand Anse, Southeast Coast, Levera, and White Island), the project will carry out stakeholder consultations, baseline surveys, boundary demarcation to establish the PA units, as well as create and implement management plans for each site that include biodiversity conservation priority setting and strategies for PA co-management with local populations within and around the PAs. Mt. St. Catherine has 1000 ha. of

privately owned lands associated with it as well as another 2.2 thousand ha. of land earmarked for incorporation, thereby providing a minimum total area of 3.2 thousand hectares for landscape management by the Government. As such, the need for keen and deliberate application of BD, SLM, SFM/REDD+, LD and CC adaptation principles and practices is all the more important.

82. Furthermore, the management plans of selected existing MPA and TPA units (MPA: Moliniere/Beausejour; Woburn/Clarks Court Bay, Sandy Island/Oyster Bed; and TPA: Mt. Hartman, Morne Gazo, Perseverance, and Grand Etang/Annandale) will be revised to incorporate these same priorities.

83. Through Outputs 1.1 and 1.2, the project will support the development of enhanced institutional and legal provisions to cover this expanded Terrestrial and Marine PA network, including an appropriate Parent Act and regulations so as to allow for more adaptive responses in the management and conservation of the BD and ecosystems functions within and around PAs. The project will also establish basic infrastructure at new PAs, as well as enhance existing infrastructure at the target PAs, including the following:

- Interpretation centers at Moliniere/Beausejour and Sandy Island/Oyster Bed;
- Offices at Woburn/Clarks Court Bay;
- Trails and viewing platforms at Mt. Hartman and Perseverance;
- Interpretive center, trails and signage at Morne Gazo;
- Fencing and signage at Perseverance and Beausejour;
- Fish landing/sales facilities, moorings, nature trails observation deck and recreation/ picnic area at Sandy Island /Oyster Bed.

Output 1.4. Management of Protected Area Units Institutionalized

84. This Output is designed to gradually mainstream PAs as a key instrument in a programmatic approach to the management and conservation of the BD and ecosystems function in Grenada. The small island character of the country, with its Ridge-to-Reef environmental impacts and contested use of landscapes and seascapes, calls for a unique programmatic response. Through this Output, the project accommodates the space-based approach to PAs where representations of the biodiversity would be protected using various tactics, such as area closures, season closures, resource use restrictions with regards to extraction and with full consideration for both traditional and 'more-recent' livelihood opportunities.

85. This Output recognizes the complexity of management of the BD and the ecosystems functions in PAs as they relate to the inevitable "contest" between the uses of landscapes as water source and the use of these same landscapes for farming crops and livestock. This contest exists throughout the whole island, which is primarily a vertically unprotected landscape composed of mini-watersheds providing the island's water source, but impacted by wastes from farmers using self-produced tillage practices and applying fertilizers and pesticides that generate residues that seep down the landscapes and into seascapes. The contest between ecosystems service functions also shows up in the impact of two land-based point source outfalls of sewage on sea zones. Overall, the challenge to be dealt with through this Output is not merely a dilemma for choice of use of the landscapes and seascapes, either for utilization as water source or for farming, but as an optimization that minimizes threats to and impacts on the BD and ecosystems functions utilized by both of these and their maximized benefit for both at the same time. The project must therefore meet the objective of ensuring that biodiversity and ecosystem functions within and around MPAs and TPAs in Grenada are better protected from threats through the adoption of the Ridge-to-Reef approach, by recognizing that space-based PA management with consideration for adjacent landscapes must be coupled with ecosystems services-based management that sees the whole space-water source of the island as a PA.

86. The mainstreaming or institutionalization of a network of TPAs and MPAs into the annual recurrent programs that are budgeted for by Government will have to involve several planned activities that will be initiated within the project period and then accommodated within the Government's list of programs for continuation after project end. Such project activities include the formulation and establishment of a Coral Reef Resilience Program at a demonstration site at the Sandy Island/ Oyster Bed MPA. This activity includes a well-designed protocol for monitoring, measurement, evaluation and response (to identifiable impacts) involving centers of excellence such as CEHI, SGU, UWI, NAWASA, together with local area persons and the Competent Authorities for MPA management (Fisheries Division). Regional projects such as the GIZ funded "*Improving the Management of Coastal Resources and the Conservation of the Marine Biodiversity in the Caribbean Region*" and "*Enhancing the Adaptive Capacity of Rural Economies and Natural Resources to Climate Change in selected Caribbean Small Island and Low Lying Coastal Developing States*" are identified as potential co-programmers for this activity during the period that they are concurrent with the Grenada Ridge to Reef project.

87. To further support the process of institutionalization of the PA network, this Output will engage a Sustainable Forest Management initiative that focuses on the prevention of forest fires, management of 'slash and burn' practices of local area subsistence farmers, and national management of housing and other urban development, including tourism-based livelihood activities that uncontrollably encroach on forested landscapes. Since such threats are human generated, the project will engage both Competent Authorities for SLS, SFM and local stakeholders in addressing such problems. Additionally, NGO development agencies will be incorporated in the efforts toward remedying such community-based issues. The project will, therefore, intervene in local areas through community-based special interests groups (CBOs) such as the Grenada Federation of Agriculture and Fisheries Organization, the Grenada Chamber of Industry and Commerce and the Grenada Hotel and Tourism Association, among others. The NGOs whose charter and emphasis is to transfer skills, knowledge, competences and attitudes so as to facilitate development in local communities, with an emphasis on vulnerable persons, include GRENCODA, ART, SPECTO, PIA and the Grenada Red Cross Society. Organizations such St. Patrick's Environmental and Cultural Tourism Organization (SPECTO) are capable of acting as both an NGO and CBO in the process. The project will incorporate Competent (Governance) Authorities with capacity to deliver Technical Assistance on behalf of Government, NGOs with capacity when provided with enabling financial and other resources, and CBOs with special interest in specific stakeholder communities, as recipients of technical assistance and enabling resource support for SFM initiatives.

88. Finally, crucial to the process of institutionalization of a national PA System is the training of staff with skills, knowledge, competencies and approaches for management of PA in the context of community-based co-management approaches at all the new and selected existing PAs such as: Moliniere/ Beausejour, Woburn/Clarks Court Bay and Sandy Island Oyster Bed MPAs together with TPAs such as Morne Gazo, Perseverance, Grand Etang and Annadale. Specifically, capacity for effective PA management will be strengthened through training of PA staff in biophysical monitoring, data collection and analysis; enforcement of regulations; and community co-management approaches, conflict management, and the establishment and operation of site level steering committees. Furthermore, the PA system in Grenada is moving towards a community co-management approach (Grenada's Forest Policy authorizes co-management for TPAs and existing MPA regulations are currently being revised to allow for community co-management of MPAs). For this reason, the project will undertake training of local community groups, associations (e.g. Fisher and farmer groups), and private sector partners (e.g. dive shops and tourism companies) in planning, monitoring and decision-making at all levels for PA units, including participation in site-level stakeholder management boards.

Output 1.5 Conservation and Sustainable Use of Natural Resources as a Means for Community Involvement in PA co-management

89. Through this Output, the project will use the conservation and sustainable use of natural resources as a means for community involvement in PA co-management. Using lessons learned in the project

"OECS Protected Areas and Associated Livelihood (OPAAL)" (2005 -2011), which implemented sustainable livelihood activities in communities around the Annandale and Grand Etang Forest Reserves, the project will empower community groups and stakeholders from villages adjacent to or within PAs to participate in the protection of biodiversity and ecosystem, functions. Three communities adjacent to MPAs and three communities adjacent to TPAs will be selected for involvement in various initiatives demonstrating co-management where local area persons engage in livelihood opportunities in the context of management of the resource they utilize.

90. At the communities adjacent to MPAs, the types of livelihood initiatives that will be facilitated by this Output include: Coral Reef Restoration and Propagation initiatives; Seaweed Aquaculture (building on previous training provided in Grenada): establishment of Fish Aggregation Devices (building on experience with existing demonstration FAD in Grenada) to enhance fishing opportunities for fishermen displaced through the creation of MPAs; and Community Scuba Diving.

91. At the communities adjacent to or within TPAs the type of livelihood and resource management initiatives that will be facilitated include: apiculture, tour-guiding, agro-processing, craft-making, sustainable use of NTFPs, and fire prevention and response through improved practices to avoid fire damage and reduce slash and burn agriculture. To facilitate these efforts, the project will establish partnerships with educational institutions and local NGOs to assist in capacity development and training, and will work with the Board of Tourism and other agencies to allow for certification of local inhabitants as service providers (guides; shops/booths etc.). As such, the project will enhance existing livelihood initiatives or enhance startups in a process where NGOs and CBOs in collaboration with relevant Competent Authorities would engage local persons involved in education and awareness exercises demonstrating principles and practices in SLM, SFM/REDD+, LD and CC adaptation.

92. Finally, the project will implement general public education programs on the value of PAs through various media (e.g. public service announcements, posters, brochures, flyers, signage, etc.) and outreach to school programs/science clubs, as well as specific programs targeting communities living within or adjacent to PA Units.

Outcome 2: Climate resilient SLM practices applied in the Beausejour watershed to reduce threats adjacent to and upstream of PAs

93. This Outcome focuses on reduced LD, improved Carbon stocks and enhancement of BD in the Beausejour watershed. Climate resilient technologies will be developed and implemented by local area communities (villages) on 1547 ha of the Beausejour watershed leading to improved habitat integrity in the Annandale Forest Reserve within the watershed and surrounding landscape as well as nearby MPAs. Figures 2.A-D depict the area to be covered, as well as its characteristics.

Figure 2.A Location of the Beausejour/Grenville Vale/ Annandale Watershed

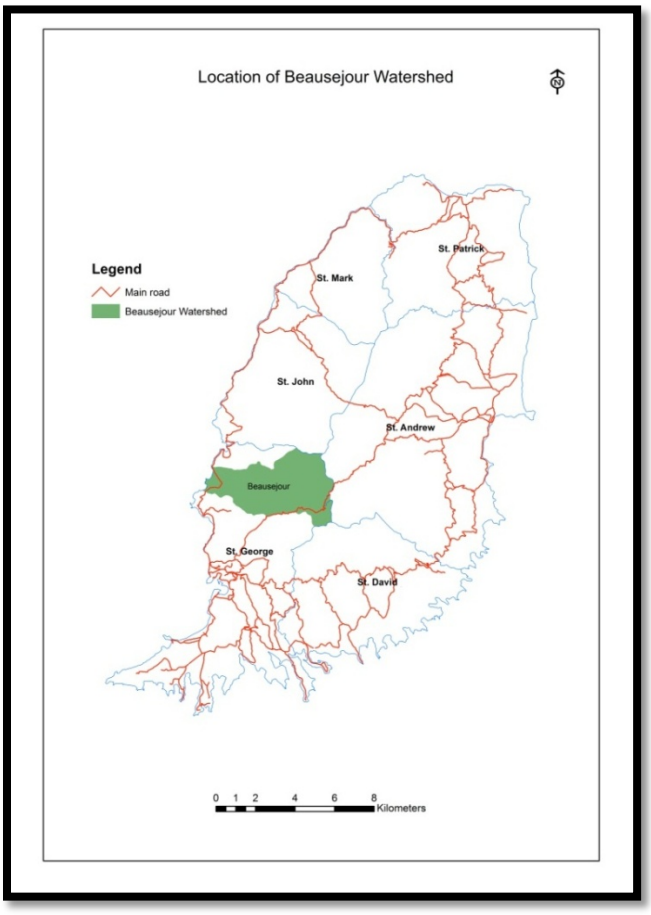


Figure 2.B: Land Use within the watershed of Beausejour

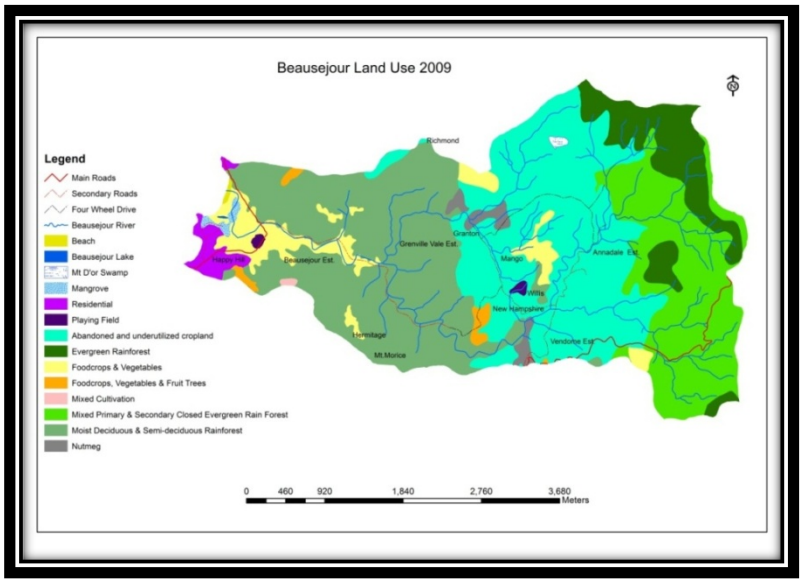


Figure 2.C: Soil map of the Beausejour Watershed

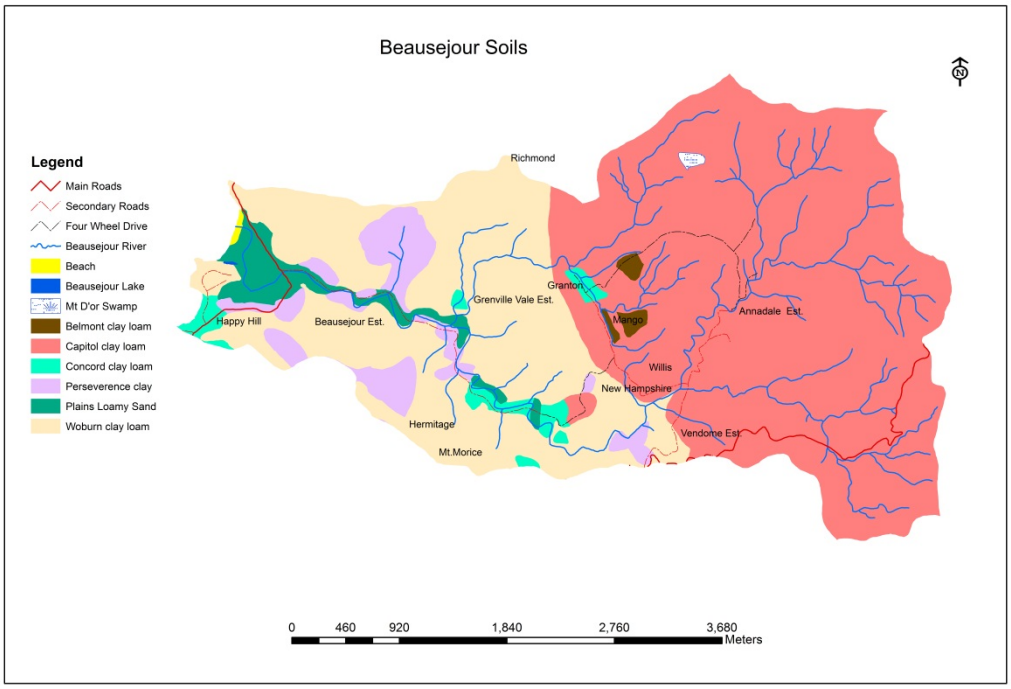
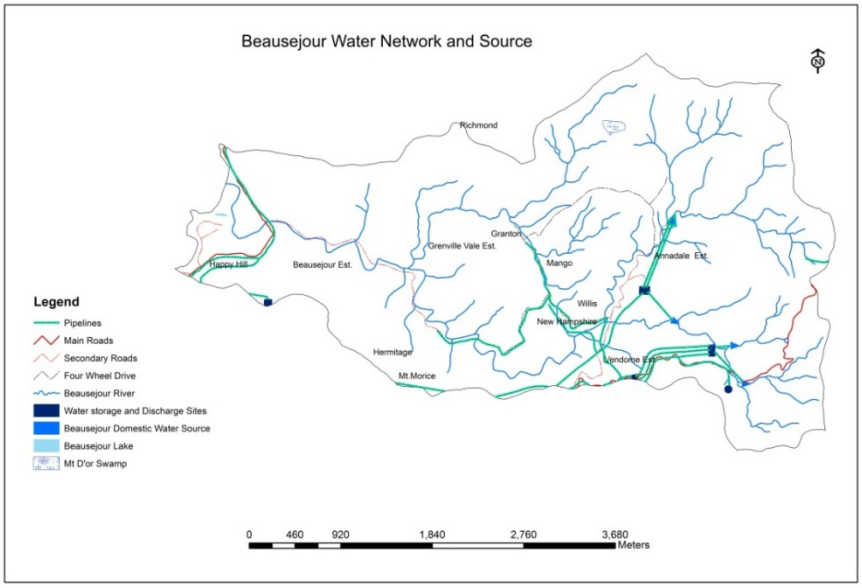


Figure 2.D Beausejour water network and source



94. It is anticipated that the initiative will reduce threats to ecosystems functions from encroachments, pollution, sedimentation and mining[19]. Additionally there will be direct carbon benefits due to reduced deforestation on at least 50% of private lands (337.3 ha) through enforcement of

[19] Ecological and Socio-economic Conditions around PAs (S. Aucoin) and Ecological and Socio-economic conditions in the Beausejour Watershed (D. Roberts) as PPG Baseline Studies (2013/14). Detailed bibliographic references are provided in the corresponding Annexes to this ProDoc.

regulations on clearing steep slopes and riparian zones, thereby conserving total Carbon stock estimated at 9,613tC; as well as benefits expected from the enrichment of forest cover through enrichment planting (150 ha.) and removal of bamboo (40 ha.), thereby increasing Carbon stock by 4320tC. Furthermore, the indirect benefits through avoided deforestation of total carbon stock in all forests in the Beausejour watershed by watershed-level planning and management will result in an estimated 26,066tC. The project expects an impact that will also reduce sediment load and fertilizer/pesticide carriage by about 15%.

95. In terms of human impacts, the project is expected to promote the adoption of sustainable agricultural practices within 6 village level communities for preserving and conserving ecosystems and livelihood opportunities demonstrated by: (1) reduced levels of soil erosion on steep landscapes and (2) increased net household incomes.

Output 2.1. Strengthened planning and management framework, capacities and awareness for participatory sustainable resource management.

96. This Output will focus on strengthening the planning and management framework to implement SLM and SFM interventions in the Beausejour watershed, an area important for agricultural production, biodiversity conservation, the provision of drinking water, and rural livelihoods. An intersectoral committee will be set up as the first step in the co-management engagement process and will serve not only to guide in planning project interventions, but is also expected to carry over for responses in the post project period. This Inter-sectoral Committee for the Beausejour Watershed, including local community representatives, will be established to integrate planning and oversight of BD and SLM approaches in both the productive landscape and within PA units (this activity will be carried out in collaboration with ongoing efforts to establish a National Lands Agency in Grenada for coordination of land management). A plan of action for the Beausejour watershed planning and management will be elaborated and presented in order to acquire consensus on the existing needs and determine how each stakeholder group might contribute and what enabling resources are available to support the plan's implementation.

97. The Beausejour watershed has been severely degraded by unsustainable human resource misuse practices as well as by significant climate change impacts (hurricanes, droughts). Indiscriminate forest clearance, raising of livestock in riparian zones, fires, and high levels of erosion, pollution and fertilizer use have led to negative impacts on biodiversity and livelihoods not only within the watershed (including habitat for the endangered Grenada Dove), but also on downstream ecosystems and users (the watershed is a key source of drinking water for the southern half of the country). In particular, coral reef ecosystems within two MPAs (Moliniere/ Beausejour and Grande Anse) directly offshore of the watershed have been severely impacted by siltation, nutrient loading and pollution; these reefs account for a significant percentage of all coral reefs in Grenada and support livelihoods such as fishing, diving, and tourism excursions, etc.

98. To address the problems identified above, the Government of Grenada intends to take the "Ridge to Reef" approach to apply interventions from the high elevations of the watershed (where degradation is most severe) all the way to the offshore coral reefs, thereby increasing water availability, reducing soil erosion, maintaining forest cover, reducing fire risk, and preserving ecosystem services in the face of potential climate change impacts, while simultaneously strengthening the management effectiveness of the terrestrial PA within the watershed (Annandale Forest Reserve) and the two downstream MPAs. The guiding principle for this intervention will be a co-management approach aimed at capacity development and empowerment of people working towards the conservation and sustainable use of biodiversity and the maintenance of ecosystem goods and services for livelihoods, with government agencies and local communities jointly involved in the planning, monitoring and evaluation of activities in the watershed.

99. To accomplish this, the project will utilize lessons learned from the project "Capacity building and Mainstreaming of Sustainable Land Management in Grenada (2007-2011)", which strengthened technical capacities of government staff in remote sensing, GIS, land degradation assessment and monitoring, and best practices for SLM in the agricultural sector; and trained farmers in land degradation issues and the application of SLM interventions. This project will differ from the SLM project in that it will focus on the generation of sustainable livelihood opportunities at the same time as promoting natural resource and environmental conservation. In addition, the project will utilize the results of the Land Degradation for Drylands (LADA) project to develop a national system for assessing and mapping land degradation, monitoring land degradation processes, and consolidating information systems and protocols.

100. At the national level, the National Forest Policy (NFP) will be updated to include targets and strategies for carbon sequestration, and existing draft legislation to support the NFP, as well as related statutory rules and orders for enforcement (including regulations for private forest lands), will be developed and enacted.

101. At the overall watershed level, the project will focus on strengthening planning and management frameworks, capacities and awareness for participatory sustainable resource management. Watershed level planning processes will be developed and training provided for resource managers in the Department of Forestry and National Parks and the Department of Fisheries in the use of software (ARC GIS or Google Mapping) for BD conservation (focused on endangered, endemic species), BD asset identification and mapping, sustainable agriculture practices, enforcement of BD conservation and SLM regulations, and understanding of potential impacts of climate change and possible mitigation and adaptation measures. Installation of water quality and quantity monitoring systems to record and collect real time data, and mechanisms to enhance coordination and information access, will strengthen water resource management capacity. Regulations to control development within the watershed will be developed and implemented, including protection of high priority habitat for endangered species and -areas prone to land degradation.

102. This Output will involve several types of stakeholder groups including local area farmers and sea users, CBOs, NGOs, land owners and various Government Competent Authorities in a co-management exercise demonstrate to the various local area villagers who depend on livelihoods from the resource base that it is highly cost effective, both in the short and long term, to collaborate with Competent Authorizes in the application of SFM / REDD+, SLM and CC adaptation principles and practices. This co-management engagement will demonstrate direct links between enhanced livelihood opportunities and collaborative planning for management of the natural resource base on which the livelihoods depends. Recognition of the critical role of private profitability will be designed into the project delivery system.

103. The CBOs that have direct vested interests in the area include the North East Farmers organization, the Grenada Federation of Agriculture and Fishers Organizations the North West Development Organization and the Mt. Moritz Community group and the Southern Fishermen Cooperative. These vested interest groups are the main potential recipients of support and main vehicles through which SLM REDD+ and CC adaptation technologies can be demonstrated within villages within the watershed. The NGOs that have considerable experience with groups within the watershed, could act as potential vehicles for facilitating education and awareness, training in various skills, knowledge competences and attitudes important to the co-management engagement process. The NGO agencies include the Agency for Rural Transformation (ART), Grenada GRENCODA, the Grenada Fund for the Environment and People in Action among others.

104. After having established a working engagement among the key stakeholders within the watershed, the project will work to generate consensus for the application of rules of conduct/sustainable land management practices that could later translate into law-based rules in use that clearly reflect the

rule-making efforts of co-managers. The rule-making exercises will relate to, but not limited to sustainable expansion in agriculture and housing and with recognition of the impact of human livelihoods on the BD and especially for those habitats within the area vulnerable to both human and natural threats. The support of the policy instruments of Central Government will have to be clearly demonstrated through an updating of the National Forest Policy in a participatory manner, and the enactment of more adaptive law and regulations that place effective controls on the utilization of forested landscapes, specifically through demonstrating to villages within the watershed how the application of SLM, SFM/REDD+ principles and practices could generate carbon sequestration benefits that would have both local area and global values.

105. The considerable benefits from the application of SLM, SFM/REDD+ and CC adaptation practices and principles tailored by local area villagers while applying home grown rules of conduct will also fully support science-based needs research. To achieve this purpose, the project will implement a watershed-wide water quality protocol for monitoring, measuring, evaluating and responding to the state of run-off with regard to potable water and sedimentation and where the local area community will work together with Centers of Excellence in the effort over the five (5) year project period and beyond. The potential science-based agencies that could contribute to planning for and implementation of the water quality protocol include: The Caribbean Environment Health Institute (CEHI), the University of the West Indies, St. George's University, and the National Water and Sewage Authority, which has considerable working experience with point-based measurements of water quality in Grenada's water source. The co-management approach for applying this protocol will maximize benefits when local area persons participate in the ongoing MMER exercises and when an arrangement is made to involve local area villagers in the direct evaluation and response aspects of the process. The evaluation and response within the MMER exercises will be made most effective when fullest recognition is given to demonstrating how farming and land based practices impact on the quality of the MPA habitats on the downstream seascapes with time.

106. Finally, the project will undertake awareness raising on sustainable agricultural practices, including documentation of traditional knowledge and best practices demonstrated through the project, and will support curriculum enhancement for schools and science clubs; the project will examine the replicability of watershed management based on lessons learned in Output 2.2's pilot interventions in the Beausejour watershed.

107. Later in the project, offset benefits will be achieved through increasing PA management effectiveness as SLM and SFM activities in the watershed reduce pressures on the Annandale Forest Reserve and the Moliniere / Beausejour and Grande Anse MPAs. Under Output 2.1, the project will create to plan, monitor and adapt land management across the watershed. The watershed management plan (covering 1,547 hectares) will identify various LD risks and vulnerability areas within the watershed; plan the appropriate avoidance, reduction, rehabilitation and offset approaches; explore financing options for these approaches; and serve as a mechanism to replicate the community level demonstrations throughout the watershed.

Output 2.2 Improved SLM and SFM practices in 6 communities resulting in reduced deforestation and land and forest degradation in the landscapes surrounding PAs.

108. This output is designed to provide replicable *in situ* demonstrations of responses to a number of compounding threats relating to deforestation and deterioration in the integrity of steep landscapes due to increasing exposure of soils caused by the effects of a series of annual forest fires and the impacts of recent hurricanes. As a result of these natural hazards, the forested vegetation is only regenerating with low shrubs and grasses appearing as "sores" on landscapes with scattered forest cover. This "natural destruction" of forested cover is exacerbated by changes in farming practices from tree crops agro-forestry to cash crops, and where tillage practices pose direct threats to both forest cover and integrity of soils. The Output's responses to threats will therefore use three activities that will couple the economic

livelihood interests of farmers/sea users and with land owners' interests coupling with the vested interest of Competent Authorities, for the management and conservation of the BD and Ecosystems Services. The co-management approach will again focus on Integrated Natural Resource Management SLM/ SFM / REDD+ SLM and CC adaption practices that engage local area persons' economic vested interests in 6 communities with those of stewardship of the BD and ecosystem services within the watershed and including the TPA and MPA.

109. The field-level interventions will focus on six communities (Beausejour, Happy Hill, Granville Vale, New Hampshire, Annandale and Vendome), covering an area of 1,019 hectares. These communities were selected based on: (1) proximity to and impact on degradation of habitat and ecosystem services in protected areas (the Annandale Forest Reserve within the watershed and/or the two MPAs downstream of the watershed), particularly soil erosion, sedimentation and forest encroachment; (2) potential benefits for local livelihoods; and (3) community capacity and/or experience with previous conservation activities. Interventions using sustainable agricultural practices are intended to reduce negative impacts on biodiversity, to minimize land degradation, erosion and deforestation, and to create sustainable alternative livelihood opportunities for local inhabitants.

110. In the short-term, the site level work in the six communities will test and demonstrate different avoidance, reduction and rehabilitation work under the auspices of Sustainable Agricultural Production, including: soil conservation practices (use of vegetative strips; cover crops; contour farming; minimum soil tillage); water management practices (rain water harvesting; improved drainage and storm water control); and sustainable soil enrichment practices (increased use of organic matter; reduced use of inorganic fertilizers) in an area of up to 132.4 hectares of existing cropland (as well as some currently abandoned agricultural land) and with the participation of up to 400 farmers. Activities in these communities will also include apiculture (introduction of improved breeding stock; procurement of 250 hives for sale to beekeepers) with up to 50 participants. Sustainable livestock management will focus on protection measures for riparian zones (up to 210 hectares), including assessment of grazing impacts/carrying capacities; fencing; and monitoring and enforcement of grazing regulations. Sustainable forest management practices will include the re-vegetation of 150 hectares of highly-degraded land (where forest cover was almost completely removed by hurricane impacts) with enrichment planting using agro-forestry crops (recommended plant species include nutmeg, cocoa, mangoes, soursop, sugar apple, breadfruit, breadnut, coconuts, cinnamon, clove; governor plum, pomerac, pommecytherre, bois bande, passion fruit, pineapples and pomegranate). Seedlings produced by local nurseries will be planted and local community members and DFNP staff will be trained to maintain and monitor the re-vegetation processes; in some places, activities also will include the removal of invasive alien species (e.g. Bamboo) that have colonized degraded areas. Other SFM interventions will include rehabilitation with native forest species following the removal of invasive bamboo (in both PAs and private lands); fire prevention and control; and restrictions on slash and burn agriculture.

111. All site level activities will include capacity building for farmers and farmer organizations, product development for export compliance, and marketing assistance. The project expects that this assistance will result in an increase in income statistics for these communities[20], currently registered as follows:

[20] Statistical data is provided on gross income from 2013 for each of the 6 communities participating in these pilots. However, the data does not specify the income of farmers, a sector expected to show increased revenue through the adoption and application of SFM/SLM/INRM practices through the project's interventions. In-depth research is needed to provide this level of detail for the baseline as well as tracking throughout the project to show impact/benefits from SLM and SFM practices on farmers' incomes. The MoA partnered with UWI 2 years ago to implement the LD assessment methodology; however, the tools used were very simple and user friendly and probably would not provide the kinds of evidence-based data needed. The project can partner with UWI, CEHI and the Department of Public Health at St. George's University to help develop this. Development of the research proposal should therefore be a key activity in the first year to guide the collection of baseline data.

Income Statistics for 6 Communities in the Beausejour Watershed[21]:

Gross Income	Village						Total
	Happy Hill	Beausejour	Grenville Vale Estate	Annandale	New Hampshire	Vendome	
<200	1	1	0	0	5	0	7
200-399	2	5	0	2	23	3	35
400-799	24	27	5	10	50	34	150
800-1,199	23	31	13	22	62	35	186
1,200-1,1999	47	36	9	10	53	39	194
2,000-3,999	31	22	10	9	35	44	151
4,000-5,999	5	7	3	2	7	5	29
6,000+	2	2	0	1	1	0	6
Not Stated	174	69	11	50	133	34	471
Total	**309**	**200**	**51**	**106**	**369**	**194**	**1229**

112. In addition to providing livelihood opportunities for participating farmers, the aforementioned activities will increase water infiltration, percolation, retention and gradual release, thereby promoting soil and water conservation, reducing siltation, and contributing to improved quality and quantity of water for human use. Furthermore, aquatic life in streams will benefit from increased water flows, while coral reefs and other downstream marine ecosystems will benefit from reduced sedimentation and pollution from land-based sources, thereby also generating BD benefits.

113. The first of the three activities will implement an initiative that would enhance Sustainable Agricultural Production, recognizing that farmers are usually most interested in improving livelihood opportunities from the economic activities that they are most familiar with: agriculture. This engagement with farmers will demonstrate cost-effective soil enrichment, water management and apiculture and including capacity building for farmers and the farmer and fishers organizations, and for further enhancement and value-added for farmers and fishers production product development and marketing techniques will be communicated and shared; and the gains of coupling of traditional ecological (and local) knowledge with science based SLM, SFM/REDD+ and CC adaptations, principles and practices will be exploited for the purpose of enhancing production and household incomes within the watershed. Fortunately the Grenada Federation of Agricultural and Fisheries organization, an apex body and Grenada Marketing and National Importing Board (MNIB) have been engaged in collaborative initiatives with farmers in the recent past. Additionally the OCES Protected Areas and associated livelihoods (OPAAL) project (2005-2011) established engagements with farmers and fishers within the Beausejour watershed.

114. The second of the pilot initiative with co-management activities is to involve local area stakeholders in Sustainable Rangeland Management where adverse impacts of animal farming are mitigated for. The pilot will focus on the unsustainable management of animal grazing for annual corralling within the watershed. The project will be responding to the issues of grazing on the steep landscapes and pig farms, normally placed on the river banks, leaking wastes into the streams and Main River. There will be an engagement with farmers that would plan mitigation measures in the context of SLM, SFM / REDD + and CC adaptation principles and practices in order to manage and conserve the BD and ecosystems systems. This effort will necessarily require the involvement of several units of the Ministry of Agriculture, notably Extension services and Veterinary, for education and awareness and also for generating response options from the farmers themselves.

[21] Data for 2013 provided by the Office of Central Statistics.

115. The third initiative project activity is geared to implement a Sustainable Forest Management (SFM) initiative that would involve communities in an integrated suite of agro-forestry interventions. Agro-forestry is considered as a most appropriate tool for responding to the existing natural and human threats to BD and sustainable management of ecosystems services. Agro-forestation within the Beausejour watershed is critically needed for mitigating the depletion of forest coverage on steep landscapes. The project response will facilitate reforestation using useful economic forest crops that are of interest to farmers in that they would generate livelihood benefits; this option is considerable versus the natural regeneration of forest coverage which will be very long term and risk prone. The project is designed to provide nursery seedlings of native species while avoiding invasive species such as the pervasive bamboo. An integral remedy as response to Threats to Biodiversity and Ecosystems Services in the recent years is the Woodland Fire Prevention and control activities needed at the village level. This third activity will engage community persons and persons from Competent Authorities in collaborative training and then delivery of outputs.

116. Over the long-term (post-project), it is envisaged that site-level activities will be implemented throughout the entire watershed based on the watershed management plan, and up-scaling of such activities throughout the country will be enabled. The SLM and SFM practices and Ridge-to-Reef approach for BD-LD conservation demonstrated in the Beausejour watershed will be promoted in other baseline initiatives, such as the ongoing re-vegetation of forested areas in the aftermath of Hurricane Ivan; the Programme on Integrated Adaptation Strategies in Grenada, which is implementing Climate Resilient Integrated Water and Coastal Resource Management activities; and the Strategic Program for Climate Resilience, which is undertaking reforestation and sustainable forest management activities.

Global Benefits:

117. This project will result in ecological sustainability of terrestrial and marine ecosystems, which will result in enhanced quantity and values of ecosystem goods and services, including: shoreline maintenance, storm protection, soil protection, water provision (quality and quantity), flood control, carbon sequestration, tourism attractions and increased resilience and self-repair of ecosystems from other stresses, such as increased sea temperature. The project will provide direct benefits for endangered species, e.g. the endemic Grenada Dove *(Leptotilawellsi)* and six species of marine turtles (Green, Leatherback, Loggerhead, Hawksbill, Kemps Ridley and Olive Ridley) found in Grenada's waters. A more detailed analysis of global environmental benefits is provided in the table below.

Table 5: Demonstration of the impact of alternative interventions within PAs

Current Situation	Alternative to be put in place by the project	Selected environment benefits
1. Protected areas		
PA expansion and management: PA Estate exists and slated for expansion, but subject to various constraints to effective management: • Diffuse and poorly coordinated authority over protected areas (existing PAs managed by one government and two non-governmental agencies), reducing public awareness about PAs; limiting the pooling of resources, information and training; and creating uncertainty regarding the objectives and management structure for any new PAs (including options for community co-management)	• Strengthened management and coordination through establishment and operation of National Parks Advisory Council for terrestrial PAs and Management Committee for marine PAs • Increased financing for PA management through development of PA System Business Plan • Strengthened protection from approved "Protected Area, Forestry and Wildlife Act" and associated Statutory Rules and Orders • Expanded Protected Areas system:1 new	**BD**: • Establishment of 1 new terrestrial PA (Mt. St. Catherine National Park) covering 1,000 ha. and 4 new marine PAs (Grand Anse, Southeast Coast, Levera, and White Island) covering 11,400 ha. • Strengthened management of 4 existing terrestrial PAs (Mt. Hartman; MorneGazo; Perserverance; Grand Etang) covering 1,931 ha. and 3 existing Marine PAs (Moliniere /

Current Situation	Alternative to be put in place by the project	Selected environment benefits
• Lack of specific regulations for PA management, including regulations to authorize the collection and retention of user fees, to establish a centralized authority for PA management, or to implement conservation measures (e.g. controls on overfishing visitor activities/damage, and mining) • Lack of enforcement capacity, particularly for mining (high elevation areas and beaches) Insufficient PA financing and dependence on government appropriations	Terrestrial PA unit and 4 new Marine PA units demarcated and legally established, with management plans and **i**nfrastructure in place • Increased capacity from PA staff trained in planning, accounting, biophysical monitoring, enforcement, and co-management approaches • Community involvement in PA co-management (e.g. coral reef restoration / propagation initiatives; seaweed aquaculture; Fish Aggregation Devices (FADs); beekeeping, tour guiding, agro-processing, sustainable use of NTFPs, and fire prevention and response)	Beausejour; Woburn / Clarks Court Bay; Sandy Island / Oyster Bed) covering 1,780 ha. • Protection of ecosystem goods and services within PAs, including: shoreline maintenance, storm protection, biodiversity habitat, fish stocks, tourism attractions, soil protection, water provision (quality and quantity), flood control, carbon sequestration, and increased resilience and self-repair of ecosystems from other stresses e.g. increased sea temperature • Protection of globally significant biodiversity, including the endangered, endemic Grenada Dove (*Leptotilawellsi*) and six species of marine turtles (Green, Leatherback, Loggerhead, Hawksbill, Kemps Ridley and Olive Ridley) **SFM:** Carbon sequestration through avoided deforestation o Direct carbon benefits: Avoided deforestation through legally establishing Mt. St. Catherine PA and reducing pressure on forests conserves total carbon stock of 81,652.5 tC o Indirect carbon benefits: Institutional strengthening on fire management, and control of encroachment and slash and burn agriculture, avoids deforestation at all terrestrial PAs conserves total carbon stock of 322,158.3tC
2. Production Landscapes		
Land Use planning: Lack of any land use planning in the watershed, and limited implementation of existing regulations, leading to: • Fragmentation and destruction of forests, primarily due to encroachment from expanding agriculture and human settlements • Degradation of coastal / marine ecosystems (coral reefs, mangroves, seagrass beds) from upstream sources of pollution (sewage outflows) and sedimentation (construction of housing) • Indiscriminate mining and quarrying activity impacts forest ecosystems	• Regulations developed and implemented to prevent spread of agriculture and housing, including protection of high priority BD habitat and areas prone to land degradation • Inter-sectoral Committee for the Beausejour Watershed established and implementing watershed management plan with integrated BD-LD approaches • Water quality / quantity monitoring systems, with associated tools to enhance coordination and information access, in place to monitor sediment and pollution impacts on downstream MPAs • Selection of appropriate lands / land use types and practices through assessment	**LD**: • Direct benefits over the medium up-scaling of demonstration SLM practices, reduces soil erosion, pollution and forest clearance covering 6 communities with a total area of 1,409 ha. • Indirect benefits over the medium to long term from reduced pressures from conflicting land use and replication of SLM across the entire Beausejour Watershed covering 1,547 ha.

Current Situation	Alternative to be put in place by the project	Selected environment benefits
	processes	
Rangeland management: • Uncontrolled cattle grazing, particularly along rivers and gullies, causes pollution and sedimentation of coastal / marine ecosystems (coral reefs, mangroves, seagrass beds)	• Fencing • Assessment of grazing animal capacity in relation to LD risk and vulnerabilities near rivers • Enforcement of regulations on grazing	**LD**: • Direct benefits through reduced sedimentation and pollution in riparian zones covering approx. 210 ha. (to be confirmed during project preparation) • Indirect benefits over the medium to long term through replication of grazing management across the entire Beausejour Watershed covering 1,547 ha. **BD:** • Reduced sedimentation and nutrient loading impacts on coral reefs, mangroves and seagrass beds in two downstream MPAs (Moliniere / Beausejour and Grande Anse) covering a total of 1,800 ha., with benefits for marine biodiversity (as listed above) • Reduced grazing pressure on Annandale Forest Reserve covering 240 ha.

Agricultural Land management:
• Agricultural practices (detailed below) in upstream areas leading to degradation of coastal / marine ecosystems (coral reefs, mangroves, seagrass beds), exacerbated by climate change impacts (increased hurricane frequency &intensity). These include:
  • Sedimentation from clearing of steep slopes for agriculture, the removal of riparian buffers for farming close to riverbanks, and the removal of trees on roadsides
  • Fertilizer use contributing to pollutant loading in runoff following rains; use of harmful chemicals and pesticides that negatively impact fresh and coastal waters
  • Burning of agricultural waste and setting of fires to clear land threaten forest ecosystems, including the edges of protected areas
	• Sustainable agricultural production practices, including:
	  o Soil conservation practices (use of vegetative strips / cover crops; contour farming; terracing; minimum soil tillage)
	  o Water management practices (rain water harvesting; improve drainage and storm water control; small dam construction for water management)
	  o Sustainable soil enrichment practices (increased use of organic fertilizer from livestock pens; reduced use of inorganic fertilizers)
	  o Apiculture to increase community incomes and provide benefits to other commercial tree species (e.g. Citrus, Mangoes and Coconut Palm) by enhancing pollination, including planting of tree species (e.g. Leucaena and Gloryceda) that support bee cultivation and also help to stabilize soils
	• Capacity building for farmers and farmer organizations, product development for export compliance, and marketing assistance, to support sustainable agricultural production
		LD:
		• Direct benefits through reduced soil erosion, pollution and threat of fire, and increased water quality and flow covering a total of 132.4 ha.
		• Direct benefits through re-vegetation (agro-forestry) covering an area of 150 ha.
		• Indirect benefits over the medium to long term through replication across the entire Beausejour Watershed covering 1,547 ha.
		BD:
		• Reduced sedimentation, pesticide runoff and nutrient loading impacts coral reefs, mangroves, and seagrass beds on two downstream MPAs (Moliniere / Beausejour and Grande Anse) covering a total of 1,800 ha., with benefits for marine biodiversity (as listed above)
		• Reduced agricultural expansion into Annandale Forest Reserve covering 240 ha.

Current Situation	Alternative to be put in place by the project	Selected environment benefits

Sustainable Forestry Management:
• Invasive species (bamboo) is encroaching into native forests
• Severe fire impacts (in 2009-2010, 30% of the Beausejour watershed was destroyed by fire)
• Erosion impacts on forests from planting of crops and grazing on steep slopes within and around forest areas
• Deforestation due to encroachment of housing and tourism facilities, as well as slash and burn agriculture
	• Enrichment planting using agroforestry crops on steep sloping land and hurricane-damaged areas
	• Rehabilitation with native forest species following removal of invasive bamboo (PA and private lands)
	• Fire prevention and control
	• Restrictions on slash and burn agriculture
	• Expanded capacity of existing forestry nurseries
	• Local community members and DFNP staff trained in SFM, including enrichment planting, maintenance and monitoring, NTFP management
		SFM: Carbon sequestration through avoided deforestation and through removal of invasive species and reforestation
		• Direct Carbon Benefits:
		  • Avoided deforestation on at least 50% of private forest lands (337.3 ha.) through enforcement of regulations on clearing steep slopes / riparian zones conserves total carbon stock of 9,613 tC
		  • Increase of forest cover through enrichment planting (150 ha.) and removal of bamboo (40 ha.) increases carbon stock by 4,320 tC during project lifetime
		• Indirect Carbon Benefits
		  • Avoided deforestation of total carbon stock in all forests in the Beausejour watershed by watershed-level planning and management: 26,066.1tC

2.5 Key Project Indicators, Risks and Assumptions

118. Project indicators are detailed in the Results Framework, which is included in Section 3 of this Project Document. The risks that might prevent or hinder the project from achieving its objective are presented in Table 6.

Table 6: Risks Facing the Project and Risk Mitigation Strategy

Risk	Risk Level	Risk Mitigation Strategy
1. Limited Government readiness for SFM/REDD^{+}	M	While there is evidence of institutional weaknesses regarding SFM/REDD+ (e.g. limited staff at the forestry department), the recent initiatives of OPAAL (2005-2011), where collaboration was forged with farmers groups in the pilot area, indicate good prospects for capacity enhancement that would specifically benefit SFM/REDD+ practices on landscapes. The Project will offer opportunity for long-term forest management through training in technologies and methodologies and with enhanced experience in co-management. This will, in turn, complement the longer-term process of the REDD^{+} strategy to improve readiness and institutional capacity for SFM/REDD^{+}, LD and BD management and conservation.
2. Climate change exacerbates the effects of inappropriate land-use practices	H	Climate Change, through increased hurricanes and severe dry and rainy seasons, exacerbates the impacts of fragmented 'slash and burn' agriculture by increasing flooding and degradation of steep slope landscapes, oftentimes hampering natural regrowth. While the ecosystem recovery from these practices is more difficult because of the impacts of CC, the Project will engage in SLM and SFM measures that will help mitigate these effects. Re-vegetation and coral reef, mangrove and forest conservation activities will contribute to reducing the impacts of hurricanes on ecosystem services and human infrastructure (through coastal protection). Specifically, the Project will implement an agro-forestry program using drought resistant plants to recover these bare landscapes and increase resilience to climate change impacts, while offering prospects for farmers and landowners to earn an

Risk	Risk Level	Risk Mitigation Strategy
		income from the tree crops generated from these efforts. The Project will engage local area farmers and landowners in a number of LD, SLM, SFM/REDD^{+} and CC adaptation practices with a special focus on monitoring water quality for its potable qualities and also for sediment loading. As a co-management exercise, the Project will also demonstrate the benefits of the SLM and SFM practices accommodated by land and sea users on the quality of water within the watershed and MPA over the project's lifetime.
3. Marine and terrestrial ecosystems are not sufficiently resilient and their biological and physical integrity is compromised by the effects of global and regional climate change	M	The existing and proposed terrestrial and marine PAs together will be large enough, and encompass enough different types of ecosystems, to sustain biodiversity and ecosystem services even in the face of climate change impacts such as gradually increasing temperatures, increased hurricanes, and droughts.
4. Uncertainty concerning sea-use management in the near-shore sea zone	L	The Project will support policy, institutional and pilot activities to ensure that BD and ecosystems functions in and around PAs are protected against threats related to "land-sea" leasing practices for building marinas, and will address issues of sea-use from the perspective of bio-impacts as well as quality of coastal ecosystems services. Increased capacity and institutional strengthening through the Project will enhance the management effectiveness of marinas and MPAs alike in order to lower the risks related to sea-use in the near-shore sea zone.
5. Lack of an effective formula for incorporating private lands into the PAs network	M-H	Mt. St. Catherine has been deemed to have strong potential for either a restrictive land development control (LDC) model or a co-management model in the context of an effective island-wide policy-based implementation of PAs and adjacent landscape management. The Project will actively promote options that acquire public buy-in for the incorporation of private lands into the PA system while protecting the property rights of citizens.
6. Lack of local stakeholders involvement in co-management initiatives.	M-L	The Project will engage relevant stakeholders (NGOs, CBOs, local area persons and Competent Authorities) in co-management initiatives that effectively couple the livelihood interests of local area farmers and landowners with Competent Authorities' INRM objectives.
7. Uncertainty of institutionalizing and maintaining a sustainably financed PA network	M	The Project will support the institutionalization of an expanded PA network through enhanced facilities and management effectiveness for selected PAs, as well as the strengthening of the legal/regulatory base for the network. The Project will demonstrate in increments how a Sustainable Financing Plan for maintaining a network of PAs can be made to work. While the prospect of applying user fees as an instrument for sustainable financing is remote since most of the PAs are very small, an innovative framework where PAs within a managed network are commercialized, not privatized, could generate revenues from local as well as tourist users of the PAs. The Project will establish a PA system business plan and undertake awareness-raising on the cost-effectiveness of conservation, management and importance of BD and ecosystem services provided by PAs, in order to generate clear information on the economic benefits of PAs so as to increase political support for their funding.
8. Government fails to sustain its political and financial support for PA planning and operations	M	The Government has declared a plan to cut recurrent spending by 20% for a number of years from 2014 onward, thereby putting at risk the integration of PAs into the Government's Annual Recurrent Estimates of Revenue and Expenditure Program past the lifetime of the Project. The Project's interventions will complement and bolster baseline programs and garner support for the Government's commitment to maintain current staff levels for these baseline

Risk	Risk Level	Risk Mitigation Strategy
		programs. Through the support of UNDP, the Project will sustain the interest of Government officials by keeping them informed of the Project's achievements through various means (e.g. Steering Committee, learning and knowledge sharing, and field visits). Collaborative practices and ongoing Government contributions through technical input from baseline activities, offer good potential for sustainable support for the BD and ecosystems functions agenda. There are high prospects for significant lessons to be learned and replication of experiences in other watersheds since area farmers have had very good prior engagement in livelihoods-focused initiatives (e.g. GEF agro-forestry and OECS OPAALS projects in recent times), and thus stakeholder/ constituent interest will warrant continued political/financial support.

2.6 Financial Modality

119. The financial support provided by GEF resources will consist of a grant to cover incremental costs of activities. Therefore, the GEF resources will be chiefly directed toward technical assistance and enabling capacity.

120. The project will be executed under NIM according to the standard regulations for UNDP cooperation in Grenada. The cost of the incremental activities that are required to contribute to global benefits will be financed by the GEF to the extent of US$3,031,666. A summary of the project's overall GEF budget is given in Table 7.

Table 7. Total Project Budget

Outcome	**Budget (US$)**	**Percentage of GEF Total Budget**
Outcome #1 Improved management effectiveness of existing and new protected areas.		
Outcome #2 Integrated landscape management practices adopted by local communities with increased investment in integrated landscape management.		
Project Management		
Total	3,031,666	100

2.7 Cost Effectiveness

121. The Project promotes a strategy to control forest loss on productive landscapes by piloting SFM/REDD+ and SLM initiatives and BD conservation activities that will increase ecosystems connectivity on both the Grenada landscape in general and pilot area, Beausejour, in particular. This, in turn, will be supported by a strengthened regulatory and institutional framework. This two-pronged approach is deemed to be far more cost-effective in the short and long-term than the alternative approach in which disparate and uncoordinated efforts limited by insufficient availability of planning, management

and monitoring tools and weak institutional capacities prevail. The capacities of national and local community stakeholders will be strengthened for the application of conservation tools within a framework of effective institutional coordination backed by inter-institutional collaboration, co-management mechanisms and improved institutional capacities. The GEF alternative will thus provide for the removal of barriers that currently prevent Grenada from practicing effective land, coastal and forest management and BD conservation strategies in order to secure the flow of multiple ecosystems services.

122. By improving the quality of baseline information on ecological conditions, the project will help PA managers to improve the quality and cost-effectiveness of their management decisions. The project also will support cost-effectiveness by jointly implementing ecological baseline studies and conservation programs for TPAs and MPAs by both the Division of Forestry and the Division of Fisheries, thereby avoiding any duplication of effort and promoting the sharing of equipment, materials and other resources. Project capacity building of PA management staff will ensure that the productivity and effectiveness of the human resources available to support each PA site is enhanced and optimally organized. Overall, the concurrent establishment and operationalization of additional TPA and MPA units will produce significant benefits in terms of the sharing of resources and expertise among the different sites.

123. Cost-effectiveness will be promoted by working with and through existing CBOs/NGOs that already have established organizational and logistical capacities in the intervention sites. Furthermore, through forest initiatives administrated by FDNP, the country has developed a legal and operational framework that directly benefits the local communities that promote reforestation, natural regeneration, agroforestry, and forest management for production and conservation. The Project will promote investments as part of the strategy designed for the pilot project so that these incentives are effectively used in areas with the highest threat of deforestation or in areas with high rates of C sequestration to maximize their impact, while reducing costs by using well-established operational procedures. The project will promote SFM/REDD+, SLM and BD conservation and CC adaptation means through community-based incentives for Carbon sequestration, especially through the pilot project initiative. The project will also promote the application of principles, methodologies and priorities anticipated through the R-PP and its subsequent National REDD+ Strategy, so as to enhance the baseline and avoid duplication of efforts, thereby optimizing the use of limited available resources.

124. Through increased management capacity and implementation of SLM and SFM practices, the project will help avoid deforestation in approximately 337 has., thereby avoiding losses that would have occurred under the alternative scenario that lacks effective mechanisms to reduce deforestation. Similarly, the alternative scenario to reduce LD and prevent desertification does not consider effective planning for SFM and SLM in the short term. The GEF alternative, through the development of SFM/SLM plans, will allow for the incorporation of SFM/SLM principles in one watershed and up to 13 TPA management plans, thereby reducing pressure on forest and marine ecosystems and generating sustainable flow of dry forest ecosystem services, including enhancement of C stocks, improved soils and hydrological capacity, increased productivity and the livelihoods of the rural and urban communities in the region, and quality habitat for BD.

2.8 Sustainability

Ecological Sustainability

125. The ecological sustainability of the Ridge to Reef project with respect to the BD and ecosystem functions within and around PAs will be achieved through implementation of a suite of activities that will enhance rather than substitute institutionalized baseline activities by adopting SLM and SFM, LD mitigation and CC adaptation principles and practices that will extend to the long-term. To achieve this, the project will focus on hot-spots that are subject to severe threats while also using the pilot project watershed for focused demonstrations of co-management involving community-based vested interests together with Competent Authorities and NGOs for applying the INRM approach to management and

conservation. Co-management initiatives within the project are expected to lead to: rehabilitation of forested areas impacted by annual forest fires; recovery of forested areas impacted by slash and burn agriculture; recovery of degraded areas due to exposure of steep landscapes; improved quality of water sources currently overloaded by pollutants and sedimentation that diminish the quality/availability of potable water; and decrease in pollution/sedimentation from upstream sources degrading "close-to-shore" marine ecosystems and habitats.

126. The Project will enhance natural regeneration of forested landscapes, reforestation through agro-forestry systems, control of deforestation and systematical application of SLM/SFM practices by adopting a "Monitoring, Measurement, Evaluation and Response" protocol for water quality important to both marine and terrestrial ecosystems services. The project is also designed to involve local stakeholders in generating community-based INRM rules that could be later translated into statutory rules and orders so as to give fullest effectiveness to the INRM approach; and also demonstrate lessons learned and best management practices (BMP) that can be duplicated at other locations on the island.

127. The project activities are designed to complement the incipient R-PP initiative and its development of a SFM/REDD+ strategy. The Project's interventions will enhance the Government's ongoing institutional baseline programs for land and forest management. These will complement the R-PP process, thereby creating opportunity for the incremental generation of long-term global and local environmental benefits regarding conservation and management of BD and ecosystems functions.

Social Sustainability

128. The social sustainability of the project activities will be achieved chiefly through the involvement and direct participation of local area persons who support the co-management approach. Medium and long-term social sustainability will be reinforced by the demonstration of successful outcomes of SLM, SFM, REDD+, LD mitigation and CC adaptation practices applied within the INRM approach and seen as profitable to local stakeholders. Specifically, it is expected that social uptake and acceptance will be garnered through the project's initiatives that couple the application of INRM practices with opportunities to enhance the livelihoods of local stakeholders. At the pilot project demonstration site, the Beausejour watershed, the sustainable agricultural productions, the sustainable forest management and the sustainable rangeland management initiatives promise considerable potential for generating profit and involvement of targeted local persons. With regards to Outcome 1, the opportunities to enhance existing or create new livelihood enterprises based on natural resources directly associated with PAs, offer considerable options for generating short-term and long-term social sustainability.

Institutional Sustainability

129. The Ridge to Reef Project emphasizes capacity-building that complements rather than substitutes ongoing baseline programs of the Government of Grenada for the conservation and management of BD and ecosystems functions. As such, it incorporates various opportunities for institutional strengthening relevant to long-term management and conservation of the BD and ecosystems functions to ensure these agencies are capable of continuing with activities past the Project's lifetime, and with enhanced levels of performance and application of BMPs from the lessons learned. The Project will build capacity within the various Competent Authorities responsible for co-management application of SLM, SFM, REDD+ and CC and LD practices through engagement of local stakeholders. A significant outcome/ output expected will be to enhance capacity regarding the use of technologies to track the status and trends with regard to ecosystems and representations of stocks and habitats in the terrestrial and marine environments in Grenada.

Financial Sustainability

130. Financial sustainability will be achieved by strengthening institutional and regulatory mechanisms to enable more effective land, coastal and forest management, as well as the Government's

human and infrastructural capacity. There is a commitment by the Government to formally establish national-level committees to oversee terrestrial and marine protected areas, and for the development of community co-management structures for individual PA sites. This means that private sector partners and community members will be actively involved in developing tourism attractions / services in protected areas, thereby generating additional revenue for the PA system. The Government is also committed to establishing a national protected areas trust fund and a PA system-level business plan, and to mainstreaming the needs of PA financing into national development planning. The sustainability of various SLM approaches will be based on the focus of the project on implementing livelihoods-based SLM activities, thereby providing an economic incentive for local communities to continue such activities indefinitely. In particular, the Project will foster collaboration among CBOs, NGOs and Competent Authorities in a co-management framework for the application of SFM/ SLM practices as well as their cost-effective financial planning and management. Similarly, skills development at the community level will facilitate the adoption of SFM/ SLM practices at the local level.

2.9 Replicability

131. The project replication strategy will be designed from lessons learned from the performance of the best practices, particularly those tested at the pilot area, the Beausejour Watershed. This makes the Monitoring & Evaluation plan all the more important. Special focus will be placed on the co-management engagements between the Government agencies and NGOs /CBOs and where functional engagements would not have had the benefit of accustomed to interactions and standard "rules of engagement", and ; where co-management engagements where models for maximizing **private profitability** of landowners and farmers, would recognize that private vested interests could often be at variance with community-based and collaborative efforts for application of INRM principles and practices being promoted by the "Ridge to Reef" Project. In spite of the barriers to successful application of INRM practices in the face of farmers and landowners prime interest in ensuring private profitability with respect to their livelihoods, some ecological conditions indicate good chance for replication of initiatives. It is that the Grenada Island landscapes and seascapes are all very similar, in that they are composed of a set of small watersheds each characterized by the following (and with striking similarities to the Beausejour Watershed) :- (i) Steep Forested Hillsides with agricultural holdings, most of them small; (ii) Single Mini Rivers that drain each watershed; (iii) Most of the watersheds act as both water source and for agricultural ecosystems services; (iv) Most of the watersheds are populated by human communities especially on the mid-altitudes; (v) Most of the watersheds outfall unto relatively shallow coral reef sectors of the island shelf where there is need to adopt conservation and management measures to ensure recruitment of mobile fish stocks, minimal loading of pollutants form the land caused by both human and unsustainable land management practices and for maintenance of the clearness of coastal waters depended on for tourism services among others. The strategy would then be to document the lessons learned and Best Management Practices that were tested and could be applied for island watershed management of BD and ecosystems services at other watershed in Grenada or elsewhere.

2.10 Project Results and GEF Increment

Incremental Cost Analysis

Global and National Objectives

132. The project will contribute to implementing SFM/REDD+ and SLM as well as to the conservation and management of BD and the enhancement of CC mitigation initiatives on both the overall Grenada landscape and also in a mixed farming and forested watershed of Beausejour. The global and national benefits to be delivered through the project are:

Outcome #1 (Total Grenada Landscapes/ Seascapes)

- Coverage of Protected Areas expanded: number of TPAs increased from 8 to 9 with area increased from 1,931ha to 2,931ha; number of MPAs increased from 3 to 7 with area increased from 1,780ha to 13,180ha.
- Reduced threats to 16,111ha of PAs, no net loss in forested area within PAs.
- Conservation of forest in the Mt. St. Catherine area up to 81,652tC in direct benefits, with indirect benefits due to institutional strengthening of measures to promote sustainable SLM, SFM, REDD+ and CC adaptation and BD conservation up to 322,158.3tC.
- No net loss in mangrove, sea grass and coral reef ecosystems in and around PAs.
- Increased representations of both terrestrial and marine environments.
- Active and programmatic management effectiveness as measured by the METT scores using PPG baseline measurements as reference.

Outcome #2 (Pilot Area, Beausejour Watershed)

- Introduction of climate resilient technologies to 6 local area communities within the 1547ha Beausejour watershed, together with the adjacent MPA.
- Direct Carbon benefits through avoided deforestation on about 337.3ha through sustainable land and forest management practices.
- Increased forest cover of 150ha and removal of bamboo (40ha) through enrichment programs that increase carbon stocks of 4320tC.
- Indirect Carbon benefits through avoided deforestation in all forests in the watershed by local area watershed-level planning and management up to 26,066tC.
- 15% reduction in the sediment and fertilizer and pesticide levels at the 1TPA and the 1 MPA; and with reduced soil erosion on steep landscapes.
- Adoption of sustainable agriculture practices at 6 local area communities within the watershed.
- Increased net household incomes.
- A watershed-level planning and implementation process conducted by an intersectoral committee.

The Baseline Scenario

133. Under the normal "business as usual" i.e. recurrent activities without GEF intervention, important programs will be developed, but such programs by themselves will not overcome the barriers that currently prevent implementation of land and forest management and BD conservation practices on the Grenada landscapes and seascapes in general and within the Beausejour pilot watershed; activities that are expected to secure the flow of ecosystems services while at the same time ensuring ecosystems resilience to CC. The baseline programs are divided into two areas which are in line with the project's outcomes. These two areas are described below for the project period.

A Regulatory and Institutional Framework for Local INRM

134. Existing and planned total investments by the Government of Grenada for baseline programs and activities for the 2014-2019 time-period is estimated at US$15,651,822. Baseline activities also include investment in Grenada's REDD+ Readiness Program. This REDD+ Readiness Program (R-PP) in its incipient stage and administered by Ministry of the Environment will focus on the three components (i) Development of a reference level for the assessment of emission reduction targets (component #1), and (ii) Design of a monitoring system to assess emissions and removals (component #2) Beausejour pilot project for CC mitigation, BD conservation and SFM/REDD+ and SLM. Existing and planned

investments for baseline programs and activities for the 2014-2019 time-periods are estimated at US$4,090,000 for Component #2 and US$10,561,822 for Component #1.

The GEF Alternative to Generate Global Benefits

135. Despite the important contributions of these existing and planned baseline programs and activities and projects, they are not considered sufficient for strengthening land, forest and coastal management processes and BD conservation to serve the flow of multiple ecosystems services, while at the same time ensuring ecosystem resilience to climate change especially demonstrated in the pilot area of Beausejour watershed. A GEF alternative scenario will help to remove the structural and institutional barriers that prevent Grenada from achieving a regulatory and institutional framework that integrates the principles of SFM and SLM and also strengthen integrated environmental land management capacity. The proposed GEF intervention to achieve the objective consists of two inter-related components that will contribute to reducing deforestation, preventing LD improving the BD and enhancing carbon sequestration within the Grenada environment as a whole. A description of the benefits of the GEF alternative scenario is as follows.

136. The GEF alternative scenario will integrate principles of SFM/REDD^{+} and SLM into a regulatory and institutional framework and will strengthen integrated land and coastal zone management capacity. Incremental financing will be in the amount of US$3,031,666 from GEF while US$6,100,000 will be provided by GIZ and US$250,000 provided by UNDP; and US$15,426,822 will be provided by Grenada Government baseline co-financing. Total co-financing/ co-programming will amount to US$9,381,666.

The Incremental Cost Summary

137. The incremental cost-matrix presented below summarizes baseline costs and incremental activity costs for each project outcome. The total baseline amount, the contribution of the Government of Grenada is US$15,426,882. Therefore the cost of incremental activities required to contribute to global benefits include US$3,031,666 (GEF); US$250,000 (UNDP); US$6,100,000 (GIZ). The project co-financiers/ co-programmers state their commitment to the project through their signed co-finance letters in Annex 9. The GIZ/ ICAAS project is a bilateral project between the Government of Grenada and the Government of Germany and provides no further signed letter of commitment at this time since this assistance is based on a bi-lateral agreement already signed.

SECTION I – GEF Increment

Component	**Baseline (A) US$**		**Alternative (A & B) US$**		**Increments (B) US$**	
Component #1 Establishment and effective management of new and existing Protected Areas (PAs); facilitated by a Regulatory and Institutional Framework	Government of Grenada (Co-fin)	10,561,822	GEF	1,945,000	GEF	1,945,000
	GIZ financing (Grant Aid)	0.00	GIZ	6,100,000	GIZ	6,100,000
			UNDP Government of Grenada Baseline only	250,000 10,561,822	UNDP	250,000
	Subtotal Baseline	**10,561,822**	**Subtotal Alternative**	**18,856,822**	**Subtotal Increment**	**8,295,000**
Component #2 Pilot Project: Climate Resilient SLM practices applied in the Beausejour watershed to reduce threats adjacent to and upstream of PAs; implemented using a co-management approach	Grant Aid Co-financing and partners (GAC/P)		GEF	946,825	GEF	946,825
			Government of Grenada baseline co-financing	4,090,000	Grant Aid Co-financing GIZ	0.00
	Government of Grenada	4,090,000				
	Subtotal Baseline	**4,090,000**	**Subtotal Alternative**	**5,036,825**	**Subtotal Increment (GEF only)**	**946,825**
Project Management	Government of Grenada Co-financing	0.00	GEF	139,841	GEF	**139,825**
	GIZ financing (Grand Aid)	0.00	Co-financing (Gov't of Grenada)	775,000	GoG	775,000
	Subtotal Baseline	0.00	Subtotal Alternative	**914,841**	Subtotal Increment	**914,841**
Grand Total			Total GEF		Total GEF	3,031,66

SECTION I – GEF Increment

			Total Co-financing		Total Co-financing	
			Total Baseline			
	Total Baseline	**14,651,822**	**Total Alternative**	**24,808,488**	**Total Increment**	**10,156,666**

SECTION II: PROJECT RESULTS FRAMEWORK:

Part V (I) - PROJECT RESULTS FRAMEWORK:					
The Project Will Contribute to Achieving Country Programme Outcomes in the CPAP or CPD: protecting biodiversity and ecosystems functions in and around protected areas.					
Country Progamme Outcome Indicators: strengthened national capacities for protected areas management so as to conserve and manage the biodiversity and ecosystems functions.					
Primary Applicable Key Environmental and Sustainable Development Result Area: Mainstreaming protected areas management, viability of protected areas system and application of management effectiveness tracking tools in the context of global benefits.					
Applicable GEF Strategic Objective and Programs: SOI-Improve Sustainability of Protected Areas Systems.					
Applicable GEF Expected Outcomes: Outcome 1.1 – Improved Management effectiveness of existing and new protected areas (BD-1); Outcome 3.2- Integrated Landscape management practices adopted by 6 local area communities (LD-3); Outcome 1.3 – Good management practices adopted by relevant economic factors (vested interests) (SFM/REDD-1)					
Applicable GEF Outcome Indicators: indicator 1.1 5 new PAs and coverage of 12,400ha. of unprotected ecosystems (BD-1); 3.2 INRM tools and methodologies tested (LD-3); 3.4 Information on INRM technologies and food practice guidelines disseminated (LD-3), 1.3 types and quantity of services generated through SFM (SFM/REDD-1) all scored as recorded by management effectiveness tracking tool (METT).					
Project Objective	**Indicator**	**Baseline**	**Target**	**Means of Verification**	**Risks and Assumptions**
To ensure that biodiversity (BD) and ecosystems functions within and around Marine Protected Areas (MPAs) and Terrestrial Protected Areas (TPAs) in Grenada are better protected from threats through the adoption of an integrated "Ridge to Reef" approach that increases Protected Area (PA) management effectiveness and applies targeted sustainable land	PA management in Grenada is mainstreamed	- TPAs managed by Forestry Division and MPAs managed under the Fisheries Division with varying degrees of recognition and planning & management tools.	- TPA and MPA planning & management instruments and guidelines formally incorporated into the Government's Administration	PA planning and management instruments and guidelines. M/E records kept by the Project management unit	**Assumptions:** Institutional stability and commitment of GoG throughout project implementation. Consensus among stakeholders for PA expansion and connectivity. National/International conditions remain stable. Willingness of government to commit funding and resources to make the PAs system viable and resilient. **Risks**: Extreme weather, fires, pests and invasive species are beyond predicted levels.
	Financial sustainability to increase viability and resilience of the PA system in Grenada	- Insufficient financial resources for basic functions in the Forestry and Tourism Divisions as reflected by Financial Scorecard: 70 = 32% - No formal coordination	- Budgetary restructuring to foster strategic collaboration between fisheries, forestry and tourism to increase (double) budgetary allocations to 8 PAs as eco-sites, as reflected by increase in Financial Scorecard: 90 = 42% - Inter-sectoral	Forestry, fisheries tourism and program recurrent and capital budgets. METT Financial Scorecard applied at PPG, MTR, and TE M/E Records	

management practices.		mechanism for investments in maintenance of the PA system.	coordination committee established to oversee investments in PAs		
	Average METT scores of 6 existing TPAs and 3 MPAs	53	62	METT Scorecard applied at PPG, MTR, and TE	
	Improved capacity for planning, implementation and monitoring of site-specific co-managed strategies for threat reduction through SLM and SFM in PAs.	Avg score on Capacity Development Scorecard[22]: Q 2: 2 Q10: 1 Q 11: 1 Q 13: 2 Q 14: 0 <u>Areas to be improved:</u> Co-management is identified as the governance model for SLM, SFM and TPA management, but no formal mechanisms are instituted. Outdated laws, low public knowledge of the various legislation, and inadequate regulatory framework constrain enforcement. Environmental information used to support decision-making processes is unavailable, under-utilized, incomplete or out-of-date. Capacity and technological needs are, when available,	Avg score on Cap Dev SC increases by at least 1 point: Q 2: 3 Q10: 2 Q 11: 2 Q 13: 3 Q 14: 1 <u>Specific improvements:</u> Develop and implement co-management mechanisms for SFM, SLM and TPA management (Outcome 1). Review and update existing policies and legislation; implement site specific mgt plans for PAs; endorse an interagency collaboration mechanism for SLM. (Outcomes 1 & 2) Develop and implement a protocol that facilitates information updating, access and sharing for decision-making (Outcomes 1 & 2). Develop a capacity development strategy to augment technical	GEF Capacity Development Scorecard applied at PPG, MTR and TE	

[22] Q2 = Existence of operational co-management mechanisms.
Q10 = Existence of an adequate environmental policy and regulatory frameworks
Q11= Adequacy of the environmental information available for decision-making.
Q13= Availability of required technical skills and technology transfer.
Q14= Adequacy of the project/programme monitoring process.

		obtained through external financing. Monitoring is done irregularly, with or without an adequate monitoring framework.	skills within the resident organizations per the priorities of the NAP. National monitoring system with proper capacity building (Outcome 1).		

Outcome #1	**Indicator**	**Baseline**	**Target**	**Means of Verification**	**Risks and Assumptions**
1. Establishment and effective management of new and existing Protected Areas	Institutional framework for management effectiveness in and around PAs	- No formal National Parks Advisory Council; Forestry Division administers 8 TPAs under suboptimal conditions; Fisheries Division administers 3 MPAs.	- Formal establishment of a National Parks Advisory Council for TPAs and Management Committee for MPAs administering policy-based PAs, PoA.	- SROs Published in the Government Gazette so as to enable the TPA and MPA Strategic Management bodies to function.	**Assumptions:** Government of Grenada adopts the Ridge to Reef Project as a key initiative for fulfilling its obligations for conservation and management of its BD so as to meet local and Global objectives. **Risks:** Contingency-based planning and management persists.
	Regulatory and legal framework for management effectiveness in and around PAs	- Forestry policy does not include INRM. - Fisheries division does not use INRM in its administration of MPAs. - No PA System Business Plan exists	- A finalized and approved *Protected Area Forestry and Wildlife Bill* with draft SROs that promote INRM practices and principles. - Fisheries division applying INRM principles and practices using enhanced law and/ or regulations, within 2 years. - PA System Business Plan developed and under implementation	New parent legislation published in the Government gazette and with associated SROs.	
	Expansion of protected areas system	3,711 ha of bio-diverse landscapes/seascapes formally recognized and facing multiple threats: - 8 TPAs managed under suboptimal conditions and 5 mini TPAs with no management mechanism. o TPAs cover 1,931 ha.	16, 111 ha of bio-diverse landscapes/seascapes formally recognized and managed effectively: - 9 TPAs + 4 mini-TPAs effectively managed with legal demarcation, management plans, business plans, and adequate infrastructure in place.	Project records: - Technical reports - GIS maps - Project evaluation reports - Planning and policy documents - Tracking Tools - Field assessment	**Assumptions:** Increased support from GoG**.** Effective management measures adopted. **Risks** Unpredicted natural hazards

Outcome #1	Indicator	Baseline	Target	Means of Verification	Risks and Assumptions
		- 3 MPAs management suboptimal conditions o MPAs cover 1,780 ha.	o TPAs cover 2,931 ha. - 7 MPAs managed under optimal conditions within 5 years. o MPAs cover 13,180 ha.		
	Measurable Threat Reduction: - Forest cover - Direct Carbon benefits - Indirect Carbon benefits - Mangrove, seagrass bed and coral reef areas	- Continuous deforestation threatens 10,012 hectares - 81,652.5 tC (Direct) - 322,158.3 tC (Indirect) - Continuous destruction of 231 Ha of mangrove, 1301 Ha of seagrass and 5095 Ha of reef areas	- 10,012 hectares of forested area maintained or increased - 81,652.5 tC Direct maintained or increased - 322,158.3 tC Indirect maintained or increased - 231 Ha of mangrove, 1301 Ha of seagrass and 5095 Ha of reef areas maintained or increased	- Tracking Tools applied at PPG, MTR, and TE - Technical reports - GIS maps - Satellite imagery - Field assessments	**Risks** Unpredicted natural hazards **Assumptions** Consensus and interest among local stakeholders. Collaboration with Academia and Centres of excellence in data procurement and application of SLM/SFM practices
	Management of expanded PA network institutionalized	- No coral Reef resilience program (protocol) in place. - No systematic SFM program in place - No staff trained in planning accounting, bio principal monitoring, enforcement, fire management and co-management	- Coral reef resilience program (protocol) in place within 5 years. - SFM program adopted and administered in all PAs within 5 yrs. - 13 PA Staff trained	- MMER protocol designed adopted and administered - CCM measures adopted and recorded - Records of staff training - Training Docs. - Capacity development Scorecard	
	PA network infrastructure and services	- Inconsistent infrastructure and facilities and services across TPAs and MPAs.	- Standardized and quality infrastructure facilities and services available at all TPA and MPA units in the PA network.	- Field inspections - Documentation and records	**Assumptions:** Adequate investments: Entrepreneurs willing to assist and collaborate in the project.

Outcome #1	Indicator	Baseline	Target	Means of Verification	Risks and Assumptions
	Community involvement in PA management through conservation and sustainable use of natural resources	- 0 communities adjacent to MPAs engaged in PA co-management - 0 communities adjacent to TPAs engaged on PA co-management	- 3 communities adjacent to selected MPAs engaged in co-management - 3 communities adjacent to selected TPAs engaged in PA co-management	- Planning and policy documents and records. - Project records - METT scorecard	**Assumptions:** Community interest in engaging in PA management activities
	Benefits/profitability from conservation/ sustainable-use resource-based livelihood opportunities	- No systematic collaboration for INRM linked to livelihood opportunities - Minimal benefits from resources based livelihoods	- Incentive schemes to engage entrepreneurs in INRM practices linked to livelihoods - Measured increase in benefits from resource based livelihoods	- Project records - METT scorecard	
Outputs: 1.1 Institutional framework for PA System Management that would develop and administer a policy-based strategic plan of action for an expanded PA network, one advisory body for TPAs while the other is for MPAs; with the aid of policy instruments. 1.2 A legal and regulatory framework established through the finalization and approval of the bill for "Protected Area, Forestry and Wildlife" enhanced with SROs and operations management policy instruments that would the consolidate legal process to include private lands in the PA system. Accompanied by an adapted MPA Act as a response to community wide consultations with key stakeholders. 1.3 Expanded PA system through the creation of a new TPA (1000 ha.), enhanced management of 8 sub-optimally managed TPAs, as well as low-cost improvements for 4 small-hectare TPAs; and the creation of 4 new MPAs (11,400 ha). 1.4 Management of Protected Area Units Institutionalized as a TPA network and with a MPA network. 1.5 Conservation and sustainable use of natural resources as a means for community involvement in PA co-management.					

Outcome #2	Indicator	Baseline	Target	Means of Verification	Risks and Assumptions
2. Climate resilient SLM practices applied in the Beausejour watershed to reduce threats adjacent to and upstream of PAs.	Planning and management framework for SLM/INRM	- No LUP regulations limiting agriculture and housing. - National Forestry Policy does not consider C sequestration. - No intersectoral body or committee in place for implementing a watershed	- LUP regulations elaborated and implemented to limit agriculture and housing. - NFP updated to include C sequestration. - Intersectoral committee established within Year 1	- Capacity development scorecard - Project records of engagements between and among stakeholders. - Minutes of intersectional	**Assumptions:** Optimal community uptake of the watershed management plan of action. Practical evidence of accommodation of TEK, LK and ideals of local area, persons accommodated in

Outcome #2	Indicator	Baseline	Target	Means of Verification	Risks and Assumptions
		management plan using INRM approaches. - Stakeholders not engaged in community-based rule-making with respect to applying INRM practices. - No systematic monitoring for water quality/quantity, sediment and pollution impacts	- The intersectoral watershed committee engages stakeholders to formulate community-based rules for applying INRM practices within 2-3 yrs. - A water quality/quantity protocol set in place within Year 2.	committee meetings. - Water quality and quantity protocol - Updated National Forest Policy document.	watershed management plan. Collaboration is ongoing between and among competent authorities relevant to the exercise.
	Community participation in SFM.	- No involvement of local stakeholders in initiatives to review and update the National Forest Policy (NFP) to consider carbon sequestration.	- Community engaged in updating of NFP; and SROs promulgated by Year 3.	- Project records of engagements between and among stakeholders. - Updated NFP and related SROs	
	Direct carbon benefits through avoided deforestation; forest enrichment; and planting in the Beausejour watershed.	- 9,613tC sequestration by 3337.3 ha. of private forest - 4,320tC sequestration by150ha increase in forest cover with removal of 40ha of bamboo - 0 tC from avoided deforestation and sustainable planting products	- 9,613tC sequestration maintained in private forests - 4320tC sequestration maintained - At least 26066tC sequestration from avoided deforestation and sustainable planting products	-Tracking Tools -Technical reports	**<u>Assumptions:</u>** Competent Authorities are consistent with M&E for multiple impacts. **<u>Risks</u>:** Failures in the M&E plan.
	Turbidity Levels/ sediment buildup at two MPAs downstream of Beausejour	No turbidity index available; TBD within first 6 months of project	15% reduction in turbidity	-Turbidity and soil accumulation - Monitor and measurement protocol. UN FAO LADA tools.	
	Pesticide and fertilizer levels at two MPAs downstream of Beausejour.	Grand Anse MPA: TBD within the first 6 months of project Moliniere/ Beausejour MPA: TBD within the first 6 months	Grand Anse MPA: 15% reduction Moliniere/ Beausejour MPA: 15% reduction	Water quality measurement using protocol for Pesticide and fertilizer (Agro-chemicals) in	

Outcome #2	Indicator	Baseline	Target	Means of Verification	Risks and Assumptions
		of project		seawater at MPAs	
	Application of gender and community-sensitive SLM and SFM practices in 6 communities (Beausejour, Happy Hill, Granville Vale, New Hampshire, Annandale and Vendome)	No ongoing and systematic training: - No agricultural production program implemented within the watershed. - No rangeland management program implemented within the watershed. - No forest management program implemented within the watershed.	6 villages trained in alternative livelihoods related to BD, SFM/SLM, and CC issues: - A sustainable agricultural biodiversity program implemented by Year 3 - A sustainable rangeland management program implemented by Year 3 - SFM program involving forest enrichment with agro-forest species so as to ensure SLM/SFM practices applied by Year 3	- Landscape management plans in place - Technical reports - Field verification notes - Tracking Tools - Capacity Development scorecard	**Assumptions:** Optimal uptake by farmers and land owners. Innovative alternatives accepted to replace bamboo as a tool to avoid land slippage. Due recognition of gender equity is emphasized within all delivery systems
	Impact of Soil erosion/stability on household incomes of famers within the Beausejour watershed	No existing estimates of soil loss or land soil accumulation levels available. TBD within first 6 months of project No statistics on farmer income available[23]. Initial survey to establish baseline to be conducted during Year 1	15% reduction of soil loss 25% increase in weekly income per farmer.	Field inspections/ UNFAO-LADA tools: -sediment traps -Soil Accumulation measurements -Suspended sediments -Comparative household surveys of farming communities (RAS method)	**Assumptions:** No serious CC impacts Farmers uptake of initiates to enhance profitability of their farms **Risk:** Lack of cooperation by farmers. Private profitability is not highlighted sufficiently.
	Education and awareness levels	- No education and awareness program	- Public awareness campaign developed and implemented	- Project records - Farmer/landowner engagement records	**Assumptions:** Emphasis on community-wide education and

[23] Statistical data is provided on p. 48 for gross income for each of the 6 communities participating in these pilots. However, the data does not specify the income of farmers, a sector expected to show increased revenue through the adoption and application of SFM/SLM/INRM practices through the project's interventions.

Outcome #2	Indicator	Baseline	Target	Means of Verification	Risks and Assumptions
				- Tracking Tools	awareness. Due recognition of gender equity is emphasized within all delivery systems
Outputs: 2.1 Strengthened planning and management framework, capacities and awareness for participatory sustainable resource management. 2.2 Improved SLM and SFM practices in 6 communities resulting in reduced deforestation and land and forest degradation in the landscapes surrounding PAs involving: sustainable agricultural production initiatives to conserve and enrich soil and water management; enhanced capacity of farmers and farm organizations and to improve product quality and marketing; sustainable rangeland management initiative for community-based control of overgrazing that impacts on landscape and seascape quality; sustainable forest management initiative that uses agro-forests species to enrich and rehabilitate deforested landscapes.					

SECTION III. TOTAL BUDGET AND WORK PLAN

AWARD ID	**5069**	**PROJECT ID**	**5087**
AWARD TITLE	**GRENADA: Ridge to Reef approach for protecting biodiversity and ecosystems functions within and around protected area**		
BUSINESS UNIT			
Project Title:	**Implementing a ridge to reef approach to protecting biodiversity and ecosystems functions within and around protected areas in Grenada**		
PIMS NO:	**5087**		
Implementing partner (executing agency)	**Ministry of Agriculture, Lands, Forestry, Fisheries and Environment.**		

GEF Outcome/ Atlas Activity	Responsible Party	Source of Funds	ERP/ATLAS Budget Description/ Input	Atlas Code	Y1	Y2	Y3	Y4	Y5	TOTAL	Budget Notes
1	Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment (MoA)	62000	International consultants	71200			26,500			26,500	1
			Local Consultants	71300	34,976	48,429	69,953	34,976	80,715	269,049	2
			Contractual Services - Individual	71400	24,832	24,832	24,832	24,832	24,832	124,160	3
			Travel	71600	5,405	2,000				7,405	4
			Contractual Services - Companies	72100	19,805	12,815	61,500	83,880		178,000	5
			Equipment and furniture	72200	327,368	155,615	69,163	23,054		575,200	6
			Supplies	72500	500	250	250	250	250	1,500	7
			Premises Alterations	73200	298,584	74,116				372,700	8
			Professional Services	74100	3,000					3,000	9
			Audio- Visual print and	74200							10

			production cost		18,763	67,011	6,701	6,635	1,340	100,450	
			Miscellaneous Expenses	74500	600	600	600	600	600	3,000	11
			Training Workshop conferences	75700	-	90,740	19,463	14,597		124,800	12
			Sub-total Outcome 1		**733,833**	**476,408**	**278,962**	**188,824**	**107,737**	**1,785,764**	
			International Consultants	71200			24,000		32,000	56,000	13
			Contractual Services - Individuals	71400	11,760	11,760	11,760	11,760	11,760	58,800	14
			Travel	71600			8,468		8,468	16,936	15
			Professional Services	74100	3,000	3,000	3,000	3,000	3,000	15,000	16
			Audio Visual&Print Prod Costs	74200	1,000	1,000	1,000	1,000	1,000	5,000	17
			Training Workshop conferences	75700	5,500	500	500	500	500	7,500	18
			Sub-total M&E		**21,260**	**16,260**	**48,728**	**16,260**	**56,728**	**159,236**	
Total Outcome 1					**755,093**	**492,668**	**327,690**	**205,084**	**164,465**	**1,945,000**	
2	Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment (MoA)	62000	Local Consultants	71300		61,433	57,621	80,580	124,226	323,860	19
			Travel	71600		9,550	420	18,100	5,500	33,570	20
			Contractual Services - Companies	72100		53,526	15,985	11,989		81,500	21
			Equipment and Furniture	72200		106,645	22,875	17,156		146,676	22
			Materials and Goods	72300		19,051	29,645	32,077	50,877	131,650	23
			Supplies	72500	1,620	1,620	1,620	1,620	1,620	8,100	24
			Professional Services	74100		21,000				21,000	25
			Audio- Visual print and production cost	74200		7,629	3,343	6,000	13,028	30,000	26

			Miscellaneous Expenses	74500		2,573	2,572	2,572	2,572	10,289	27
			Training Workshop conference	75700		51,968	28,483	53,047	26,682	160,180	28
Total Outcome 2					**1,620**	**334,995**	**162,564**	**223,141**	**224,505**	**946,825**	
PM	Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment (MoA)	62000	Contractual Services - Individual	71400	2,769	2,768	2,768	2,768	2,768	13,841	29
			Contractual Services - Individual	71400	5,040	5,040	5,040	5,040	5,040	25,200	30
			Contractual Services - Individual	71400	8,400	8,400	8,400	8,400	8,400	42,000	31
			UNDP-Cost recovery charges-Bills	74599	11,760	11,760	11,760	11,760	11,760	58,800	32
Total Project Management					**27,969**	**27,968**	**27,968**	**27,968**	**27,968**	**139,841**	
TOTAL GEF PROJECT BUDGET					**784,682**	**855,631**	**518,222**	**456,193**	**416,938**	**3,031,666**	

TOTAL BUDGET SUMMARY	
DONOR NAME	**TOTAL USD**
GEF	3,031,666
Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment – Environment Division	6,130,525
Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment –Forestry & National Parks Division	2,250,000
Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment –Fisheries Division	4,629,630
Ministry of Tourism	2,166,667
UNDP	250,000
TOTAL	**18,458,488**

Budget By Category

ERP/ATLAS Budget Description/ Input	Atlas Code	Y1	Y2	Y3	Y4	Y5	Total
International consultants	71200	-	-	50,500	-	32,000	82,500
Local Consultants	71300	34,976	109,862	127,574	115,556	204,941	592,909
Contractual Services - Individual	71400	52,801	52,800	52,800	52,800	52,800	264,001
Travel	71600	5,405	11,550	8,888	18,100	13,968	57,911
Contractual Services - Companies	72100	19,805	66,341	77,485	95,869	-	259,500
Equipment and Furniture	72200	327,368	262,260	92,038	40,210	-	721,876
Materials and Goods	72300	-	19,051	29,645	32,077	50,877	131,650
Supplies	72500	2,120	1,870	1,870	1,870	1,870	9,600
Premises Alterations	73200	298,584	74,116	-	-	-	372,700
Professional Services	74100	6,000	24,000	3,000	3,000	3,000	39,000
Audio- Visual print and production cost	74200	19,763	75,640	11,044	13,635	15,368	135,450
Miscellaneous Expenses	74500	600	3,173	3,172	3,172	3,172	13,289
Training Workshop conference	75700	5,500	143,208	48,446	68,144	27,182	292,480
UNDP-Cost recovery charges-Bills	74599	11,760	11,760	11,760	11,760	11,760	58,800
TOTAL		**784,682**	**855,631**	**518,222**	**456,193**	**416,938**	**3,031,666**

COMPONENT	TOTAL BUDGET ASSIGNED (USD)	PERCENTAGE OF TOTAL BUDGET ASSIGNED
COMPONENT 1	1,945,000	64.2
COMPONENT 2	946,825	31.2
PROJECT MANAGEMENT	139,841	4.6
TOTAL	**3,031,666**	**100**

Budget Notes:

1. Establishment and effective Management of new and existing Protected Areas			
Budget Note	**Atlas Code**	**Description**	**Amount**
1	71200	International Land policy expert: Development of a potentially replicable co-management framework for incorporating private landowners into an area plan (Mt. St. Catherine) and reengagement and mobilization of Mt. St. Catherine land owning community. Total cost: $26,500.	26,500
2	71300	Land management/SLM/SFM Expert: Development of a Landscape Management plan for the Mt. St. Catherine Site in tandem with the co-management plan prepared by the Land policy expert. Total cost $18,249.	18,249
	71300	Heritage and Natural Resource consultant: Technical support for development and management of PAs as conservation/visitor sites; Total $20,000.	20,000
	71300	Consultant for business planning in sites ($20,000) and community-based consultations ($800): $20,800.	20,800
	71300	Consultant in charge of: a. Training for **NPAC:** $5,000. b. Public education program: $39,000. c. Equipping NPAC and NMPAC for strategic management: $8,000. Total cost: $52,000.	52,000
	71300	Consultant/Development Specialist in charge of: a. Detailed planning for infrastructure etc. :$73,000. b. Designing building plan WCCBMPA : $5,000. c. Site design: $5,000. Total cost: $83,000.	83,000
	71300	Professional services for MPA plan and mapping for Grand Anse and South – East Zone ($15,000) and White Island management planning ($10,000). Total cost: $25,000.	25,000
	71300	Professional services for:	41,000

		a. Reef restoration initiative : $26,000. b. Public education (marine) $10,000. c. Training in methodologies/ techniques: $5,000. Total cost: $41,000.	
	71300	Professional services to link livelihood to INRM practices: $9,000	9,000
3	71400	Project Coordinator (technical inputs corresponding to $124,160 or 90% of the incumbent's time).	124,160
4	71600	Support for airfare / per client for trainer to Carriacou: $405. Total estimated cost: $7,405.	7,405
5	72100	Professional services – Training (practical) for Juniors STAFF and community partners in Forest/ Land Management applications :$60,000	60,000
	72100	Professional services including: a. Educator/Mobilizer for adoption of BMP: $10,000 b. 5 Livelihood promotion specialists for demonstrating the link between livelihood opportunities and SLM/ SFM. Livelihood development experts: $75,000 c. Professional services- Aquaculture options :$5,000 d. Professional services- methodologies of engagements:$3,000 e. Specialist services- methods of community engagements: $5,000 f. Livelihoods activities at TPA sites: $5,000 Total cost: $103,000	103,000
	72100	Professional services for site/ Building design $15,000	15,000
6	72200	Back-packs for community first responders, wild land fires :$10,000	10,000
	72200	Biophysical monitoring, fire prevention; planning: $10,000	10,000
	72200	Materials and placement of infrastructure at PA sites: $45,200	45,200
	72200	a) Materials and installation of demarcation and signage: $50,000. b) Placements of infrastructural enhancements: $7,000. Total cost: $57,000.	57,000
	72200	a) Reef restoration developments, etc.: $25,000 b) Coral reef restoration initiative: $28,000.00 c) Equipment for coral reef restoration initiative (INRM) associated with SIOB MPA $18,000 Total cost: $71,000	71,000
	72200	Demonstration equipment/ aids for island wide public education campaign for conservation $25,000.	25,000
	72200	Demonstration equipment/aids for staff and partners training in methodology, data collection etc: $20,000	20,000
	72200	Demonstration equipment for linking livelihood with INRM practices at local areas: $28,000.	28,000

	72200	Outfitting equipment for work boat for training, demonstrations, installations together with MCS activities for MPAs: $62,000.	62,000
	72200	a. An initiative for development / implementation of FADS program as example in IMRM coupled with livelihoods: $40,000 b. Equipment for FAD initiative (INRM) associated with SIOB MPA: $20,000	60,000
	72200	Equipment support white / saline island MPA management plan: $10,000	10,000
	72200	Equipment / construction for SIOB link in the network interpretation centre: $62,000	62,000
	72200	Equipment for SCUBA initiative (INRM) associated with SIOB MPA: $10,000	10,000
	72200	a. Purchase of work boat for training demonstrations installations with MCS activities for MPAs: $75,000 b. Operations expenses during demonstration phase for monitor / control / surveillance activities: $30,000	105,000
7	72500	Office supplies.	1,500
8	73200	Infrastructural enhancement at marine sites: $33,500	33,500
	73200	Construction infrastructure (Interpretation Centre): $66,000	66,000
	73200	Construction / enhancement for enabling infrastructure for capacity to demonstrate conservation/ management: $273,200	273,200
9	74100	Legal establishment for three small TPAs: $3,000	3,000
10	74200	Public awareness / education in support of management planning for Mt. St. Catherine: $500	500
	75700	Public awareness / education: management planning for TPA sites: $6,000	6,000
	75700	Public awareness / education concerning placements of infrastructure for ten small TPAs: $8,500	8,500
	75700	Education / awareness aids: public education for co-management staff training: $2,000	2,000
	74200	Public education aids for marine conservation: $20,000	20,000
	74200	Printing of 100 copies of approved policy on PAs: $950.	950
	74200	Media engagements and print: public awareness of the general population on science-based and TEK education concerning the Watershed Management area: $28,000	28,000

	74200	Public awareness: establishment and demarcation of Mt. St. Catherine as a TPA (a re-engagement) $2,000	2,000
	74200	Public awareness for establishing nine small TPAS: $6,000	6,000
	74200	Community awareness for control of indiscriminate housing and agriculture: $5,000	5,000
	74200	Audio-visual & print costs for training of TPAs' management staff: $3,000	3,000
	74200	Audio visual and airtime costs: education and awareness on ecosystems within MPAs: $35,000	35,000
11	74500	Operations functions support for NPAC / NMPAC $3,000	3,000
12	75700	Employment of livelihood persons adopting INRM practices (various livelihoods): $40,000.	40,000
	75700	a. Research and community SCUBA activities for control of lion fish education associated: $25,000 b. Operations expenses for the SCUBA diving cooperation in support of research / education / community conservation activities (lion fish mitigation efforts for eradication contests) $22,000 Total cost: $47,000.	47,000
	75700	National and community workshops / consultations on PA policies: $3,650	3,650
	75700	Two (2) focus group workshops and one (1) national workshop on business plans for PAS management: $2,750	2,750
	75700	Management training legislation and training in sustainable financing for members of the TPA and MPA advisory bodies: consultant fees and supplies $13,900	13,900
	75700	Community seminars for public awareness targeted at the wider community $1,000. Working groups, seminars and launch of advisory bodies.	1,000
Monitoring & Evaluation			
Budget Note	Atlas Code	Description	Amount
13	71200	a) International consultant for Mid-term Review. Total cost: $24,000. b) International consultant for Terminal Evaluation. Total cost: $32,000.	56,000
14	71400	Project Administrator/Financial Officer: Project M&E activities (70% of the incumbent's time:	58,800
15	71600	a) Travel costs for Mid-term Review. Total cost: $8,468. b) Travel costs for Terminal Evaluation. Total cost: $8,468.	16,936
16	74100	Audits (5). Total cost: $15,000; $3,000/yr.	15,000

17	74200	Production and printing costs for review and systematization of lessons learned and best practices reports. Total cost: $5,000; $1,000/yr during 5 years.	5,000
18	75700	a) Project Inception Workshop: Total cost: $5,000 b) Project steering meetings. Total cost: $2,500; $500/yr.	7,500
2. Climate resilient SLM practices applied in the Beausejour Watershed to reduce threats adjacent to and upstream of Pas			
Budget Note	**Atlas Code**	**Description**	**Amount**
19	71300	Consultant fees: forest policy analyst and public awareness / community outreach specialist: $50,000.	40,000
	71300	Documentation: TEK and Best Management Practices of the ridge to reef project: $8,000.	8,000
	71300	Consultant for: a. Hosting 2 day training seminars (watershed management): $1,200. b. Development of a watershed management plan and generating community uptake of plan $34,960. Total cost: $36,160.	36,160
	71300	Consultant for preparing water quality monitoring manual: $4,000.	4,000
	71300	Consultant for: a. Implication of local area land degradation / assessment methodology for pilot area and for generating community uptake: $35,000. b. Seminar training for agriculture land use, extension, Ministry of Works officers in climate change response issues: $10,000 Total cost: $45,000	45,000
	71300	Consultant: public awareness training application of BMP and for conducting posttest / analyzing posttest for effectiveness of outreach / applications: $25,000	25,000
	71300	National consultant / knowledge persons for applications of BMP: $31,000	31,000
	71300	Consultant for demonstrations of BMP for fertilizer and water treatment applications: $15,500	15,500

	71300	Consultant: feasibility study for export opportunity and partnerships of farmers with business entities: $9,000	9,000
	71300	Labour and professional services: Promotion of best management practices to protect at least 210 hectares of livestock 0 impacted lands : $23,000	23,000
	71300	Labour/professional services in support of Sustainable Forest Management (SFM): $36,900	36,900
	71300	Consultant fees: for Forest policy analyst and public awareness / community outreach specialist: $50,000 (6 month assignment)	50,000
	71300	Consultant fees for water treatment laboratory activities: $300	300
20	71600	Airfares and DSA / per diem: consultant and Carriacou (On island) Official's participation in national consultation workshops: $8,370.	8,370
	71600	Travel / per diem: CEHI officials attending water quality training sessions: $1,000	1,000
	71600	Travel / per diem: three missions of consultant (s) developing watershed management plan: $5,000	5,000
	71600	Travel / per diem: Carriacou and community persons attending workshop on monitoring land degradation mitigation applications: $1,100	1,100
	71600	Consultant: airfare and per diem and transportation for training of resource managers in spatial technologies, asset mapping and identification for BD: $6,300	6,300
	71600	Travel / per diem: for consultant(s) preparing prosecution manual $4,000	4,000
	71600	Travel / per diem and transportation – logistics for farmer exchanges and demonstration good agricultural and soil management practices: $5,500	5,500
	71600	Travel expenses for farmers and MNIB participants in product marketing initiatives: $2,300	2,300
21	72100	Consultants fees: training of agriculture / fisheries staff in applications of spatial technologies for BD conservation: $18,000	18,000

	72100	Facilitation of data collection / analysis / reforestation for pre-test of baseline knowledge, attitudes and practice in good agricultural practices: $14,000	14,000
	72100	Consultant fees: Assessment and response study of grazing impacts at six communities: $8,000	8,000
	72100	Contract services: construction of 250 brood chambers and provision of field-based training: $41,500	41,500
22	72200	Demonstration equipment for training of resource managers from units of ministry of agriculture in the application of technologies related to identification and mapping for biodiversity conservation: $10,000	10,000
	72200	Shredder ($1,500) and multiple equipment for demonstrations of field interventions by extension staff ($2,500): Total cost $4,000	4,000
	72200	Procurement of raw materials and equipment for branding labels and packaging for agri-products / marketing: $20,000.	20,000
	72200	Purchase of equipment / hardware including small boat for water quality / quantity monitor: $89,244	89,244
	72200	Purchase of five firefighting backpacks to be used by first responders $5,000.00	5,000
	72200	Chairs / tables: inter-sectoral committee: $1,500	1,500
	72200	Laboratory equipment and supplies for water monitoring program: $16,932	16,932
23	72300	Promotional material and supply of plants and other resources: $76,450	76,450
	72300	Resource materials and stationery ($3,000) and supply of improved breeds (bees) ($2,000). Total cost $5,000	5,000
	72300	Provision of $4,500 seed plants ($1,700) material inputs and supplies ($48,500): Total cost $50,200	50,200
24	72500	Stationery: national stakeholders workshop: $200	200
	72500	Prints (50) and stationery supply for watershed management plan (draft): $650	650

	72500	Stationery supply for training of extension persons: $300	300
	72500	Stationery supply: $300	300
	72500	Resource material and stationery for climate change impacts, mitigation and adaptation response strategies: $1,100	1,100
	72500	Stationery and printing for posttest evaluation of effectiveness of public awareness campaign: $1,000	1,000
	72500	Stationery and resource materials: training farmers in export marketing: $250	250
	72500	Stationery supplies for intersectoral committee: $1,000	1,000
	72500	Resource material for trainees / resource managers: $1,200	1,200
	72500	Rental of IT equipment and stationery supply: $2,100	2,100
25	74100	Consultant fees: development of prosecution manual for SLM, SFM conservation enforcement: $21,000	21,000
26	74200	Promotional materials, editing design etc.: $8,800	8,000
	74200	Publication costs for 200 copies at watershed management plan: $3,000	3,000
	74200	Printing, stationery for production of prosecutors manual: $2,500	2,500
	74200	Medial print and stationery cost: public awareness campaign: $12,000	12,000
	74200	Public / disseminate 1000 copies of final traditional knowledge / BMP document $4,000	4,000
	74200	Communications of MNNIB and farmers for marketing engagements: $500	500
27	74500	Enhanced management for Mt. St. Catherine TPA: $10,289	10,289

28	75700	Consultant fees ($1,000) planting materials ($23,000) materials inputs in support of labour and professional services ($20,000), stationery and other materials ($300) for training in sustainable rangeland management: $44,300 (total cost) Venue / catering cost for training of livestock farmers in sustainable practices in rangeland management $1,300. Total cost: $45,600	45600
	75700	Training of resource managers / extension officers in good agricultural practices: $2,000	2000
	75700	Training workshops: a. Training of extension officers in agricultural practices: $5,000 b. Training for applications of good agricultural practices: $300	5300
	75700	Host seven community-based workshop / consultation to review / update NFP ($3,140) to validate report on NFP ($1,150) to host five national consultations on finalized draft legislation and SROs ($3,850). Total cost $8,140	8,140
	75700	Engagement / training of intersectoral committee: $7,950	7,950
	75700	Engagements for generating a watershed management plan for Beausejour watershed: $4,100	4,100
	75700	Development of national system for assessing and mapping land degradation monitoringLD processes and consolidating information systems and protocols: $4,800	4,800
	75700	Consultant fees and support: training 25 resource managers in BD asset identification and mapping in the pilot area: $18,300.	18,300
	75700	Facilities rental for product inspection; certification processing, product formulation etc.: $5,600	5,600
	75700	Training workshops for agriculture / fishers personnel in ARC, GIS, Google mapping software for BD Conservation, focusing on endangered and endemic species: $10,000	10,000

	75700	Venue and catering costs: training in good agricultural practices: $4,440	4,440
	75700	Venue / catering costs: training for forestry, fisheries and physical planning officers etc. in BD, SLM, SFM enforcement and use of regulatory instrument: $4,900	4,900
	75700	Catering costs: climate change impacts, migration ad adoption strategies, sensitization workshop seminars for agricultural officers, fisheries, forestry, ministry of works officers etc.: $1,300	1,300
	75700	Community seminars / meeting: $10,000	10,000
	75700	Capacity development by field interventions in the pilot project area: $18,250	18,250
	75700	Training for product branding, labeling and packaging: $3,600	3,600
	75700	Venue / catering costs for training of farmers in sustainable agricultural practices: $5,900	5,900
Project Management			
Budget Note	**Atlas Code**	**Description**	**Amount**
29	71400	Project coordinator (managerial inputs corresponding to $13,841 or 10% of the incumbent's time).	13,841
30	71400	Project administrator/financial officer: Responsible for financial management of the project, accounting, purchasing, and reporting. (30% of the incumbent's time: $25,200).	25,200
31	71400	Secretary: Overall project administrative assistance. Total cost: 42,000	42,000

32	74599	Estimated costs of Direct Project Services requested by the GoG to UNDP for executing services (procurement; travel etc) and as requested by the GoG through the Letter of Agreement (Annex 13). Direct project service costs will be charged at the end of each year based on the UNDP Universal Pricelist (UPL) or the actual corresponding service cost. The amounts indicated here are estimations based on the services indicated in Annex 13, however as part of annual project operational planning the direct project services to be requested during that calendar year would be defined and the amount included in the yearly budgets. As noted these costs would be charged based on actual services provided at the end of the year and would be reported to the implementing partners (GoG).	58,800

SECTION IV: MANAGEMENT ARRANGEMENTS

Project Implementation Arrangements

138. The project will be executed under National Implementation Modality (NIM), with execution by the Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment, following UNDP's Programme and Operations Policies and Procedures, per its role as implementing agency. Execution of the project will be subject to oversight by a Project Steering Committee, detailed below. Day to day coordination will be carried out under the supervision of a Project Coordination Unit and corresponding staff, also detailed below. The executing agency will take responsibility for different outcomes/activities according to existing capacities and field realities, ensuring effective and efficient use of GEF resources.

139. Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment (MoA) is the official project Executing Agency, responsible for the fulfilment of the project's results. In addition, the Government of Grenada has designated the MLFEE as the official counterpart of UNDP in the country. Its main responsibilities related to the project are to:

- Lead the project implementation with the support of the Project Coordination Unit (PCU);
- Participate together with UNDP, in selecting the Project Coordinator;
- Designate a representative to act as a permanent liaison between UNDP, the Ministry of Foreign Affairs and the Project Coordinator, and to participate in the Project Steering Committee meetings, and others as required, to ensure that the necessary inputs are available to execute the project;
- Prove the technical and administrative capacity to develop the project;
- Monitor the project's work plan and progress;
- Provide the name and describe the functions of the person or persons authorized to deal with UNDP concerning the project's matters;
- Approve ToR for technical personnel and consultancies for project implementation;
- Participate in the selection process of the consultants and approve all hiring and payment request;
- Provide the name and describe the functions of the person or persons authorized to sign the project's budget and/or substantive revisions of the project.
- Coordinating the activities of all other project partners, and providing overall technical oversight of programs and outputs of project contractors and short-term consultants (with the support of the PCU).
- If necessary, to make a written request to UNDP for reports on the project;
- To approve the annual audit plan for the project and, in accordance with UNDP standards and procedures, to convene an information and consultation meeting prior to the audit;
- As required, to participate in tripartite meeting or in any follow-up or reorientation sessions.

140. The United Nations Development Programme (UNDP) is the world development network established by the United Nations with a mandate to promote development in countries and to connect them to the knowledge, experience and resources needed to help people achieve a better life. Its main responsibilities related to the project are to:

- Designate a programme officer responsible for providing substantive and operational advice and to follow up and support the project's development activities;
- Advise the project on management decision making, as well as to guarantee quality assurance;
- Be part of the project's Steering Committee and other Committees or Groups considered part of the project structure;

- Administer the financial resources agreed in the budget / workplan and approved by the project's Steering Committee; monitor financial expenditures against project budgets / workplans; and oversee the provision of financial audits of the project;
- Oversee the recruitment and hiring of project staff, the selection and hiring of project contractors and consultants; and the appointment of independent financial auditors and evaluators;
- Co-organize and participate in the events carried out in the framework of the Project;
- Use national and international contact networks to assist the project's activities and establish synergies between projects in common areas and/or in other areas that would be of assistance when discussing and analysing the project;
- Provide Support in the development and instrumentation of the project's gender strategy.
- Ensure that all project activities, including procurement and financial services, are carried out in strict compliance with the procedures of the UNDP / GEF.

141. Component 2 of the project is focused on site-based interventions at various existing and proposed terrestrial and marine protected area sites. During the first two to three years of the project, implementation of the project at these sites will be led by those agencies currently responsible for the sites, namely: the Forestry and National Parks Department (FNPD); Land Use Division (LUD); and the Fisheries Division (FD), all of which have designated staff to lead their institutional efforts for the project. By the final year of the project, the newly established Protected Areas Agency (PAA) is expected to take over responsibility for the PA sites. Details on the roles and responsibilities of these and other potential project partners will be further elucidated during the project inception phase, based on relevant activities established in the project work plan.

142. Project implementation will be carried out under the general guidance of a Project Steering Committee (PSC), which will be co-chaired by UNDP and MoA and will meet at least twice per year to review project progress and approve upcoming work plans and corresponding budgets. Other members of the PSC will include: DFNP; DF; LUD and Ministry of Tourism. Representatives of other stakeholders may also be included in the PSC, as deemed appropriate and necessary (the membership of the PSC will be reviewed and recommended for approval at the project Inception Workshop).

143. The PSC will be in charge of the overall supervision of the project, providing strategic guidance for its implementation, ensuring that this proceeds in accordance with a coordinated framework of government policies and programs, and in accordance with the agreed strategies and targets laid out in this Project Document. The responsibilities of the PSC shall include, but not be limited to: (1) Review, approve and amend this project document, including the Monitoring and Evaluation (M&E) framework, the budget, and the implementation plan; (2) Monitor compliance with the Project's objectives; (3) Discuss progress and identify solutions to problems facing any of the project´s partners; (4) Review and approve the AWP and the consolidated financial and progress reports; (5) During the life of the project, review proposals for major budget re-allocation such as major savings or cost increases, or for use of funds for significantly different activities; (6) Review evaluation findings related to impact, effectiveness and the sustainability of the project; (7) Monitor both the budget and the prompt delivery of financial, human and technical inputs to comply with the work plan; (8) Ensure the participation and ownership of stakeholders in achieving the objectives of the project; (9) Ensure communication of the project and its objectives to stakeholders and the public; (10) Approve the project communication strategy and public information plans prepared by the PSC; (11) Facilitate linkages with high-level decision making; (12) Convene ordinary meetings to consider the Technical Committee's proposals and recommendations, as well as the progress made by the project; (13) approve and supervise the hiring and work of project staff; and (14) Convene, if necessary, extraordinary meetings.

144. The PSC plays a critical role in project monitoring and evaluations by quality assuring these processes and products, and using evaluations for performance improvement, accountability and learning. It ensures that required resources are committed and arbitrates on any conflicts within the project or negotiates a solution to any problems with external bodies. In addition, it approves the appointment and responsibilities of the Project Manager and any delegation of its Project Assurance responsibilities. Based on the approved Annual WorkPlan, the PSC can also consider and approve the quarterly plans (if applicable) and also approve any essential deviations from the original plans. In order to ensure UNDP's ultimate accountability for the project results, PSC decisions will be made in accordance to standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case consensus cannot be reached within the PSC, the final decision shall rest with the UNDP Project Manager.

145. The National Project Director (NPD), a senior staff member of MoSD, will be responsible for oversight of the Project and carries overall responsibility and accountability. The NPD will keep the PSC updated on project advances and challenges as needed, and will report to the PSC on progress made and issues to be resolved. The NPD will establish and provide overall guidance to the PCU, and is responsible for overseeing the work undertaken by the PCU team. The NPD will submit relevant documentation to the PSC for endorsement.

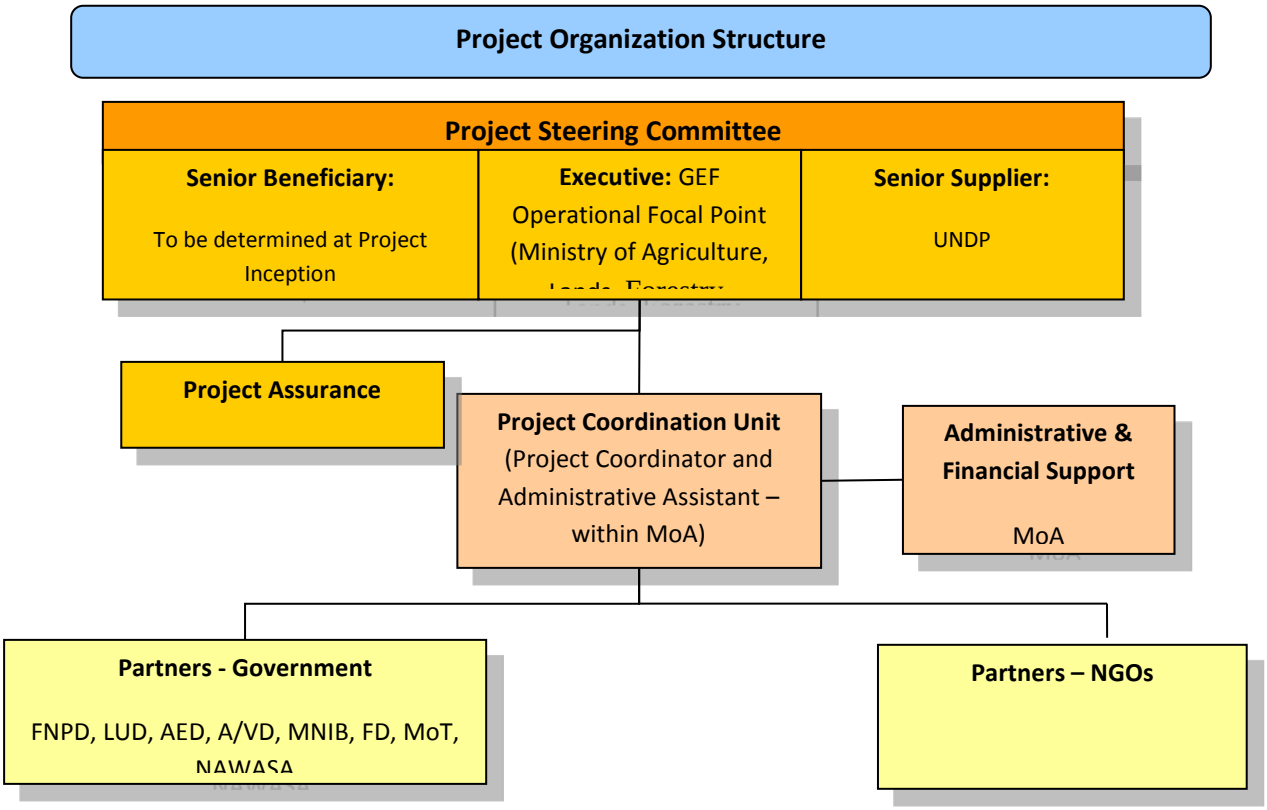
146. Day-to-day management and coordination of the project will be under the supervision of the Project Coordinator (PC). The PC will report to the NPD (Project Director). The PC will be supported by an Administrative Assistant. The PC will be responsible for the general management actions of the project, such as the preparation of consolidated annual work plans and technical and financial reports to be presented to the PSC, with the aim of ensuring that advances in relation to the goals and key milestones of the project are achieved as planned. Additional responsibilities of the PC will include: overall integration and follow-up of studies, research and project technical activities; assisting in the supervision of project implementation (liaising directly with the NPD); undertaking quarterly operational planning and providing guidance on day-to-day implementation; and ensuring institutional coordination among the project partner institutions and organizations.

147. In addition to the Project Coordinator, Administrative Assistant, and the staff of various partner institutions who will participate in specific project activities, a series of short and medium-term consultancy contracts will be necessary in order to implement some of the technical aspects of the project. Contracted companies and consultants will carry out targeted project activities under the technical supervision of the PCU and MoA, and in coordination with relevant partners for different activities. Terms of reference will be developed jointly by the PCU and MoA and approved by the PSC in accordance with approved work plans.

148. The figure below presents the project organogram, showing the relationships between the main institutions to be involved with project implementation and the bodies to be established by the project, as per UNDP project requirements:

- Executive (UNDP): individual representing the project ownership to chair the group.
- Senior Supplier (Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment): Individual or group representing the interests of the parties concerned that provide funding for specific cost sharing projects and/or technical expertise to the project. The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project.
- Senior Beneficiary (To be determined): individual or group of individuals representing the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries.

- Project Assurance (UNDP): Supports the Project Board Executive by carrying out objective and independent project oversight and monitoring functions. The Project Manager and Project Assurance roles should never be held by the same individual for the same project. A UNDP Staff member typically holds the Project Assurance role.



Responsible Party

149. The project will be implemented under the NIM modality where the Implementing Partner is MoA, following the standards and regulations of the United Nations Development Programme (UNDP), the implementing agency of this project. The Implementing Partner is the entity responsible for the project outcomes, and who is accountable for its management, including monitoring and evaluation activities, the achievement of outputs and effective use of resources. A single Implementing Partner is designated to lead each project. This Partner may establish agreements with other organizations or entities in order to support the achievement of the outputs envisaged in the project, this/these other/s instance/s is/are called: Responsible Party (ies). The Responsible Party is designated by the Implementing Partner to support the implementation, planning and / or monitoring of certain activities / components within the project´s framework, using their technical skills and management services to support the achievement of project objectives. Project partners will assume responsibility for the different outcomes and outputs expected from the project, carrying out activities related to their actual capabilities in the field, ensuring effectiveness and efficiency of GEF funding. An Implementation Agreement will be signed between the Implementing Partner and the Responsible Party during the project inception phase.

Financial and other procedures

150. The financial arrangements and procedures for the project are governed by the UNDP rules and regulations for National Implementation (NIM). Financial transactions will be based on direct requests to UNDP from the National Project Director and/ or Project Coordinator for specific activities (included in work plans and financial reports) and for advances for petty cash where necessary and considering the difficulties of implementation in many remote areas. The arrangements for financial reporting, requests for transfer of funds, and the advance and disbursement of funds will, in turn, be detailed in MOUs between MoA and its implementing partners. All procurement and financial transactions will be governed by national rules and regulations, and must be compatible with the UNDP rules and regulations.

151. Dollarization clause: "The value of any contribution received by the United Nations Development Programme as part of this Agreement, and which is made in a currency other than the U.S. Dollar, is determined by applying the operational rate of the United Nations prevailing on the date that such payment is made effective. If there is a change in the operational rate of the United Nations before UNDP uses the entire amount paid, the balance will be adjusted according to the value of the currency at that date."

152. If a loss is registered in the value of the fund balance, UNDP shall inform the Donor with a view to determining whether the donor has to provide more funding. Without having any such additional funding, UNDP may reduce, suspend or terminate assistance to the program / project. In the case where there is an increase in the value of this balance, this increase will go to the project to implement its activities, in agreement with the donor.

153. All accounts and all financial statements are expressed in U.S. dollars. The exchange rate used in each case shall be the monthly exchange rate set by the UN in the OECS. Notwithstanding the foregoing, payments to suppliers are made in local currency. In cases where the total contributions exceed the total reference amount, a budgetary review of the project will be carried out as per UNDP requirements.

Direct Project Services

154. In its role as GEF Implementing Agency (IA) for this project, UNDP shall provide project cycle management services as defined by the GEF Council (described in Annex 13). The Government of Grenada shall request UNDP to provide direct project services specific to project inputs according to its policies and convenience. These services –and the costs of such services - are specified in the Letter of Agreement in Annex 13. In accordance with GEF Council requirements, the costs of these services will be part of the executing entity's Project Management Cost allocation identified in the project budget. UNDP and the Government of Grenada acknowledge and agree that these services are not mandatory and will only be provided in full accordance with UNDP policies on recovery of direct costs.

Audit Clause

155. The Government of Grenada will provide the UNDP Resident Representative in Barbados with certified periodic financial statements, and with an annual audit of the financial statements relating to UNDP (including GEF) funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by the legally recognized auditor of the Government, or by a commercial auditor

engaged by the Government. The firm will be selected through a bidding process and will be subjected to a rigorous evaluation within the principles of transparency, neutrality and cost benefit.

156. The project will be audited in accordance with the UNDP Financial Regulations and Rules and applicable audit policies. An audit to the Project is an integral part of UNDP financial and administrative management within the framework of UNDP's accountability, internally and with regards to the GEF. The project will be audited to ensure that resources are administered in accordance with the financial regulations of the project document, workplan and budget. The project's budget should contemplate the resources needed to carry out the audit. The firm selected by UNDP Barbados, through a bidding process and subjected to a rigorous evaluation within the principles of transparency, neutrality and cost benefit will take over this exercise in accountability.

Communications and visibility requirements

157. Full compliance is required with UNDP's Branding Guidelines. These can be accessed at http://intra.undp.org/coa/branding.shtml, and specific guidelines on UNDP logo use can be accessed at: http://intra.undp.org/branding/useOfLogo.html. Amongst other things, these guidelines describe when and how the UNDP logo needs to be used, as well as how the logos of donors to UNDP projects need to be used. For the avoidance of any doubt, when logo use is required, the UNDP logo needs to be used alongside the GEF logo. The GEF logo can be accessed at: http://www.thegef.org/gef/GEF_logo. The UNDP logo can be accessed at http://intra.undp.org/coa/branding.shtml.

158. Full compliance is also required with the GEF's Communication and Visibility Guidelines (the "GEF Guidelines"). The GEF Guidelines can be accessed at: http://www.thegef.org/gef/sites/thegef.org/files/documents/C.40.08_Branding_the_GEF%20final_0.pdf. Amongst other things, the GEF Guidelines describe when and how the GEF logo needs to be used in project publications, vehicles, supplies and other project equipment. The GEF Guidelines also describe other GEF promotional requirements regarding press releases, press conferences, press visits, visits by Government officials, productions and other promotional items.

159. Where other agencies and project partners have provided support through co-financing, their branding policies and requirements should be similarly applied.

Administrative arrangements

160. The project will be financed by the GEF with a total amount of US$3,031,666. The Government of Grenada has committed cash co-financing to the Project to an amount of US$15,426,822. These resources will mainly be used for salaries, travel expenses, equipment, programs and subsidies, and basic operation and management expenses of the various project partner agencies that are participating in activities related to protected areas management. To coordinate the spending of these resources with the GEF funds provided to the project, UNDP will make its installed capacity available to the Project, guaranteeing that their use is both transparent and prompt, with any services provided to the project by UNDP will be in accordance with its internal guidelines and regulations.

SECTION V: MONITORING & EVALUATION

161. Project M&E will be conducted in accordance with the established UNDP and GEF procedures and will be provided by the project team and the UNDP Sub-regional office with support from the UNDP/GEF (Regional Coordinating Unit) in Panama City. The Project Results Framework in Section 3 provides performance and impact indicators for project implementation along with their corresponding means of verification. The M&E plan includes an inception report, project implementation reviews, quarterly and annual review reports, mid-term and final evaluations, and audits. The following sections outline the principle components of the M&E plan and indicative cost estimates related to M&E activities. The project's M&E plan will be presented and finalized in the Project Inception Report following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities. The project will be monitored through the following M& E activities. The M& E budget is provided in the table below.

Project start: A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, UNDP Sub-Regional Office and where appropriate/feasible regional technical policy and program advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan.

The Inception Workshop will address a number of key issues including: (a) Assist all partners to fully understand and take ownership of the project. (b) Detail the roles, support services and complementary responsibilities of UNDP Sub-Regional Office and RSC staff vis à vis the project team. (c) Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. (d) The Terms of Reference (TOR) for project staff will be discussed again as needed. (e) Based on the project results framework and the relevant GEF Tracking Tool if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks. (f) Provide a detailed overview of reporting, M&E requirements. The M&E work plan and budget should be agreed and scheduled. (g) Discuss financial reporting procedures and obligations, and arrangements for annual audit. (h) Plan and schedule Project Steering Committee (PSC) meetings. Roles and responsibilities of all project organization structures should be clarified and meetings planned. The first PSC meeting should be held within the first 2 months following the inception workshop.

An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

Project Implementation Workplan: Immediately following the inception workshop, the project will be tasked with generating a strategic workplan. The workplan will outline the general timeframe for completion of key project outputs and achievement of outcomes. The workplan will map and help guide project activity from inception to completion. To ensure smooth transition between project design and inception, the inception workshop and work planning process will benefit from the input of parties responsible for the design of the original project, including as appropriate relevant technical advisors.

Quarterly: Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform. Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Based on the information recorded in Atlas, a Project Progress Report (PPR) can be generated in the Executive Snapshot. Other ATLAS logs can be used to monitor issues, lessons learned etc. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

Annually (Annual Project Review/Project Implementation Reports (APR/PIR)): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

The APR/PIR includes, but is not limited to, reporting on the following: (a) Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative); (b) Project outputs delivered per project outcome (annual); (c) Lesson learned/good practice; (d) AWP and other expenditure reports; (e) Risk and adaptive management; (f) ATLAS QPR; (g) Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

Periodic Monitoring through site visits: UNDP Sub-Regional Office and the RSC will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the PSC may also join these visits. A Field Visit Report/BTOR will be prepared by the UNDP Sub-Regional Office and UNDP RSC and will be circulated no more than one month after the visit to the project team and PSC members.

Mid-term of project cycle: The project will undergo an independent Mid-Term Review during mid-point of project implementation (project months 28 – 29). The Mid-Term Review will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization and terms of reference of the mid-term review will be decided after consultation between the parties to the project document. The TOR for this Mid-term review will be prepared by the UNDP Sub-Regional Office based on guidance from the RSC and UNDP-GEF. This independent expert will be recruited at least six months prior to the planned commencement of the mid-term review. The management response and the review will be uploaded to UNDP corporate systems, in particular the UNDP Evaluation Office Evaluation Resource Center (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term review cycle.

End of Project: An independent Final Evaluation will take place three months prior to the final PSC meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term review, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The TOR for this evaluation will be prepared by the UNDP Sub-Regional Office based on guidance from the RSC and UNDP-GEF.

The Final Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation.

During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

Learning and knowledge sharing: Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation through lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

Communications and Visibility Requirements

The project will comply with UNDP's Branding Guidelines, which can be accessed at:

http://intra.undp.org/coa/ branding.shtml.

Specific guidelines on UNDP logo use can be accessed at: http://intra.undp.org/branding/useOfLogo.html. Amongst other requirements, these guidelines describe when and how the UNDP and the logos of donors to UNDP projects are used. For the avoidance of any doubt, when logo use is required, the UNDP logo needs to be used alongside the GEF logo. The GEF logo can be accessed at:

http://www.thegef.org/gef/GEF_logo

Full compliance will also be observed with the GEF's Communication and Visibility Guidelines (the "GEF Guidelines"), which can be accessed at:

http://www.thegef.org/gef/sites/thegef.org/files/documents/C.40.08_Branding_the_ GEF%20final_0.pdf.

These guidelines describe when and how the GEF logo needs to be used in project publications, vehicles, supplies and other project equipment. These Guidelines also describe other GEF promotional requirements regarding press releases, press conferences, press visits, visits by Government officials, productions and other promotional items. Where other agencies and project partners have provided support through co-financing, their branding policies and requirements will be similarly applied.

Audit Clause

The project will be audited in accordance with the UNDP Financial Regulations and Rules and applicable audit policies.

M&E Workplan and Budget

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project team staff time*	Time frame
Inception Workshop	▪ Project Coordinator ▪ UNDP Sub-Regional Office ▪ UNDP GEF	▪ Indicative cost: 5,000	Within first two months of project start-up
Inception Report	▪ Project Team ▪ UNDP Sub-Regional Office	▪ None	Immediately following IW (within 2 months after IW)
Measurement of Means of Verification of project results	• Project Coordinator (with support/advice from UNDP/GEF RTA) will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members	▪ To be determined during the initial phase of implementation of the project and the IW	Start, mid-point, and end of project
Measurement of Means of Verification for Project Progress on *output and implementation*	▪ Oversight by Project Coordinator ▪ Project team	▪ None	Annually prior to ARR/PIR and to the definition of annual work plans
ARR/PIR	▪ Project Coordinator and Team ▪ UNDP Sub-Regional Office ▪ UNDP GEF	▪ None	Annually
Periodic status/ progress reports	▪ Project Coordinator and Team	▪ None	Quarterly

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project team staff time*	Time frame
Tripartite Committee Reviews and Reports	▪ GoG counterparts ▪ UNDP/GEF	▪ None	Annually, upon receipt of APR/PIR
Steering Committee/Board Meetings	▪ Project Coordinator ▪ UNCP-Sub-Regional Office ▪ GoG representatives	▪ 2,500 (GEF) ▪ 3,000 (CoF)	Following IW, and subsequently at least twice per year
Mid-term Review, including update of METT and ESSP	▪ Project Coordinator and Team ▪ UNDP-Sub-Regional Office ▪ UNDP/GEF RCU ▪ External Consultants (evaluation team)	▪ Indicative cost: 32,468	At the mid-point of project implementation.
Final Evaluation, including final METT and ESSP	▪ Project Coordinator and Team ▪ UNDP-Sub-Regional Office ▪ UNDP/GEF RCU ▪ External Consultants (evaluation team)	▪ Indicative cost : 40,468	At least three months before the end of project implementation
Project Terminal Report	▪ Project Team ▪ UNDP-Sub-Regional Office	▪ None	At least three months before the end of the project
Lessons learned	▪ Project Coordinator and Team ▪ UNDP-GEF RCU (suggested formats for documenting best practices, etc.)	▪ 5,000 (GEF) ▪ 4,000 (CoF) ▪ Indicative Cost Cost:US$9,000	Yearly
Audit	▪ UNDP-Sub-Regional Office ▪ Project Coordinator and Team ▪ Auditors	▪ 15,000 (indicative cost per year: 3,000)	Annually
Visits to field sites	▪ UNDP CO ▪ UNDP RSC (as appropriate) ▪ Government representatives	▪ For GEF supported projects, paid from IA fees and operational budget	Annually
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		US$ 100,436 (+/- 3.3% of total budget)	

STAKEHOLDER INVOLVEMENT PLAN

Stakeholder Participation during Project Preparation

162. The project preparation phase involved exercises for identification of the project framework with participation of key Government departments, NGOs, CBOs and volunteer consultants. The consultants under the direction of UNDP and in collaboration with the Government of Grenada's indicative implementing agency, Ministry of Agriculture and Environment, commenced and outreach initiative to generate stakeholder awareness of the project as defined in the approved project identification form as (Basic Design).

163. The task of the consultants was to reintroduce the project to all stakeholders (i.e. including all the relevant Government agencies expected to participate within the 5 year project lifetime) and for the purpose of explaining details of the project as specified in the PIF in terms of:

I. Meeting both Global and local objectives
II. Government administrators and their technical staffs' obligations and responsibility to the project as a join initiative of Government of Grenada and UNDP/GEF.
III. Defining the constraints under which both Government UNDP/GEF must budget resource support for the PIF specified project activities;
IV. Generating participation from stakeholders for articulating how GEF core funding might be spent and also articulating what co-financing resources might be needed for specific activities;
V. Identifying, with stakeholders advise, how the co-management participation process should be undertaken;
VI. Determining the existing capacity and willingness of NGOs and CBOs to participate in co-management initiatives of the project as designed by the PIF. Within the process for preparation of the full-sized project (FSP) a number of focus groups and formal meeting were conducted and included: (a) the PPG Inception workshop; (b) Several results framework workshops; (c) Consultations with the Government's indicative project executing agency; (d) Meetings with key individuals from both Government agencies and CBOs / NGOs.

Inception workshop of the PPG phase

164. The PPG inception workshop was held 23rd July 2013in St. Georges, Grenada. The participants included a representative from the Ministry of Finance and Planning (the Ministry that was originally responsible for the project), the UNDP/GEF representative from the sub-regional office Barbados, the UNDP/GEF Regional Technical Advisor from Panama, the three contract consultants, the local person from the forestry division (by Skype) and the local persons from the fisheries division. The objective for the workshop was to:

(a) Help the PPG project team and other stakeholders to understand and take ownership of the project goals and objectives;
(b) Ensure that the project team of consultants and other stakeholders have a clear understanding of what the PPG phase sought to achieve as well as their own roles in successfully carrying out PPG activities;
(c) Rebuild commitment and momentum among key stakeholders for the PPG phase;
(d) Validate the PPG work plan; and
(e) Visit the Beausejour watershed to get a sense of the scope of issues that characterize the Ridge to Reef perspective of landscape to seascape environmental impacts.

Project results framework workshop

165. The objective of the focus group and individual engagements was to define projects activities in terms of outcomes and outputs and explain how each could potentially fit into planned project activities. Focus groups were held with stakeholders related to specific outcomes and outputs. Notably the task was to reintroduce the project to the implementing Ministry and commence a process of commitment to the planned activities to be articulated within the FSP formulation. The focus group of CBOs/NGOs engaged most of the non-governmental and community-based groups in discussions on their potential individual and collaborative roles in the execution of various defined activities as specified by the PIF and solicited their advice on the orientation with respect to co-management engagements.

Project Implementation

166. The a stakeholder participation plan has the following objectives:

To ensure full knowledge by those involved concerning the progress and obstacles in project development and to take advantage of the experience and skills of the participants to enhance project activities: (1) to clearly identity the basic roles and responsibilities of the main participation in this project; and (2) identify the key instances in the project cycle where stakeholder involvement can occur. The ultimate purpose of the stakeholder participation plan is the long-term sustainability of the project achievements based on transparency and the effective participation of key stakeholders.

Participation Mechanism

167. The three key phases for stakeholder participation in the implementation phase of the project are planning, implementation and evaluation:

a. Project planning will include annual meetings with key PA stakeholders (including members of the SC) during which annual goals will be set for each component of the project. These annual planning meetings will also serve to specify the activities that are to be funded through each co-financing source.

b. Project implementation will take place according to the annual plans that are approved by the SC which will be formed by the following agencies: Ministry of Agriculture Lands, Forestry, Fisheries and Environment, Ministry of Tourism, and the UNDP sub-regional Office. The UNDP sub-regional office will be the Executing Agency. Local stakeholders will have an additional mechanism to influence the project through a Local Steering Committee (LSC), which will consist of appointed members, and whose composition, responsibilities, and function will be determined by the stakeholders themselves. The LSC will meet regularly to discuss the project's progress and to communicate interests and concerns to the Project Coordinator. The committee will also have a seat on the Project Board/Project Steering Committee. Subject to confirmation at project inception, the LSC may also designate sub-committees to discuss specific issues such as the mainstreaming of gender considerations into project operations.

c. Project evaluation will occur annually with the participation of key stakeholders at the end of each planning year and previous to defining the annual plan for the following year of project implementation. Also, Mid-term and final evaluations will be carried out as part of the project cycle. Due to the independent nature of these evaluations, they will be key moments during the project's life when stakeholders can express their views, concerns, and assess whether the project's outcomes are being achieved and if necessary, define the course of correction.

168. It is envisaged that, per UNDP procedures and practices, the project must be managed by a practices board or project steering committee constituted by UNDP and senior services providers as an external project

management body. Given that UNDP will treat project implementation as a partnership and allow the local executing agency, Ministry of Agriculture, Lands, Forestry, Fisheries and Environment, to adopt a management mechanism that is consistent with that of UNDP, then this local executing agency may set up a local steering committee to advise the project board through the local executing agency. This local steering committee may be set up constituting of representatives of MALFFE (chair), Ministry of Finance/Planning, Ministry of Tourism, IAGDO and CBO representatives. The project evaluation will occur annually with the participation of key stakeholders at the end of each year and before defining the annual work plan for the following year of project implementation. There will also be mid-term and final evaluation that will be carried out as part of the project cycle. Since the evaluation process will be an independent exercise, opportunity will be given for all stakeholders to express their views; concerns and assessing whether the projects outcomes were being achieved and if required suggest a change in the course of action.

169. It is therefore important that the views of the local steering committee be communicated to the project board/steering committee as a formatted documented response to questions and that such documentation be transparently communicated. Such a mechanism will allow for meaningful and focused periodic evaluations by both project management and stakeholders.

170. This Grenada Ridge to Reef project will be using the technical services of baseline recurrent programs while not having a technical support unit of its own. By design, the GEF core funding together with committed support of grant-aid agencies will act as incremental support to the baseline initiatives for the purpose of implementing activities in support of conservation and management of the BD and ecosystems functions within and around PA that would be enhanced and expanded.

Summary of Stakeholders Roles in Project Implementation

Stakeholders	**Projects Implementation Role**
Ministry of Agriculture Lands, Forestry, Fisheries, and Environment (MLFFE)	The department of central government designated as executing agency for the implementation of the project on the local level and as agency of government with "command and control: over various technical divisions expected to deliver services essential to the delivery of the project. The divisions and their roles include the following:
Forestry and National Parks Department(FNPD)	• The Forest and National Parks Authority that is responsible for management and conservation of forest ecosystems that include. Landscape vegetation and wildlife and with a special focus on ecosystems services. The FNPD is expected to administer SLM, SFM REDD+, BD and CC mitigation. Principles and practices in collaboration with various other experience of government by design various activities of the project will involve the FNPD in co-management engagements with local area groups and NGOs, CBSs'.
Land Use Division(LUD)	• The agency responsible for tracking the status and trends with regards to vegetative coverage, land uses and audit of water within the water source on all landscapes. The LUD will be charged with responsibilities for collaborating with other agencies of government for the application of SLM, SFM/RDD+, And CC mitigation principles and practices in collaboration with local area groups, NGOs/CBO, in INRM exercises.
Agricultural Extension Division (AED)	• The agency within the Ministry of Agriculture charge

	with the responsibility for liaison with farmers for promotion of sustainable use of lands for production and for marketing of farmers' production, the AED will exercise key roles in mobilizing and animating farmers for applying SLM, SFM/REDD+, BD and CC mitigation practices in the content of mixed farming and INRM practices.
Agronomy and Veterinary Division (A/VD)	• The agencies responsible for promoting efficiency in animal and plant production systems and for animal health and security. The A/VD will be charged with the task of promoting INRM through SLM, BD and CC mitigation practices.
Marketing and National Importing Board (MNIB)	• The MNIB as a para-statal/Statutory agency of government is mandated to facilitate marketing of farmers' production and for enhancing value-added for farm products. The MNIB will be expected to collaborate with various agencies within the Ministry Agriculture for promoting sustainable agricultural production especially with respect to the pilot project at Beausejour watershed.
Fisheries Division (FD)	• The agency responsible for the sustainable management and development of fish stocks habitat and sea space in the context of the marine environment that was traditionally utilized as a common property resource within an open access/ free entry regime. The FD will be charged with the task of leading in the process of establishment of MPAs in collaboration with various sea users in a highly contested common property zone. The FD will then have to collaborate with the community of dive services providers yachtsmen and fishers among others; they will also have to collaborate closely with land users and land management authorities together with local area groups in order to ensure SLM, SFM/REDD^{+}, BD and CC mitigation and INRM practices are applied for minimizing adverse impacts form landscapes to seascapes.
Ministry of Tourism (MoT)	• The department of central government responsible for, among other things, the development/enhancement and management of tourist attraction sites, most of these sites form a part of earmarked or designated PAs. The park management unit of the MOT will collaborate with various other agencies for the establishment and expansion of PAs as either nature reserves or other attraction.
National Water and Sewerage Authority (NAWASA) Parastatal/ Statutory Agency)	• The agency of central government mandated to control surveillance and monitor all sequestration of water from any and all terrestrial water sources and also to collect and dispose of sewerage wastes. NAWASA therefore has a critical interest in the sustainable management of the water source and must directly cooperate with all the

	agencies within the MALFFIE and others in the appreciation of SFM, SFM/REDD+ and BD and CC mitigation practicing for sustainable use of landscapes and seascapes.
Regional and local Centers of Excellence in support of sustainable management and conservation of the BD and Ecosystems services	• Academic and technical services institutions with special competences that could enhance sustainable management and conservation of the biodiversity and ecosystems services, with the appropriate enabling support would be able to assist the ridge to reef project in meeting specific objectives. These institutions, as specialized bodies, will be able to provide support that government agencies are unable to generate; sufficient competency in collaboration of local operation management agencies with such centers of excellence (COE) can be beneficial to both; training for local operations agencies and opportunity for COE to enhance their mission and competency. Among the institutions identified are:
St. George's University (SGU)	• SGU has some experience in monitor/measurements of land based sources of pollution
CEHI	• CEHI has competences and experiences in environmental monitor and measurement.
CREMES	• CREMES (Barbados) has experience in environmental measurement and monitoring.
UWI	• UWI has experience in M/M also these institutions, having special skills competencies and knowledge can therefore collaborate with the local operations agencies notably, hand use, fisher's provision/MPA, NAWASA for satisfying certain specific objectives.
Recreation Dive-Services Providers	• The association of dive-services providers together with independent dive services operations are expected to collaborate with the MPA coordinating authority, the fisheries division for the purpose of negotiating and adopting best management practices (BMP) in the utilization of coral reef habitats and sea spaces.
Non-Government Organization (NGOs)	• Professional non-profit bodies equipped with skills and experience for engaging local area, commonly groups and persons for the purpose of facilitating collaboration between Government agencies for funding agencies and these local area groups in order to apply the co-management approach for community-based INRM.
Community-Based Organizations (CBOs)	• Organized groups of persons dedicating to promoting the interest of communities such as farmers or fishers or landowners/farmers or commercial services or goods suppliers such group will collaborate with NGOs and Government agencies for enhancing SLM, SFM/REDD+ BD and CC mitigation measures. Examples being the Grenada chamber of Industry and Commerce in its

	support for the "outing " of the use of GHG (Green House Gases); and concessionary loans for alternative energy sources such as solar panels.

SECTION VI: LEGAL CONTEXT

171. This Project Document shall be the instrument referred to as such in Article of the Standard Basic Assistance Agreement (SBAA) between the Government of Grenada and the UNDP signed by the parties. The host country implementing agency shall, for the purpose of the SBAA, refer to the government cooperating agency described in that Agreement.

172. The UNDP Resident Representative in Grenada is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by the UNDP-GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes: a) revision of, or addition to, any of the annexes in the Project Document; b) revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to by cost increases due to inflation; c) mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and d) inclusion of additional annexes and attachments only as set out here in this Project Document.