FAO/GLOBAL ENVIRONMENT FACILITY
PROJECT DOCUMENT

PROJECT TITLE: Improving Forest and Protected Area Management in Trinidad and Tobago **PROJECT SYMBOL:** GCP/TRI/004/GFF	
Recipient Country: Trinidad and Tobago	
Resource Partner: Global Environment Facility (GEF)	
FAO project ID: 615421	**GEF Project ID:** 4769
Executing Partner(s): Forestry Division[1], Ministry of Environment and Water Resources (MEWR); Department of Natural Resources and Environment, Marine Resources and Fisheries Department (MRFD), Tobago House Assembly (THA); and local NGOs.	
Expected OED (Starting date): April 2014	
Expected NTE (End date): March 2018	
Contribution to FAO's Strategic Framework[2]	**a. Strategic objective/Organizational Result:** SO2 **b. Regional Result/Priority Area:** 3 **c. Country Programming Framework Outcome: 3.6**
GEF Focal Area/LDCF/SCCF: BD	
GEF/LDCF/SCCF Strategic Objectives: BD 1 - Improve sustainability of Protected Area Systems	
Environmental Impact Assessment Category (insert √): A B C √	

Financing Plan: GEF allocation:	USD 2,790,000
Co-financing:	
GORTT	
The Green Fund	USD 2,271,662
The European Union	USD 22,563,078
FAO	USD 2,135,334
Subtotal Co-financing:	USD 750,000
	USD 27,720,074
Total Budget:	**USD 30,510,074**

[1] till the Forest and Protected Areas Management Authority (FPAMA) is established and operational

[2] For projects operated by country offices, it is necessary to link projects in FPMIS at OR level. For all other projects, linkage at product/service level is necessary

EXECUTIVE SUMMARY

Background: An estimated 60% of the land area of Trinidad and Tobago (TT) is under forests and other wooded land. Managing biodiversity therein to provide national and global benefits to human societies is therefore relevant to TT where their sustainable supply is under constant threat. In addition, forests serve as carbon sinks which is relevant to TT because TT is a high per capita green house gas emitter. Even though forests in TT have been formally reserved since 1764, apart from their declaration as Protected Areas (PAs) under multiple laws, efforts to manage biodiversity remain fragmentary and ineffective. This has resulted in multiple designations of the same PAs with a fragmented responsibility for their management. Similarly, multiple pressures from diverse stakeholders and rapid economic growth have put pressure on forests and other natural areas and posed risks to biodiversity conservation. The institutional and legal framework remains ineffective to address the challenges of biodiversity conservation. Loss of habitats and conflicting interests of various stakeholders have led to a decline in wildlife population in many natural areas, threatening the existence of many globally and nationally important species in both terrestrial and marine ecosystems.

Why this project? The Government of TT has initiated policy reforms needed to prevent biodiversity loss and increase the management effectiveness of PAs. As a result of this initiative, new PA and Forest policies have been in place since 2011. In addition, a new National Wildlife Policy is in progress which will complement policy interventions driven by the Forest and PA policies. The Green Fund has already begun funding PA management through State Agencies and NGOs/CBOs while the European Union is providing budget support assistance for the implementation of both Forestry and Protected Areas Policies. As per the new PA policy, restructuring the Forestry Division (the agency responsible for managing most of the PAs) to an autonomous authority is underway. However, attention is now needed to develop a PA system and the financial mechanisms needed to support them. Also, enhancing management effectiveness, institutionalising new financing strategies and developing management arrangements in pilot PAs, would provide the country with good models to replicate. This project is thus timely and crucial to support the Government to improve PAs management and provide global environmental benefits.

Constituents of the project:

The project has four technical components:

1. Improvements to the legal and institutional arrangements for PA management
2. Improvements to infrastructure for biodiversity conservation and forest restoration
3. Development and testing of sustainable financing system and
4. Monitoring and evaluation and information dissemination.

Key outcomes:

- PA system covering at least 214,000 ha consolidated to ensure adequate coverage of all important ecosystems and 98,452 ha formally designated as new PAs.
- Management of six PAs improved and biodiversity conservation of unprotected species is strengthened at these sites.
- Resources, PA staff capacity and infrastructure needed for effective PA management are built in six PAs.
- A sustainable financing system is developed for long-term management of the PA system and a Forestry and Protected Areas (FPA) Fund established.
- New revenue generating mechanisms reduce annual funding gap by at least USD 100,000 for management of PA system.
- Results-based management and effective communication to stakeholders that ensures effective delivery of the outputs and sustainability of the project outcomes.

Key outputs:

- Draft National legislation for establishing and managing PAs
- Systematic biodiversity monitoring and site-specific interventions to address threats
- Management plans for six new PAs
- User-fee system operating in two PAs

Impact of the outcomes: These interventions will address the current barriers to sustainable PA management and consequently are likely to improve the delivery of national and global environmental benefits sustainably. They will also contribute to improving the livelihood of many stakeholders through provision of sustainable goods and services and the multiple benefits of the biodiversity-friendly income generating opportunities developed in the PAs.

Budget: This four-year project has a total budget of USD 30.5 million. Total project costs distributed among funding source are: (i) GEF - USD 2.7 million; (ii) MEWR- USD 2.3 million, (iii) The Green Fund USD 22.6million (iv) The European Union - USD 2.1million; and (v) FAO - USD 750,000.

TABLE OF CONTENTS

GLOSSARY OF ACRONYMS

ACP	African, Caribbean and Pacific
APPR	Annual Project Progress Report
AWP	Annual Work Plan
BH	Budget Holder
BDTT	GEF Biodiversity Tracking Tool
BMP	Best Management Practices
CamPAM	Caribbean Marine Protected Area Management Network
CANARI	Caribbean Natural Resources Institute
CARICOM	Caribbean Community
CARIFORUM	The Caribbean Forum
CBET	Community-Based Ecotourism
CBO	Community-Based Organization
CDA	Chaguaramas Development Authority
CFCA	Caribbean Forest Conservation Association
COPE	Council of Presidents of the Environment
CLME	The Caribbean Large Marine Ecosystem
CSME	Caribbean Single Market and Economy
CSO	Civil Society Organization
CSR	Corporate Social Responsibility
CTA	Chief Technical Advisor
DNRE	Department of Natural Resources and the Environment
EBM	Ecosystem-Based Management
EIA	Environmental Impact assessment
EMA	Environmental Management Authority
EPPD	Environmental Policy and Planning Division
ESA	Environmentally Sensitive Area
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FLEGT	Forest Law Enforcement, Governance and Trade
FPA	Forestry and Protected Areas
FPAMA	Forest and Protected Areas Management Authority
FPMIS	Field Programme Management Information System (in FAO)
GCP	Government Cooperative Programme
GDP	Gross Domestic Product
GEB	Global Environmental Benefit
GEF	Global Environment Facility
GIS	Geographic Information System
GORTT	Government of Republic of Trinidad and Tobago
GPIR	GEF Project Implementation Review
IMA	Institute for Marine Affairs
IUCN	International Union for the Conservation of Nature
LTO	Lead Technical Officer (in FAO)
LTU	Lead Technical Unit (in FAO)
M&E	Monitoring and Evaluation

MEA	Multilateral Environmental Agreement
MEWR	Ministry of Environment and Water Resources
MIS	Management Information System
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MRFD	Marine Resources and Fisheries Department
NBSAP	National Biodiversity Strategy and Action Plan
NECC	National Environment Conservation Council
NEP	National Environmental Policy
NFP	National Forest Programme
NGO	Non-governmental Organisation
NSO	National Statistical Office
NTFP	Non-Timber Forest Products
OAS	Organization of American States
OED	Office of Evaluation
PA	Protected Area
PES	Payments for Ecosystem Services
PIF	Project Identification Form
PIR	Project Inception Report
PMU	Project Management Unit
PPG	Project Preparation Grant
PSC	Project Steering Committee
PSIP	Public Sector Investment Programme
PTCM	Project Technical Coordination Mechanism
PTR	Project Terminal Report
QPIR	Quarterly Project Implementation Report
RSPFS	Regional Special Programme for Food Security
SIDS	Small Islands Developing State
SPPR	Semi-annual Project Progress Report
TAG	Technical Advisory Group
TDC	Tourism Development Corporation
TFAP	Tropical Forestry Action Plan
THA	Tobago House of Assembly
TIDCO	Tourism and Industrial Development Company of Trinidad and Tobago Limited
TOR	Terms of Reference
TT	Trinidad and Tobago
TTOS	Trinidad and Tobago Orchid Society
UTT	University of Trinidad and Tobago
UWI	University of West Indies
WASA	Water and Sewerage Authority

CURRENCY EQUIVALENT

USD 1 = TT$ 6

SECTION 1 – RELEVANCE

1.1 GENERAL CONTEXT

a) General development, institutional and policy context relevant to the project

National economy:

Trinidad and Tobago (TT) has a population of approximately 1.3 million people who inhabit the 4,827 km^2 island of Trinidad, and 300 km^2 island of Tobago. The twin-islands sit on the continental shelf of the north-eastern South American mainland. The economy of TT is heavily dependent on oil and gas industry and is regarded as a leading economy in the Caribbean Community (CARICOM) and in the Caribbean Single Market and Economy (CSME).

Gross Domestic Product (GDP) growth has been variable in recent years due to external pressures. Industrial development is often in conflict with environmental conservation in Trinidad due to the rate of industrial development (e.g. petrochemical and mining sector, which accounts for 40% of the GDP in 2012), and the competition for land for traditional and conservation values. Recently, TT has sought to transition from an energy dependent to a diversified economy. Rapid expansion of the tourism sector in Tobago in the past led to the transformation of southern third of this island from a largely agricultural landscape to one that is increasingly urbanized. In TT, important forest resources have been significantly degraded and in some cases irreparably due to unsustainable extraction of natural resources. The contribution of environmental services to GDP remains unrecognised in national accounting. However, the Government of Trinidad and Tobago's recent national sustainable development report[1] reflects its intention to find the balance between economic development and environmental conservation. Social and economic transformation is envisaged by the Government of the Republic of Trinidad and Tobago (GORTT) through strategic reform measures guided by respect for the environment, poverty alleviation and promotion of a healthier nation[2].

A "Green Fund" was created in 2000 to provide resources to conserve the environment. It is funded by a 0.1% tax on the gross sales or receipts of companies doing business in TT. This fund can be used for reforestation, remediation and conservation projects only.

Relevance of forests and biodiversity for the national economy: TT has about 60% of the land area under forest and other woodland. About 76% of the country's forests are in public sector. Approximately 48,000 m^3 of timber is harvested from them annually and this has been gradually declining in the past decade. Planted forests in Trinidad constitute about 18,000 ha (FAO, 2010) and currently provide approximately 10,000 m^3 of timber annually. This forest estate currently supports approximately 85 legal sawmills. About 90% of wood products and most of the construction lumber are imported (from North America). In national accounting, forestry forms part of agriculture sector, which is currently estimated to contribute approximately 0.7% to the Gross National Product. In order to sustainably manage its national forests, TT needs to optimally use its forest resource while simultaneously protect native genetic, species and ecosystem diversity.[3]

Due to its small size, location and geological relationship to the South American continent, TT has high species diversity to surface area ratio and several distinct terrestrial ecosystems exist including: evergreen seasonal forest, semi-evergreen seasonal forest, deciduous seasonal forest, dry evergreen forest, montane forest, mangrove forest, herbaceous swamp, palm marsh and marsh forest. These

[1] Working for Sustainable Development in Trinidad and Tobago (GORTT, 2012)
[2] GORTT/Ministry of Planning and the Economy (2011) "Innovation for Lasting Prosperity: Medium Term Policy Framework 2011-2014
[3] WSDTT, p.76

rich ecosystems provide habitats for a great diversity of animal and plant species. The biodiversity of TT includes over 420 species of birds, 600 different species of butterflies, 95 different mammals, 85 different reptiles, 30 amphibians and 54 species of freshwater fishes. There are also over 2,100 different flowering plants (including over 190 species of orchids) and about 2% of these are thought to be endemic. The marine system of the country is similarly diverse with fringing coral reef, sea-grass beds, oceanic islands and pelagic ecosystems supporting over 354 species of marine fish. This marine system is heavily influenced by freshwater and nutrient inputs from the nearby Orinoco River and the Guyana current.

The biological resources of TT play a key role in providing support to agriculture, fishing, hunting, timber extraction, recreation, tourism and culture. While the economy has shifted to industries from the primary sector, many urban households still benefit from forests (as the source of many ecosystem services). Many rural people continue to gain livelihood benefits from the use wild flora and fauna for hunting[1], fishing, craft, tour guiding and other nature-based activities. Tourism activities such as nature tours to the Caroni Swamp, marine turtle nesting sites in Trinidad and coral reefs in Tobago, generate revenue for individuals and communities, which has trickle down effects in the local economy. However, their contribution to PAs remains low because of absence of a proper user fee system in most PAs. Trinidad's five terrestrial species of game animals (the agouti *Dasyprocta leporina*, the lappe *Agouti paca*, the red brocket deer *Mazama americana*, the collared peccary *Peccari tajacu*, and the tattoo *Dasypus novemcinctus*) support a lucrative hunting industry and the country's wildlife fauna and flora are priced in the international pet and horticultural markets (particularly tropical fish, reptiles and birds) (NWLP, 2013)[2].

Historical context of biodiversity conservation: The Main Ridge Forest Reserve in Tobago was declared in 1764 and is the oldest declared forest reserve in the western hemisphere. The forestry department was established in 1901 in TT, and constitutes the oldest forest agency in the Caribbean.

Since the 1970s, various attempts were made to create a PA system in TT. In 1972, a Multi-Ministerial National Environment Conservation Council was established, which recommended the establishment of a Statutory Authority for management of PAs. In 1978, the Organization of American States (OAS) assisted TT to develop a policy and system plan for PAs. This National Parks Systems Plan included 61 PAs in six categories (13 scientific reserves, eight national parks, eight natural landmarks, 13 nature conservation reserves, six scenic landscapes and 13 recreational parks). Although a policy for their establishment was approved by the Government in 1982 (the 1980 Systems Plan), enabling legislative and associated institutional changes were never implemented (NPAP, 2011).

A draft Forest Resource and National Park Conservation Bill was prepared in 1990, but this legislation was never enacted. A Tropical Forestry Action Plan (TFAP) reviewed the 1980 National Parks System Plan in 1991 and recommended funding of a 5-year Development Project for a National Parks and Protected Areas System under TFAP programme. However, again, no funding materialized for this project. In 1992, the Inter-American Development Bank Land Rationalization and Development Programme proposed a five-year PA development project to kick-start the original OAS Systems Plan. In 1993, the World Bank took over the development of the PAs project and in 1995, the Government established a Project Task Force to coordinate the preparation of the World Bank Project. That project proposed the creation of three national parks and two marine/coastal PAs, and the creation of a National Parks and Wildlife Conservation Authority. Even though the revised plan was approved by the Cabinet in 1996, it was stalled due to the contention regarding the establishment of a new institution to manage the PAs (NPAP, 2011).

[1] which is banned for two years with effect from 01 October 2013
[2] National Wildlife Policy currently under review by the Cabinet

Subsequently, in 1997, a bill was drafted for the establishment of a National Parks and Wildlife Authority in TT. The Bill was subsequently separated into a National Parks and other Protected Areas Bill and the Conservation of Wild Life Bill. However, conflict continued over the issue of the designation of a body to manage the PA system and this led to the enabling legislation being abandoned. In 2001, the Environmentally Sensitive Areas Rules were enacted to address some legislative gaps in designating and managing PAs. However, they did not provide an administrative system for the management of PAs (NPAP, 2011), and remained ineffective in addressing key issues associated with the management of these areas.

In brief, the attempts by the Government of TT to create a PA system in TT have been hampered by the absence of enabling legislation and an effective National policy for PAs and wildlife. The lack of national consensus on key elements of the PA system and the administrative structure for managing them in particular, had contributed to the dilemma (NPAP, 2011).

Institutional and policy context of current biodiversity conservation:

In designating and managing PAs, the National Protected Areas Policy (2011) of TT will pursue the three objectives below[1]:

'1. Conserve the natural heritage, genetic, species, ecosystem diversity and functionality, evolutionary and ecosystem processes and biogeochemical cycles;

2. Conserve the country's cultural, spiritual/religious and historical heritage; and

3. Optimise the contribution of PAs to sustainable livelihoods and human well-being, including opportunities for resource mobilization, education and recreation'

This policy establishes a framework for the selection, legal designation and management of a national system of PAs. This includes the designation of a comprehensive and rationalised system of PAs, new institutional arrangements for management, development of sustainable financing mechanisms, identification of human resource capacity needs, resolution of policy conflicts, development of enabling legislation and tools and guidelines for effective management

The objectives of the National Forest Policy (2011) include:[2]

1. Optimising the contribution of forest resources to livelihoods; cultural and spiritual/religious use, while ensuring sustainable use of forests;
2. Protecting native genetic, species and ecosystem diversity; and
3. Maintaining and enhancing the natural productivity of forest ecosystems and ecological processes to provide important ecosystem services.

This policy states that considering the synergies between the Forest and PA Policies, the implementation of these policies will be undertaken by a new Forest and Protected Areas Management Authority. Both the above policies (and the draft National Wildlife Policy) describe the structure and functions of the Forest and Protected Areas Management Authority (FPAMA) including the governance arrangements with the engagement of the multiple stakeholders. They also propose to undertake within three years of adoption of these policies a process to establish this Authority. This Authority will coordinate and implement the PA policy, including management of terrestrial, coastal and marine areas. The PA and Forest policies also propose to establish, administer and utilise a Forestry and Protected Areas Fund to enable implementation of these policies and describe the possible sources of finance to this Fund.

With the adoption of the new PA and Forest policies in 2011, the country is moving towards consolidating the PA system and adopting the measures to increase management effectiveness of

[1] NPAP (2011), p.20
[2] NFP (2011), p.11

PAs as proposed in the project. A new Wildlife Policy is likely to be published soon, which also harmonises the management of wildlife in the context of the new administrative and policy paradigm adopted under the PAs and forest policies.

The Medium-Term Policy Framework also clearly articulates the need for a new agency to protect key areas while simultaneously creating green spaces for recreational activities for enhancing the quality of life of TT citizens, and that the new Forest Policy and PA Policy will be implemented through the above authority. This is included in an action plan for the GORTT over the period 2011-2014, which proposes that "*the country's biological resources will be conserved for future generations through new administrative arrangements for their management namely the implementation of the National Parks and Recreation Authority*".[1]

Other key national policies that govern the delivery of goods and services from PAs include the following.

The National Environmental Policy (2006) has several provisions relating to the environment and conservation of natural resources and addresses the management of certain ecosystems such as coastal and marine systems and forests.

The National Climate Change Policy (2011) advocates conserving forests for their contribution to carbon sequestration. It proposes enhancement of the resilience of natural systems through the development of a system of national PAs. The National Biodiversity Strategy and Action Plan suggest systems and programme to enhance the capacity to manage and use biodiversity sustainably. The Working for Sustainable Development in Trinidad and Tobago Policy (WSDTT) document states the vision of TT to prevent the loss of biodiversity and ecosystem services.[2] It stresses the importance of biodiversity and PAs and advocates the establishment of a network of PAs. It also acknowledges the need for a New National Physical Development Plan.

National Integrated Water Resources Management Policy (2005) aims to restore natural water systems and maintain healthy ecosystems. Similarly, the National Wetland Policy (2002) provides a rational framework for the wise use of wetlands. It specifically suggests that the GORTT will preserve outstanding examples of all wetland ecosystems in TT by including them in a PA system.

The National Action Programme to Combat Land Degradation (2006) in TT recommends implementation of reforestation projects, rehabilitation of degraded areas, and extension of forested areas and protection of existing forest areas. It proposes a strategy of stakeholder empowerment to achieve these improvements to biodiversity management.

In the area of aquatic resources conservation and fisheries, the Government of Trinidad and Tobago is member of the Western Central Atlantic Fishery Commission (WECAFC) of FAO and the Caribbean Regional Fisheries Mechanism (CRFM) of CARICOM. Through these regional fishery bodies the Government has committed itself to support implementation of various international and regional instruments such as the ecosystem approach to fisheries (EAF), the FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, and the Caribbean Community Common Fisheries Policy (CCCFP). The recently regionally agreed Caribbean large Marine Ecosystem (CLME) Strategic Action Programme provides an additional framework for ecosystem based aquatic resources management and regional collaboration in which Trinidad and Tobago participates actively.

[1] MTPF, p.16
[2] WDSTT, p.2

Integrating biodiversity to national development plans:In order to protect and conserve TT's natural and cultural heritage through land use and physical development planning (for terrestrial, coastal and marine areas), the Government of TT put forward some key measures in the new PA policy, including:

"*Within five years of adoption of the PA Policy (2011), Government of TT (in collaboration with all relevant stakeholders) shall:*

i. Ensure that issues and needs relating to PA management are integrated into national policies and plans, including the integration of the provisions and intent of PA Policy into:
   a. the National Physical Development Plan, local land use plans and all physical development permitting processes;
   b. relevant national socioeconomic development policies and processes (e.g. Tourism Policy, poverty alleviation strategies, energy policies, quarry policies, land settlement and housing policies, public utilities policies).

ii. Enforce the law and land settlement policies concerning unplanned (and illegal) settlements in PAs;

iii. Develop mechanisms for compensation for damage to PAs as a result of unplanned and illegal activities including agriculture and residential squatting; and

iv. Take into account the real value of ecosystem services and products provided by natural ecosystems in PAs and their contribution to livelihoods in development decisions."

Institutions that govern PAs in TT

The following key institutions govern PAs in TT currently;

- *Forestry Division, Ministry of Environment and Water Resources*: directly responsible now for managing wildlife Sanctuaries, Forest Reserves, and other PAs.
- *Tobago House of Assembly (THA)*: THA is the local government body directly responsible for formulating and implementing policy including the conservation of biodiversity resources in Tobago(consistent with the written policy and laws of the unitary state of TT). THA is dissolved four years after its first sitting, and reformulated immediately after subsequent primary election. Within THA, the Division of Agriculture, Marine Affairs, Marketing and the Environment holds the responsibility for sustainable management of natural resources and has the two departments below.
- The Department of Natural Resources and the Environment (DNRE): responsible for managing the Main Ridge Forest Reserve and the Tobago wildlife sanctuaries; and
- Marine Resources and Fisheries Department: responsible for managing the Buccoo Reef /Bon Accord Lagoon Complex Protected Marine Area.
- *EMA:* directly responsible for designating and coordinating the management of ESAs.
- *CDA*: established to undertake development of the North-West Peninsula of Trinidad, which were vested in the CDA in 1974.
- *Fisheries Division, Ministry of Food Production, Land and Marine Resources*: directly responsible for managing and protecting marine and inland fisheries and has legislative responsibility for designating prohibited areas in the marine environment of TT.
- *Water and Sewerage Authority*: under the Water and Sewerage Act can prohibit or regulate activities in watershed protection areas.
- *Ministry of Community Development and the National Heritage Trust of Trinidad and Tobago*: responsible for appointing the National Heritage Trust of Trinidad and Tobago.
- *Town and Country Planning Division (TCPD), Ministry of Planning, Economic and Social Restructuring and Gender Affairs*: manages the physical environment by ensuring that development on land does not adversely affect the coastal and marine environments. The 20-year National Physical Development Plan for Trinidad and Tobago was developed by the TCPD and made statutory in 1984. The next 20 year plan is still to be prepared.

- *The Commissioner of State Lands* has the power to designate other agencies to manage all State lands inclusive of the sea bed, under the State Lands Act (Ramlogan, 2013).
- A few CSOs manage private PAs (e.g. Asa Wright Nature Centre) or co-manage prohibited areas (e.g. Nature Seekers).

b) Threats to conservation of globally-relevant biodiversity in TT

Trinidad and Tobago contains a rich variety of ecosystems due to its proximity and geomorphologic ties to the South-American mainland (Kenny, 1995). Ecosystems on these islands include a range of highly productive marine ecological communities, including coral reefs, and sea grass beds. The islands' location in the Orinoco delta and its influence by the discharge from this river and other continental rivers (through the action of the South Equatorial Current) also gives rise to highly productive and commercially important near-shore fisheries, and globally important seabird habitats (Devenish *et al*., 2009; Agard and Gobin, Mallela and Harrod, 2008). Terrestrial ecosystems on these islands include freshwater wetlands, mangrove swamps, savannahs dry and mesic upland forest as well as montane forest ecosystems (Beard, 1946; Kenny, 2000; Nelson, 2004). These terrestrial ecosystems are considered regionally threatened (Dinnerstien *et al*., 1995), and hosts biodiversity of global significance, including 59 endemic plants (Van den Eynden, *et al*., 2007) and endemic birds, including the critically endangered Trinidad Piping guan (Hayes *et al.*, 2009). Total species diversity among the islands is estimated between 10,000 to 15,000 terrestrial and marine species (Starr, 2011).

TT is home to a variety of flora and fauna of global importance. The globally important species that are not adequately protected currently in TT are listed in Table 1 in Appendix 12. Notably at least eight of these species are considered critically endangered, and nine are endangered, at the global level, by the IUCN. In this regard, their loss from the islands will be of global significance, particularly in the case of endemic species such as the Trinidad piping guan (Pawi) *Pipile pipile*, which has its only known populations on the island of Trinidad.

However, a combination of factors poses threats to conservation of biodiversity of global relevance in TT. Biodiversity in TT is in rapid decline and the historical rate of loss of natural vegetation is about 0.8% per annum (Agard and Gowrie, 2003). While this rate of loss may not be large in absolute value, the small size of the island, and the occurrence of these losses in areas that increase isolation of existing habitat fragments makes the impact of biodiversity of these losses disproportionate.

The main factors that destroy/degrade natural ecosystems in TT include:

- increased rates of conversion of natural ecosystems for development;
- unsustainable agricultural practices such as slash and burn, heavy and indiscriminate use of agrochemicals etc;
- expansion of roads, utility networks, oil and gas pipelines and other infrastructure that increases fragmentation of natural ecosystems;
- intentional or accidental destruction of forest by fire;
- invasion by non-native species into native ecosystems (e.g. elephant grass);
- over-exploitation of biodiversity resources (e.g. over-hunting of wildlife[1], over-fishing etc.); and
- pollution and climate change (NPAP, 2011).

Major direct threats that result in biodiversity loss are below.

Threat 1: Habitat loss/degradation: Habitat loss and fragmentation of ecosystems stemming from developmental needs pose increasing threats to biodiversity. An important example of these losses

[1] 140, 557 wild animals were reportedly hunted in the last three years. Hunting is banned for two years from 1 October 2013- http://www.trinidadexpress.com/news/Hunting-banned-for-two-years-224512871.html)

includes the Valencia Wildlife Sanctuary, which has lost more than 75% of its natural vegetation remaining due to quarrying (Nelson, 2013). The rate of housing development has increased significantly because of Government-led programmes to provide housing for low-income families as well as middle and upper class housing on hill sides. Inappropriate and unsustainable habitat modifications including mining, farming, illegal land appropriation etc. degrade and accelerate the loss of globally relevant species. Industrial development has resulted in the conversion of significant tracts of coastal ecosystems (principally mangroves) to industrial estates. The road network also poses a risk of increased fragmentation of ecosystems. Wetlands and marine ecosystems are impacted by conversion of swamps for agriculture, as has been seen at the Nariva swamp on the eastern coast of Trinidad, along the south-eastern coast of Tobago due to gas-pipe line developments, or recreation as in Invaders Bay.

About 95% of the original natural forest in 1969 was converted to degraded or fragmented forests by 1994 in Valencia forests (Al-Tahir *et al.*, 2005). Likewise, the National Wetlands Policy estimated a loss of approximately 50% of wetlands in TT up to 2002.The IMA (2010) reported loss of habitat (494 ha) in Caroni Swamp between 1922 and 1985 due to road construction, sewage treatment facilities, landfill and river widening. The Nariva Swamp area dwindled due to rice farming activities, slash and burn agriculture and infrastructural development (Carbonell *et al.*, 2007) [1].

Threat 2: Overexploitation of biodiversity: Biodiversity resources are being extracted beyond sustainable limits. An example of this unsustainable use of biodiversity is reflected in the overharvest of the five game mammals in Trinidad (Nelson, 1996; Nelson *et al.*, 2011), which has led to populations of these species to fall to levels significantly lower than many sites in Latin America. A steady increase occurred in the numbers of wild animals hunted annually between 1999 and 2008, with about 100% increase in numbers over this period. The critical thresholds of wildlife population to guide decision-making about regulating hunting is yet to be understood [1, 2]. Similarly, illegal logging, unsustainable levels of timber extraction and over-fishing also pose threats to biodiversity in many forest areas in TT. In the latter case, the over-fishing of freshwater fish has recently led to a ban on the harvest of certain species of fresh-water catfishes (*Hoplosternum littorale*) and black conchs (*Pomacea urceus*). Wildlife smuggling poses a continuing challenge to wildlife conservation. Uncontrolled recreational activities (e.g. collecting rare species for souvenirs or as pets), fires etc. also pose threats to biodiversity.

Threat 3: Invasive Species: Introduction and proliferation of non-native invasive plant and animal species have caused negative impacts. Of the 76 exotic species in TT, 36 are considered as invasive[2]. An example of the impact of alien invasive species is reflected in the current threat to the native palms of the islands due to the alien invasive red palm mite (*Raoiella indica*). Similarly, in the coral ecosystems in Tobago, the recent detection of the lion fish (*Pterois volitans*) poses a significant threat to a coral system already stressed due to the impacts of coral disease, bleaching and over-fishing.

Threat 4: Pollution and climate change: Rapid industrialization and transformation of lowland ecosystems on both islands to human dominated urban landscapes has led to pollution of many freshwater and near-shore coastal ecosystems with sediments, industrial effluents and sewage. Recent reports indicate an increase in temperature of 1.7^0C over the period (1961 – 2008 (Draft Climate Change Policy for Trinidad and Tobago, 2010) compared with an increase of 0.6^0C over the period 1961 – 1990. This indicates an increase in the warming since 1990. Over the period 1984 to 1992, sea level around TT rose by 1.6mm to 3 mm (Sutherland *et al.*, 2008)[2]. Climate change represents an important over-arching threat to the integrity of PA system as it is likely to alter the spatial requirements of many species, and change temperature and precipitation regimes, affecting forest distribution and threatening in particular the high elevation forest communities which are represented on the islands by very small spatial extents. Current PAs do not contain adequate

[1] http://www.cbd.int/doc/world/tt/tt-nr-04-en.pdf
[2] http://www.cbd.int/doc/world/tt/tt-nr-04-en.pdf

representation and/or quantity of habitat types, particularly of deciduous/dry forest types or high elevation forests, and their lack of connectivity and habitat corridors will result in limited resilience and adaption responses to climate change, to ensure long-term species survival. Low-lying coastal lands bear the risk due to sea level rise driven by climate change. In addition, ocean acidification, increase in storm damage and thermal stress-induced coral bleaching threaten the diverse and productive coral reefs around these islands[1]. Wetlands and marine ecosystems are impacted by conversion of swamps for agriculture, pollution by agricultural chemicals, industrial effluent, and sediments from quarrying and domestic sewage.

Rapid economic growth has been the most important indirect driving force in the country. Coastal ecosystems and certain sections of the mountain ranges that are near to densely populated areas have been negatively affected. Tourist arrivals increased by 200% between 1991 and 2005 in TT and the consequent expansion of the hotel industry resulted in greater pressure on coastal ecosystems, especially in Tobago[1]. Unplanned industrial and urban development impact ecosystems and key species negatively, by increasing habitat fragmentation and isolation. Uncontrolled tourism and residential development have caused severe damages to coral reefs in Tobago.

The negative consequences of the above drivers on biodiversity include:

- high rates of habitat degradation, isolation and fragmentation and loss of habitats for species;
- declining populations of key flora and fauna, pushing many species to threatened or endangered status (e.g. ocelot (*Leopardus pardalis)*, West Indian manatee (*Trichechus manatus*), black coral (*Antipatharia* spp.), Blue and Gold Macaw (*Ara ararauna*), or confined to remote and isolated areas (e.g. the globally critically endangered Pawi or Trinidad Piping-Guan (*Pipile pipile*)) (NPAP, 2011).

c) Project sites and threats to biodiversity conservation

Of the six new PAs to be created through the project, four are situated in Trinidad and two on/around the island of Tobago. Those on the island of Trinidad include, Caroni Swamp, Nariva Swamp and adjacent beaches, Trinity Hills and an adjacent portion of the Victoria-Mayaro Reserve, and the Matura forest and adjacent beaches. The areas on Trinidad amount to 35,235 hectares in size. The two PAs on/around Tobago include the North-East Tobago Marine PA and the Main Ridge Forest Reserve which constitute approximately 63,217 ha in size. A brief review of the boundaries, important natural and socioeconomic features, and the rationale behind selection of each site are provided below.

Trinidad Protected Areas

1. Caroni Swamp

The proposed Caroni Swamp PA (Map A.1 in Appendix 7) covers an area of 3,258 ha. This PA includes all the lands formerly designated as the Caroni Swamp Forest Reserve, including those bounded to the west by the Gulf of Paria, to the North-East by the southern boundary of the Laventille Estate, including all State lands south of the Caroni River, and west of the Princess Margaret/Uriah Butler Highway and north of the Madame Espangol River, and includes the areas set aside as the Caroni Swamp wildlife sanctuary (Bacon and French, 1972). Designated a Ramsar site in 2005 this wetland is a tidal-estuarine ecosystem dominated by mangrove forests (*Rhizophora mangle*, *Avicennia germinans and Laguncularia racemosa*), and is the largest mangrove forest in the country accounting for 56% of this forest-type in TT (Juman and Ramsewak, 2013). These forests are crisscrossed by a network of both man-made and natural channels, the latter the result of drainage attempts begun in 1921 and continued through 1954, though later abandoned (Bacon and French, 1972). These drainage attempts have greatly modified the hydrological nature of the swamp, and although the

swamp is fed sediment-laden freshwater via the Caroni, Blue, Guayamare and Madame Espangol rivers, its salinity levels have increased due to these anthropogenic disturbances to its freshwater flows (Juman and Ramseak, 2013).

Biologically, the Caroni Swamp is a diverse ecosystem with 157 species of birds known from the site including the national bird, the scarlet ibis (*Eudocimus ruber*) (Thelen and Faizool, 1980). In this regard, the swamp is an important stop-over site or over-wintering site for many migratory birds including several threatened and declining species (e.g. *Calidris pusilla* and *Tryngites subruficollis*). Other terrestrial vertebrates at the site include crab-eating raccoons (*Procyon cancrivorous*), silky anteaters (*Cyclopes didactylus*), caiman (*Caiman crocodilus*) and Ruschenberger's tree boa, (*Corallus ruschenbergerii)* (Bacon and French, 1972; Bhagratty *et al*., 2013, Taylor *et al*., 2011).

The swamp is also considered an important nursery habitat for coastal fin-fish fisheries in the Gulf of Paria (Mohammed, 2008) and for subsistence shellfish, conch and freshwater fish harvest by local people (Ramdial, 1980). This ecological diversity also supports a small but potentially important ecotourism sector, with local ecotourism access values estimated as USD 126,000, and total ecotourism use as approximately 13,500 visitors in 2012 (Mackoon, 2013).

Specific threats to biodiversity

Within the Caroni swamp ecosystem there are multiple stressors which potentially negatively impact this system, and will require management interventions:

- Anthropogenic land-based changes in freshwater inputs to the swamp. These include drainage efforts to widen existing rivers and channels, land reclamation for agriculture have altered fresh-water inputs to this swamp. These changes can cause important changes to the salinity regime of this ecosystem, in particular the loss of freshwater marshes from the Caroni swamp ecosystem (Juman *et al.,* 2002; Juman and Ramsewak, 2013).
- Polluted runoff from agricultural activities, industrial wastewater and sewage, affects the water chemistry of the swamp, with knock on effects on the biodiversity of the site (Juman *et al.,* 2002).
- Climate change impacts including potential sea-level rise, can increase the landward migration of mangroves, and exacerbate the loss of the freshwater marshes associated with this system.
- Illegal hunting of birds, and harvesting of fish, shellfish and other wildlife within the swamp, poses a threat to these species at the site in spite of the protected status of this wetland.
- Access to the site remains largely unregulated, with current management actions on this front remaining largely ineffectual;
- Forest fires during the dry season potentially threaten the boundaries of this PA, in particular the remaining natural freshwater marshes;

2. Nariva Swamp & coastal zone

The proposed Nariva swamp PA (Map A.2 in Appendix 7) is the largest intact freshwater wetland in the country (Juman, 2010). It includes all state lands within the boundaries of the existing Nariva Environmentally Sensitive Area (ESA) in Legal Notice 334 of 2006, amounting to 11,343 ha, as well as a satellite area consisting of the beach-front from the low tide to high tide marks, consisting of 70 ha along the Manzanilla Beach, from the northern to southern boundary of the ESA on the island's Atlantic coast. This proposed PA consists of a complex mosaic of coastal beaches, mangrove forest (represented by *Rhizophora mangle*, *Avicennia germinans*, and *Laguncularia erectus*), herbaceous freshwater marshes (dominated by *Cyperus giganteus, Phragmites australis,* and *Montrichardia arborescens*), swamp forest (identified by the presence of *Pterocarpus officinalis*), palm forest (consisting of stands of *Roystonea oleracea* and *Maurita setigera*), and 4 types of moist tropical

forests consisting of the *Carapa-Mora*, *Carapa-Sabal*, *Carapa-Clathrotropis* and *Trichila-Bravaisia* forest associations (Beard 1946). This complex structural diversity supports a diverse fauna with 204 species of birds including many seasonal migrants (e.g. *Calidris pusilla),* 39 species of reptiles including globally vulnerable and threatened species such as *Chelonoidis denticulata and Dermochelys coriacea*, and 45 species of mammals including several rare and threatened species (e.g. *Cebus albifrons* and *Trichechus manatus*) (Worth *et al*., 1973; Hsu and Agoramoorthy, 1996).

While the Swamp sustains a very small ecotourist industry, most of the human activities in this area are associated with harvest of wildlife (e.g. *Dasyprocta leporina*), freshwater fish (e.g. *Hoplosternum littorale*), crabs (*Cardisoma guanhumi*), oysters (*Crassostrea rhizophorae*) and molluscs (*Pomacea urceus*), and seasonal agriculture (e.g. watermelons, peppers, and tomatoes) (Mahadeo, 2011). A large proportion of the proposed PA has been disturbed by agriculture, much of it illegal. This transformation was so significant in the 1990s that the area was listed on the Ramsar convention's Montreaux record in 1993, after its designation as a Ramsar site in 1992 (Carbonell *et al.,* 2007). In an effort to manage human use of the site, it has been subject to multiple management designations as a prohibited area, wildlife sanctuary and environmentally sensitive area, under the Forest Act (Chap: 66:01), Conservation of Wildlife Act (Chap 67:01) and Environmental Management Act (Act No. 3 of 2000), respectively (Carbonell *et al.* 2007). However, illegal farming, hunting, harvest of freshwater invertebrates and fish and anthropogenic fires as well as limited investments in PAs management continue to threaten biodiversity at this location.

Specific threats to biodiversity

Several threats pose significant challenges to biodiversity protection in Nariva PA, including:

- Many species are harvested by local communities for subsistence and commercial purposes. In the case of some species, such as the blue and yellow macaw (*Ara ararauna*), and several of the local finches, this consumption for the pet trade has led to extirpation of the species from this PA. In the case of blue and yellow macaw (*Ara ararauna*), it has become the focus of an intensive reintroduction programme to restore this species;
- Poaching the five game mammals, and unsustainable harvesting of the palmiste palm (*Roystonea oleracea*) which is used as important nesting habitats by the 2 species of macaw at the site (*A. ararauna* and *A. manilata*) habitat;
- Incidental take of globally threatened species such as the West Indian manatee (*Trichechus manatus*) is also known to occur at this site;
- In addition, stocks of freshwater species such as the cascadura (*Hoplosternum littorale*) and black conchs (*Pomacea urceus*) are depleted as a result of over harvesting;
- Habitat destruction has affected more than 1/3 of this wetland PA, with significant removal of the natural vegetation and modification of the hydrology of the swamp by illegal rice farmers in the 1990s, and the impact of these alterations remain a critical factor in the ecosystem's management today;
- Agricultural squatting remains a significant threat, with the boundaries of the existing PAs at this site constantly threatened by illegal farming;
- Associated with illegal and legal farming at this site, is the threat of agricultural fires, which are used by farmers at the site as a land preparation technique during the dry season, and which can potentially have significant consequences for the natural habitats at the site.

3. Matura Forest and coastal zone

The proposed Matura PA and its satellite protected area (Map A.3 in Appendix 7) are located at the north-eastern quadrant of Trinidad, and includes the 9000 ha existing Matura environmentally sensitive area, and the seasonally-prohibited coastal beaches of Rincon, Matura and Fishing Pond

(approximately 39 ha of beach habitats). The forest habitats of the "core" protected area rise from sea-level to 575m in elevation and consist of moist tropical forest and premontane sub-tropical forests (Nelson, 2004), the former consisting primarily of the *Carapa-Mora* faciation and the latter the *Brysonima-Licania* faciation (Beard, 1946). Notably, the rapid elevational gradient at this site creates an extremely diverse plant community, and recent work has identified 5 distinct plant communities at this site (Van den Eynden *et al*., 2007). This area is biologically very diverse with over 200 tree species known from the site, and its fauna comparatively intact, with known populations of the island's largest carnivore, the ocelot (*Leopardus pardalis*) present at this site (Thelen and Faizool, 1980). With eight endemic plant species from Trinidad (three of these assessed as endangered – *Clusia aripoensis*, *C. tocuchensis* and *Macrolobium trinitense*), its forest fauna including the globally endangered Trinidad piping guan (*Pipile pipile*) (Hayes *et al*., 2009), and its coastal beaches important nesting habitats for the globally endangered leatherback turtle (*Dermochelys coriacea*), this proposed PA is an important site for conservation of the unique fauna and flora of the country.

The proposed PA is also heavily used by local people, with 5,325 individuals living in fourteen communities next to the area and known to at least partially derive their livelihoods from this site (Van den Eynden *et al*., 2007). In this regard, at least 500 hunters use the area for subsistence and commercial hunting despite its designation as an environmentally sensitive area. These hunters harvest the five game mammals (*Dasyprocta leporina*, *Agouti paca*, *Dasypus novemcinctus*, *Peccari tajacu* and *Mazama americana*) and native finches (*Oryzoborus angolensis*, *Sporophila bouvronides* and *S. intermedia*) from this site (Van den Eynden *et al*., 2007). The coastal beaches of Rincon, Matura and Fishing Pond are currently the focus of heavy seasonal use for ecotourism based on turtle-watching, with annually 15,000-16,000 using these beaches for this purpose (UWI, 2012).

Specific threats to biodiversity

At the Matura forest, this core reserve is subject to several threats including:

- Illegal harvesting of wildlife for subsistence and commercial consumption including the five game mammals, as well as locally threatened species such as the ocelot (*Leopardus pardalis*), crayfish, land-crabs, tamandua anteater (*Tamandua tetradactyla*), and the globally critically endangered Trinidad piping guan (*Pipile pipile*) (Van den Eynden *et al*., 2007);
- Agricultural squatting within the PAs – at least 10 such squatters are known within this proposed PA (Hosein, 2010);
- Forest fires during the dry season potentially threaten the boundaries of this PA (Hosein, 2010);
- Illegal logging and harvest of NTFPs remains a threat to biodiversity at the sites (Van den Eynden *et al*., 2007);
- Climate change impacts including changes in temperature and hydrological regimes particularly affecting high elevation forest communities, and affecting drought intensity and increasing forest fire risk;
- At the coastal beach satellite site, key challenges include incidental catch of turtles in coastal fishery, solid waste pollution including plastics and beach erosion;

4. Trinity Hills and eastern extension

The proposed Trinity Hills PA and its eastern extension (Map A.4 in Appendix 7) are 8,200 ha and 3,325 ha in size respectively. The new PA includes all of the area known as the Trinity Hills wildlife sanctuary and 3,325 hectares of the adjacent Victoria-Mayaro Forest Reserve, taking its southern, western and north-western boundaries from the wildlife sanctuary, and its new eastern boundary from Edward Trace intersection with the gas-main right of way and north for 6.8 km along this right of way, and then bearing west to the most north-eastern point of the existing wildlife sanctuary.

The new PA consists of moist tropical forest (Nelson, 2004) with 3 three main forest faciations discernable on the landscape – *Carapa-Mora*, *Carapa-Pentaclethra-Sabal*, and *Trichilia-Brosimum-Protium* (Beard, 1946). These forests occur on a highly undulating landscape, drained by the Pilote, Black Water, Lucy, Hilaire, Stone, La Table and Moruga rivers (Dardaine, 1972). The namesake Trinity Hills rise in the south-eastern portion of the PA to 307 m.

Biologically this site contains the last lowland virgin forest in southern Trinidad (Thelen and Faizool, 1980), with a complete mammalian fauna of the island, including ocelots (*Leopardus pardalis*), tamandua anteaters (*Tamandua tetradactyla*) both species of monkeys (*Alouatta seniculus* and *Cebus albifrons*), all five game mammals (*Dasyprocta leporina*, *Agouti paca*, *Dasypus novemcinctus*, *Peccari tajacu* and *Mazama americana*) and Neotropical river otters (*Lontra longicaudis*) (Nelson, 1996). This site was also one of the historical ranges of the globally endangered Trinidad Piping guan (*Pipile pipile*) and a potential site for its reintroduction. As part of the Victoria-Mayaro Reserve, the proposed PA is listed as one of the 7 important bird areas for the country (Devenish *et al*., 2009).

Despite its relatively remote location, low human density (only the relatively small villages of Moruga and Guyaguyare are nearby), and lack of road access, this site is becoming more and more threatened by human development. Increasingly fragmented by infrastructure for the oil and gas industry, and its adjacent location to the contiguous Victoria-Mayaro Reserve, which is the locus for some of the heaviest hunting pressure in the country, this site poses significant conservation challenges once designated as a PA. It is also increasingly threatened on its western margins due to seasonal agricultural fires, by agricultural squatters on its margins. However, its high biodiversity and large size makes it a priority conservation area.

Specific threats to biodiversity

Disturbances that potentially threaten biodiversity at this site include:

- Illegal harvesting of wildlife for subsistence and commercial consumption including the five game mammals, as well as locally threatened species such as the ocelot (*Leopardus pardalis*), tamandua anteater (*Tamandua tetradactyla*) (Nelson, 1996) and the globally critically endangered Trinidad piping guan (*Pipile pipile*);
- Habitat fragmentation due to the activities of the oil and gas industry, specifically gas, power, water and transportation corridors developed and proposed by the industry have caused significant habitat fragmentation, isolation and degradation in this PA. These corridors have also contributed to increased access for illegal hunting and seasonal fire damage at this site (Nelson, 2013);
- Agricultural fires during the dry season are a growing concern along the western margins of the reserve (Nelson, 2013);
- Climate change impacts including changes in hydrological regimes particularly affecting drought intensity and increasing forest fire risk during the dry season;

Tobago Protected Areas

1. Main Ridge Forest Reserve

The proposed Main Ridge protected area (3,937 ha) (Map A.5 in Appendix 7) is currently designated the Main Ridge Forest Reserve and represents the oldest forest reserve in the western hemisphere, having been set aside in 1776. The vegetation at the PA is considered to consist of three types, lower montane rainforest (*Byrsonima spicata – Licania biglandulosa* forest association), xerophytic rainforest (*Manilkara bidentata– Guettarda scabra* forest association) and lowland rainforest

(*Carapa guianensis* - *Andira inermis* fo*rest* association) (Beard, 1994). The topography of this site is extremely dissected, with steep slopes that reach their highest point at 573 metres at Centre Hill.

A total of 210 species of birds, 16 species of mammals, 24 species of snakes, and 16 species of lizards have been recorded in this PA. This PA is the primary habitat of the globally near threatened White-tailed Sabrewing Hummingbird (*Campylopterus ensipennis*) in the country and an important bird area for the Americas (Devenish *et al*., 2009). The Main Ridge is also habitat for the Rufous-vented Chachalaca (*Ortalis ruficauda*) one of the two national bird species. This high and unique avian diversity have contributed to the site being listed as an important bird area in the Americas (Devenish *et al*., 2009). This PA is also critical habitat for several threatened endemic frogs including *Manophryne olmonae,* and *Pristimantis turpinorum* as well as endemic reptiles such as *Erythrolamprus ocellatus.* Plant endemism is comparatively high for this small reserve, with an estimated 16 endemic plants thought to be found at this site.

The Main Ridge's is heavily utilized for ecotourism, with its main trail, the Gilpin trail , being the focal point for intensive use for nature walks by local tour guides. Access to this PA is primarily through one access road from Bloody Bay to Roxborough, which bisects the reserve. Although generally managed for ecotourism, this site is subject to exploitation of its local wildlife by hunters who harvest local mammals such as the nine banded armadillo (*Dasypus novemcinctus*) for commercial and subsistence purposes.

Specific threats to biodiversity

The proposed Main Ridge PA is a site of high biodiversity on the island of Tobago, and this PA's small size makes it vulnerable to several threats including:

- Harvest of game species such as the tattoo (*Dasypus novemcinctus)* for commercial and subsistence hunting is a threat to the diversity at this PA;
- Unsustainable levels of tourist traffic on the nature trails could potentially negatively affect wildlife at the site and lead to a degradation of the vegetation at this site;
- The occurrence of agricultural fires on the lower slopes of this PA originating in adjacent private agricultural lands can pose a potential threat during the dry season at this site;
- Alien invasive species are a potential threat at this site, thus, invasive species such as *Batrachochytrium dendrobatidis* poses a significant risk at this site where there are several endemic amphibians (e.g. *Manophryne olmonae,* and *Pristimantis turpinorum*);
- Climate change impacts including changes in hydrological regimes particularly affecting drought intensity could increase fire risk during the dry season, and increase drought stress for high elevation plant species at this PA.

2. North-East Tobago Marine Protected Area

The existing system of PAs in TT is very deficient in terms of its representation of marine ecosystems. This lack of a network of MPAs is somewhat paradoxical given the importance of fishing for coastal communities on both islands, the value of reef ecosystems for fishing and tourism in Tobago and the intensity of non-renewable resource exploitation in the marine environment around both islands (Nelson, 2013).

Proposed North-East Tobago Marine PA (Map A.6 in Appendix 7) is the largest of the six PAs in this project, covering an estimated 59,280 ha, extending on Tobago along the entire coastal strip from Roxborough on the north-east coast, north to Parlatuvier on the north-west coast and extending seawards for 6 nautical miles. This large protected area is an ecologically complex site including

terrestrial sites as well as marine benthic and open-water ecosystems. Specifically, it encompasses several large coral reef formations, MM islets including Little Tobago Island, the St. Giles Islands, Little Tobago and the Sisters and Brothers Rocks. This proposed PA hosts a significant proportion of Tobago's coral reefs, including those at Man-o-war Bay and Speyside. These coral systems host a diverse ecosystem with representation from several globally threatened species including Staghorn Coral (*Acropora cervicornis)*, Elkhorn coral (*Acropora palmata)*, brain corals (*Montastraea* sp.) and Hawks-billed turtles (*Eretmochelys imbricata)*.

The offshore islands are critical for avian biodiversity, serving as important regional breeding habitats for seabird species such as Audubon's shearwater (*Puffinus lherminieri*), Red-billed tropicbird (*Phaethon aethereus)*, Brown booby (*Sula leucogaster)*, Red-footed booby (*S. sula)*, Magnificent frigatebird (*Fregata magnificens)*, Sooty tern (*Sterna fuscata)* and Brown Noddy (*Anous stolidus)* (Devenish *et al*., 2009).

Within the marine communities, the coral reefs are affected by both natural and anthropogenic factors including overfishing, habitat degradation, land-based pollution stresses and climate change induced events. With regard to overfishing at these reefs, the effects of overfishing particularly among herbivorous fish, has been identified as an important negative factor affecting marine biodiversity. Other factors having important negative impacts on these reefs are the impacts of coral bleaching and coral disease. Within the last decade at least 2 significant bleaching events have occurred at this site (in 2005 and 2011). On the offshore islands, poaching of the seabirds is an important threat to the birds at this site (Devenish *et al*., 2009).

The coral reefs and off-shore islands within this proposed PA are currently the focus of ecotourism in the form of glass bottom boat tours, turtle watching, bird watching, sport fishing, scuba diving (Wothke, 2013). Given the large size of this MPA, the number of fishing communities on its borders, the multiple types of biological resources at the site, and its existing uses for tourism, the development of this MPA will require extensive zoning of recreational activities and fishing, through a rigorous stakeholder consultation process.

Specific threats to biodiversity

The North-East Tobago MPA is the largest of the six PAs proposed. Due to its size, ecological diversity, historical human uses and proximity to coastal population centers this site is subject to several potential threats:

- Widespread overfishing of reefs has also removed many of the herbivorous fish, upsetting the competitive balance between corals and seaweeds, often leading to a fundamental change in the community (Armstrong *et al*., 2009); Drastic declines in the coral cover in Tobago's reef systems have been reported in recent years (from 22% in 2005 to 16% in 2008 and many sites are showing less than 5% live hard coral cover) (D'abadie, 2011). The health of Tobago's coral reefs is declining (van Bochove and McVee, 2012).
- The anthropogenic threats to Tobago's coral reefs include land and marine-based pollution, coastal development, sedimentation, nitrification, overfishing and unsustainable tourism (van Bochove and McVee, 2011);
- Climate change related occurrences such as hurricanes and tropical storms and coral bleaching as occurred in 2005 and 2010, are significant threats to biodiversity at this PA (van Bochove and McVee, 2011). Coral disease incidents have been closely linked to thermal stresses such as those due to rising sea temperatures which coincided with the local disease outbreaks to Tobago's corals following the bleaching events.
- The highly invasive Lionfish (*Pterois volitans*) has been established in NE Tobago and can potentially cause significant harm to the marine ecology of the area (Albins and Hixon, 2011).

- Sedimentation due to coastal development, deforestation and increased sediment loading from the Orinoco and Amazon River system are a threat to the PA's coral systems. These issues are magnified in Tobago where steep sloping hills lead to an increase in runoff into marine ecosystems (Burke and Maidens 2004; van Bochove and McVee, 2011)
- The lack of adequate waste management systems is exacerbating the impact and frequent of disease on coral reefs in Tobago and potentially this PA.

d) Main problems the project will address

The main impediments for securing biodiversity in TT to ensure provision of global environmental benefits (GEBs) include:

(1) Lack of a legally constituted PAs system and fund;
(2) Lack of appropriate enabling legislation for biodiversity utilization and conservation, including failure to incorporate international obligations in national law; as well as fragmented legislation with conflicting institutional mandates;
(3) Inadequate law enforcement and lack of compliance;
(4) Inadequate financing for managing PAs;
(5) Lack of conservation mechanisms including incentives for private landowners;
(6) Lack of comprehensive inventory/baseline of the state of biodiversity and
(7) Lack of PA zoning and boundary demarcation

Establishing a PA system is a critical element for maintaining the globally significant biodiversity of TT. Such a PAs system will ensure the conservation of core habitats and their spatial and ecological linkages and promote the long-term health of ecosystems and globally threatened species. The PA network should be designed to be resilient to catastrophic threats, including those precipitated by climate change and natural disasters.

The PA system should be sustainably financed and PA staff capacity should be enhanced to allow the application of the most effective and efficient PA management techniques including mechanisms to facilitate and manage stakeholder co-management of PAs. Management of these PAs should be based on reliable data obtained through monitoring of biodiversity across the PAs system. Full support of local communities should be ensured and development of income generating activities both in and around PAs should be done in a manner that does not degrade biodiversity within the PAs.

Despite the growing relevance of sustainable PA management to the national development of TT, the institutions that are responsible for management of these critical resources it in the country continue to suffer from four main weaknesses viz., scattered responsibilities, weak institutional capacity, inadequate funding and lack of fully operational and effective policy/legal framework.

1. Outdated legal and regulatory framework for establishing and managing PAs: Coherent legal and regulatory framework for efficient and cost-effective PA management does not exist in TT. At present, many laws in TT allow for the declaration of PAs, which makes management inefficient and leads to jurisdictional conflict. Thus, several PAs have been designated under multiple categories (e.g. the Aripo Savannas has been declared a Prohibited Area as well as an Environmentally Sensitive Area and is being managed by the Forestry Division as a "Scientific Reserve"). This legislative environment also requires reform to reflect current management practices including: the use of the ecosystem approach; recognition of the value of ecosystem services; the need for minimum areas for conservation of viable species populations; participatory management; zoning for multiple uses; implementation of international commitments; and addressing the impacts of climate change (NPAP, 2011; Ramlogan, 2013).

The PAs categories that have legal status include:

(a) Forest Reserves designated under the Crown Lands Act, now known as the State Lands Act (Chap. 57:01). There are 36 such areas in TT;

(b) Wildlife or Game Sanctuaries are designated under the Conservation of Wild Life Act (Chap. 67:01); there are 13 in TT;

(c) One Protected Marine Area, the Buccoo Reef, Tobago, was designated under the Marine Areas (Preservation and Enhancement) Act (Chap. 37:02);

(d) The North-West Peninsula of Trinidad is vested in the Chaguaramas Development Authority (CDA) under the CDA Act (Chap 35:02), which manages much of this area as a "national park";

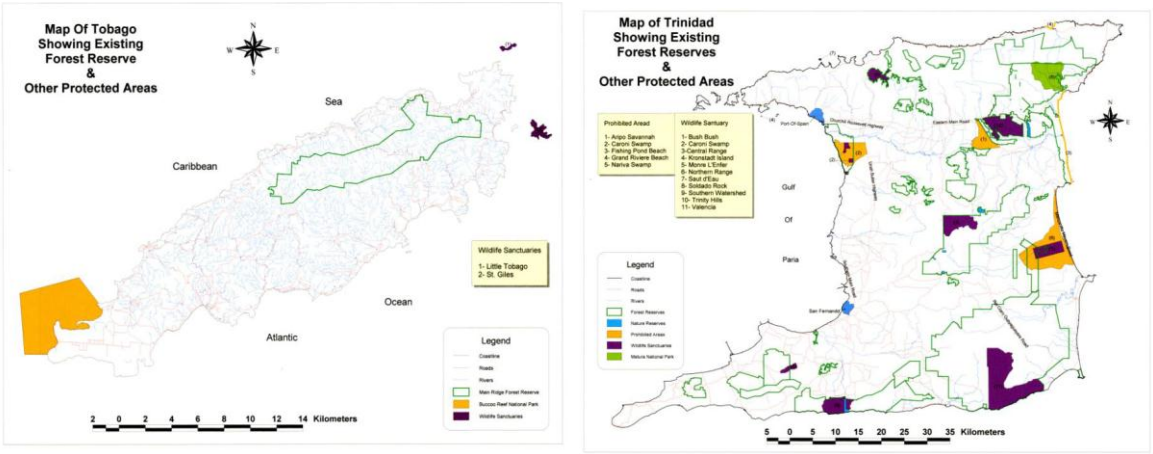
(e) Prohibited Areas: There are 19 prohibited areas designated under the Forests Act (Chap. 66:01). The Fisheries Act (Chap. 67:51) also provides for the declaration of prohibited areas, however, no such areas have been declared;

(f) Environmentally Sensitive Areas (ESAs) are designated under the Environmental Management Act (Chap. 35:05) The existing ESAs include a Ramsar-designated wetlands of international importance, the Nariva Swamp, the Aripo Savannahs and the Matura Forest;

(g) Protected areas under the Water and Sewerage Authority Act (Chap. 54:40) – the upper Courland River Basin in Tobago (above the intake) and the Quare River valley in Valencia (between the Hollis Dam and the intake);

(h) Some 100 sites were inventoried for designation as heritage sites under the National Heritage Trust Act (Chap. 40:53). Three of the proposed heritage sites are under international consideration for designation as UNESCO World Heritage Sites (NPAP, 2011).

Maps 1.1 Existing PAs in Trinidad and Tobago



(Source: NPAP, 2011)

In addition, there are several PAs that are managed by government, civil society and private citizens but not legally designated include:

(a) *Un-proclaimed Forest Reserves*: Managed by Forestry Division but are legally classified as State Lands (five such sites exist in TT);

b) *A Natural Landmark*: The San Fernando Hill is managed by the Forestry Division as proposed under the 1980 Systems Plan;

(c) Fort George and Lopinot are managed as *Historic Sites* as proposed under the 1980 Systems Plan;
(d) Cleaver Woods is managed by the Forestry Division as a *Recreation Park*, one of the proposed areas under the 1980 Systems Plan; and
(e) *National Heritage Parks* were proposed and are being partially implemented by the Local Government (NPAP, 2011).

While these multiple designations exist, the laws enabling these PA designations typically do not provide the provisions required for effective management of PAs, recreation and community participation. Connectedly, legislation to allow for the effective management of wildlife and the habitats of endangered species or ensure management of marine PAs, are either lacking or very weak. Piecemeal legislation has resulted in the sharing the responsibility for enforcement across multiple agencies, which is generally not effectively coordinated.

The lack of national legislation to enable the implementation of international conventions has diminished the ability of international law to assist with PAs in TT. For example, the lack of national enactment of the Convention on Wetlands in TT has meant that wetlands like the Nariva Swamp that have been designated as a Ramsar Sites, are not afforded the additional protection which such designation might otherwise confer. Where the Parliament fails to introduce in national legislation the international treaty that the Government has signed, the treaty has no national legal standing in the country in TT (Ramlogan, 2013).

Due to lack of appropriate fine structures in TT, it is typically more cost-effective to break the law and pay a fine, than to desist from breaching environmental protection regulations. These low financial penalties for breaching the law have contributed to the lack of enthusiasm among State agencies in bringing court actions for breach of environmental laws (Ramlogan, 2013).

The legal component of this project will therefore provide the essential foundation for addressing these issues and also other above-mentioned impediments (1, 2, 3, 5 and 7). The new legislation under the project will therefore directly contribute to mitigating the threats to the natural ecosystems in TT. The legislation will allow establishment of a PA system that is based on a national gap analysis to identify priority areas for designation as new PAs. The project will also help in examining the overall consistency of PA legislation in the broader framework for PA management, sustainable forest management and biodiversity conservation to ensure consistency of the new framework and amending the existing legislation accordingly.

2. Fragmented responsibilities and limited capacity of the PA staff for law enforcement

The multiplicity of laws related to PAs has led to numerous governmental entities with legal mandates for designating and managing PAs as described in Section (a). Every agency obtains and allocates funding independently and such investments are not strategically oriented to meet the PA needs. In general, co-management is not practised in most PAs even though potential exists for partnering between the State, NGOs and/or the private sector.

These PA agencies suffer from ''the independence syndrome'' (Ramlogan, 2013) and coordination between the above institutions are limited. For example, the Melajo Forest was declared a Forest Reserve under the Forests Act but the Ministry of Energy and Energy Affairs has granted a licence to undertake quarrying operations within the Melajo Forest (Ramlogan, 2013).With the exception of the Forestry Division, conservation is only a small part of the mandate of most of the above agencies. This management model has not been successful in safeguarding biodiversity in TT.

The existing status quo has led to lack of capacity to govern PAs and enforce the law effectively. That is why the PA policy advocates the creation of one central/main governing body for PAs, which may

avoid conflicts. This is relevant because the non-enforcement of existing rules and regulations in TT has led to a major increase in many threats to biodiversity (e.g. squatting, see Ramlogan, 2013).

Related to this fragmented responsibility for PAs is the lack of sufficient technical capacity within the existing agency to bring to bear the latest strategies in PAs management, including use of remote sensing, GIS, population viability analysis, landscape ecology and rural sociology among others, to manage the PAs system (Nelson, 2013). In this regard, the project addresses these critical needs by providing the technical back-stopping capacity to the staff of the Forestry Division (till FPAMA is established, hereafter cited as FPAMA), through extensive training and establishment of technical baselines (including, ecological, socio economic and cultural) for management.

The two issues above are exacerbated by the lack of sustainable finance, and a key game-changing approach in this project is the adoption of sustainable financing techniques to support the new PAs system and its administration.

3. Inadequate funding:

The most debilitating problem confronting State entities with the responsibility for PAs is the lack of access to adequate financial resources. This can be correctly interpreted as being the root of all difficulties with human, mechanical, technical and research resources. Consequently, staff shortages result in enforcement officers from one agency being unable to effectively perform statutory duties arising under other legislation. Forest Officers are statutory Game Wardens as per Conservation of Wildlife Act.[1] However, because they are already overstretched with their main duties under the Forests Act, they are unable to function as game wardens.[2]

More attention is needed for allocating sufficient budgetary resources required for recruiting staff and developing infrastructure and procuring equipment. At present, funding is inadequate to meet the increasing challenges of PA management and it is unlikely to change significantly in the near future in order to derive many GEBs. For instance, the annual expenditures of the Forestry Division currently constitute about USD 21 million of which almost 70% is spent for personnel, but without significant emphasis on capacity development related to PAs management. The expenditures exclusively for PAs seem inadequate to support effective biodiversity conservation (estimated as USD 1.8 million for personnel and USD 0.3 million for operational expenditure). The expenditures needed for basic and ideal PA management are estimated as USD 7.2 million and USD 18.8 million respectively (Table 1.1).

Table 1.1 Funding gap for managing the PA system

Item	**USD**
Annual current budget expenditure for the PA system	2.1 million
Basic annual expenditure needed to manage the PA system	7.2 million
Ideal annual expenditure needed to manage the PA system	18.8 million
Gap between the actual budget and the "ideal" budget for optimum management.	16.7 million

Source: Blommestein (2013)

The absence of cash flow has harmful implications especially given the fast economic growth of the country, demographic transition and varying opportunity cost of the PAs versus their alternate uses.

[1] Conservation of Wildlife Act, Ch. 67:01 (Rev. Laws of Trinidad and Tobago 1980).
[2] Forests Act, Ch. 66:01 (Rev. Laws of Trinidad and Tobago 1980).

There exists a dire necessity for increasing investments to, and revenue flow from, the PAs as envisaged in the project. The gap will be brought down gradually through developing a sustainable financing system. Service fees and payments including a user fees system, revising fine structure/licence fees etc. will help to meet the initial feasible target of USD 100,000, agreed as a reasonable target by the stakeholders and project consultants, because of the lack of a culture of payment of the user fees in the past, and possible initial resistance from various stakeholders on the entry fee. This is realistic because about 13, 500 people visit Caroni swamps alone at present (Mackoon, 2013). WTP studies held during PPG phase indicate that people are willing to pay an entry fee (Appendix 8) up to USD 5 per resident. This revenue will significantly improve PA management.

The national PA policy advocates creating a Forestry and PAs Fund through enabling legislation to fund the management of PAs. The project will help in developing the legislation to establish and set out the parameters for the functioning of the Forestry and Protected Areas (FPA) Fund. This will be pursued by the project. Once the FPMA is established, accessing Green Fund for managing PAs will be possible because the purpose of the fund is to '*financially assist organisations and community groups that are engaged in activities related to the remediation, reforestation and conservation of the environment*'. The capacity of PA staff and NGOs/CBOs to access the fund will be improved during the project.

All the three factors above combined with various societal demands contribute to forest degradation and their restoration is timely and crucial. This involves prioritizing the objectives and habitat enrichment for global and national benefits which the project will address.

1.1.1 Rationale

a) Baseline projects and investments addressing the GEB threats and causes

Attempts were made in the past to address the threats and barriers mentioned above in TT as explained in Section (a). Recently, projects supported TT to strengthen stakeholder participation in forest policy development and build capacity for participatory forest management. Efforts were also made to control the Giant African Snail and improve fire management. The forest cover maps are already prepared. A national vegetation survey and monitoring project collected and analysed biodiversity data. Spatial mapping of ecosystem services is being done (under the ProEcoServe project). Ecosystem-Based Management (EBM) approach is being pursued through regional projects (see Table 9 in Appendix 12).

In correspondence with implementing the new Forest and Protected Area Policies the Government of TT is committed to address the threats and barriers mentioned above further in collaboration with key partners. The Draft National Wildlife Policy is already prepared[1]. The institutional change (as outlined in Forest, PA and Draft National Wildlife policies) and wildlife legislation are being pursued. Collaboration with the Government of Mexico is underway to develop MIS. Habitat enrichment is already in progress in Nariva Swamp. Hunting of wild animals is banned with effect from 01 October, 2013 to address over-exploitation. The Government of TT is ready to finance investments for transition to a new PAs system and to introduce the PA legislation, including the establishment of the FPA Fund. The Government is also keen to expand ecotourism in PAs, and to engage local stakeholders in co-management of PAs, and to see the benefits of these PAs shared with local communities. Critically, the Government will continue to support the development of the FPAMA as the agency develops its capacity and transitions to a more sustainable financing system for itself and the PAs.

One key element of the proposed project's baseline is the cash contribution of USD 22.6 million by

[1] http://www.biodiversity.gov.tt/home/images/stories/pdf/dnwp.pdf

the Green Fund. The Green Fund is capitalized by a tax of 0.1% on the gross sales or receipts of companies carrying on business in TT which as of September 2012 constituted approximately USD 456 million. This fund is intended to remediate, reforest and conserve the environment (http://www.ird.gov.tt/load_page.asp?ID=95 and http://mphe.gov.tt/history-green-fund.html). The activities to be funded by the Green Fund include a) identifying and fulfilling staff requirements for PA management b) raising public awareness on PA management c) developing the infrastructure needed for PA management and ecotourism development d) rehabilitating degraded areas e) stabilizing/recovering wildlife population and f) building capacity of stakeholders in project development/management (specific activities and relevant co-financing contributions are detailed in table 4.6).

TT government will invest USD 2.3 million, mostly for enacting the new legislation, contributing to develop the National PA system plan, designating PAs formally, developing capacity of staff involved in PA management, raising public awareness, developing MIS, PA monitoring and ecological research and monitoring programme, collecting data on biodiversity, and producing management plans for PAs. It will also help in assessing equipment needs and upgrading them, designing user fee systems, disseminating best practices in PA management etc. (specific activities and contributions are described in Table 4.4).

European Union (EU) funding of USD 2.1 million will support in mapping and demarcating PA boundaries and geocoding them using GPS. This will also aid in procuring equipment and software for establishing MIS, acquiring baseline data to establish the GIS, and capacity development of PA management partners in this area (see Table 4.7 for specific activities and relevant contributions).

Four projects of FAO would contribute USD 750,000 to the baseline. These would contribute to aligning the institutions with fragmented responsibilities for effective PA management, improved policy development, long-term productivity of lowland tropical forests, and local level capacity building for PA management. Table 4.5 provides more details of these projects.

Other contributions:

A few NGOs and energy companies are investing resources for improving PAs (e.g. CFCA, TTOS, Nature Seekers etc.). A few of them agreed to associate with the project especially in biodiversity monitoring. However, because of lack of co-financing letters these are excluded from this section.

b) Remaining barriers to be addressed by the project

The above baseline project investments build upon the national efforts to establish the FPAMA and prevent the threats to the GEBs provided by the PAs and the species therein. However, the following barriers remain to achieving this goal.

Barrier 1: Lack of technical capacity to identify conservation gaps and ensuring a comprehensive PA network

In TT, there are over 50 laws, polices, plans, strategies and programmes seeking to address biodiversity issues, and multiple government agencies with responsibility for management of biodiversity[1]. Despite these legislative, administrative and institutional frameworks for biodiversity conservation, there remains insufficient scientific analysis and systematic efforts to identify the gaps in the existing PAs system and mechanisms to ensure adequate ecosystem coverage, in TT. For example, several *defacto* PAs have not been formally designated (e.g. the un-proclaimed forest reserves managed by the Forestry Division) while in other cases, there have been several designations of the same area by different agencies (e.g. Aripo Savannahs and Nariva Swamp). Lack of sufficient scientific knowledge and research about key biodiversity conservation issues such as the status of key

[1] http://www.cbd.int/doc/world/tt/tt-nr-04-en.pdf

wildlife populations, their distribution or seasonality (Nelson 2013), and dearth of skilled human capital within the existing state agencies entrusted with PAs management, imposes a barrier to establish and maintain an effective PA network in TT. Rules and regulations governing conservation are complicated, poorly understood by the agencies and the stakeholders, and enforcement is typically weak. Consequently, PA network is often poorly constituted, managed, monitored or evaluated. GEF's incremental investment will address these gaps by firstly building a comprehensive, integrated network of PAs based on scientific principles.

Barrier 2: Minimal capacity/experience on the ground with respect to practical approaches to effective biodiversity management in PAs

The local capacity for biodiversity conservation varies and is mostly weak. Combined with inadequate coordination at the local level, this usually limits the ability to achieve biodiversity conservation. A historically centralized management approach has meant that there is a lack of a decentralized capacity for PAs management. As the new institution takes the responsibility for the reformed PAs system, the staff will need to be retrained to allow for improvements to biodiversity conservation through capacity building. Such personnel development will be critical to enable existing staff to realign themselves with the new priorities of the PAs system. The implementation of management is often hampered by the lack of specific "how-to" guidelines for PA management, particularly at the site level. Also, the monitoring of the results from management interventions can be more effective by developing effective decentralized measures. Even when the law and enforcement efforts provide an enabling environment, it will achieve little improvements in managing biodiversity unless weaknesses in the current capacity of the forest administration and of the institutional framework are addressed, and management plans are developed which address the site-specific threats. As the stakeholders of proposed MPA opined, lack of collaboration and communication between government agencies and community stakeholders and lack of law enforcement also pose barriers to effective management (Wothke, 2013)

Currently, very limited capacity exists within the government to adequately engage and invest in PAs management. For example, only a small proportion of the Green Fund is spent on biodiversity-specific conservation, even though this fund can be accessed through co-management with NGOs/CBOs for activities related to PA development. Weak capacity for PA management at systemic, institutional and human resources levels is likely to continue in the absence of strategic interventions by GEF to support effective management measures and build local capacity. The improvement of PAs management is not achievable without building these capacities, and any gains from the baseline project will remain fragile, without these GEF inputs. The GEF's investment will address this and improve management effectiveness of the PAs in the country for securing the GEB provided by these PAs.

Barrier 3: Minimal experience with income generating opportunities in PAs

Forests cover about half of the land mass in the country (Helmer *et al.,* 2012). Yet, insufficient funds are currently provided to manage them. Financing is primarily provided from central government revenues, with little linkage to actual forest financing demand and sustainable management practices. This is partly because incorrect price signals and incentives for forest management, including insufficient knowledge and awareness at policy level, of the total economic values of the forest resources within the country (deflating the perceived value of these resources). In spite of this existing challenge, the potential exists for forests to be partly self-financed. This needs to be a priority, as most of current financing of forest and PAs management in general is provided by the Government, most of which comes from the energy sector. This situation is unsustainable in the long term. Thus, new mechanisms including payment for ecosystem services (PES) are of particular relevance to the sustainability of PAs financing in the future, in TT. This project is likely to generate finance through user fees in selected PAs and will explore other options including PES.

TT remains one of the Caribbean countries with the least developed tourism sector. The government historically did not prioritise tourism as a development driver or as a source of revenue. Thus, while tourism is more advanced in Tobago, development is still not at the same rate as in other neighbouring countries (Artana *et al*., 2007). Some initiatives are being taken by GORTT to develop tourism sector and promote the development of ecotourism in PAs.

Yet, at the country level, employing PAs to generate supplemental revenue for their effective management remains a novel idea. One of the primary barriers is dearth of practical experience with this approach. At the local level, there is neither expertise nor infrastructural support to enhance the revenue sustainably through eco-friendly means. This is a significant barrier that this project will address. A systematic approach to capacity building and the national investments for enhancing environment-friendly infrastructure (as co-financing) will partially address the funding gap for PAs management. New income generating opportunities are likely to ensure flow of revenue to PAs though sustainable funding to the FPA Fund. However, the capacity of the staff needs to be built to manage the Fund effectively. Otherwise, the funding gap is likely to continue due to the weak staff capacity and lack of financial resources for infrastructure improvement. Without GEF's support, investments through co-financing will not be mobilized and targeted at the intended conservation goals. Likewise, increasing financing for sustainable and effective biodiversity conservation would remain unlikely.

c) Incremental reasoning of the GEF financing

The incremental investments from GEF will build on the baseline project to address the three barriers described above. The incremental investment will strengthen PA management to render GEBs. GEF funding will support measures to propose a comprehensive PA system, adopt the best management practices in target PAs and improve overall PA financing. Thus, the goal of the GEF incremental investment will be to foster sustainable PA management that secures the flow of diverse ecosystem services and benefits (including biodiversity), stabilization of threatened species, while generating sustainable revenue for making these happen, in the long term.

The new policies, institution and funding arrangements being developed and implemented in TT present a unique opportunity for the country to move from the haphazard, inefficient and weak approaches to biodiversity conservation and forest management practised in the past towards a system-wide approach that is based on science, more efficient and more sustainable in the long-run.

However, without the incremental investment from GEF, the baseline is likely to continue and FPAMA is likely to focus on activities that are of national benefit and can be implemented simply and quickly. Thus, for example, resources will continue to be focused towards the management of commercial timber production activities rather than the activities that prioritize the delivery of global biodiversity benefits (e.g. at present, annual budgetary expenditure for PA management is only USD 2.1 million out of the total annual expenditure of USD 21 million of the Forestry Division). Many public investments like the PSIP also did not concentrate on GEB, but focused on providing mostly the local benefits with particular focus on generating employment and eliminating poverty.

Without more detailed scientific analysis and capacity building, the simplest option for meeting the current policy requirements will be to simply re-designate existing areas under the new system, without much thought at the strategic system level and without much attention to what needs to be done in these areas. Consequently, PA management and law enforcement activities are likely to stay at the same level (which is currently inadequate to support sustainable management).In contrast, with the GEF's intervention, biodiversity conservation and PA management in TT is likely to be benefitted in five major ways.

1. **Consolidating the PAs and improving efficiency of the PA system**: One notable incremental benefit of the project is sustaining and enhancing GEBs achieved by consolidating the PAs (never done before and unlikely to happen if GEF incremental funds are not provided for the gap assessment). Most of the existing areas are managed without effective biodiversity conservation,

and this is likely to continue if the project is not in place. Since the gap assessment will a be a high priority action which will indicate the location, shape, size and connectivity for PAs to be declared,, this will improve the efficiency of the PA system by providing a system which has at its core design, explicit consideration of the viability, uniqueness and resilience of the species and ecological systems in the PAs. Such an approach will ensure the PAs are designed to reduce inherent threats that arise from establishing PAs that are too small, isolated, or vulnerable to external shock. This will in turn reduce the intensity of management inputs required to sustain the PAs. This rationalization of the PA system will enhance cost-effectiveness of biodiversity management in TT.

2. **Enhancing management effectiveness**:

   GORTT has undertaken many activities for conservation in proposed project sites and is expected to continue doing so. However, these efforts will remain insufficient to safeguard globally significant biodiversity (listed in Table 1 in Appendix 12), without system wide and site-specific management plans. PA management is currently not guided by management plans in TT and this is likely to continue so without the incremental investments from GEF.

   GEF funds will support the development of system-level and site-specific management plans and help in identifying the threats to biodiversity conservation in six PAs, and thereby enhance management effectiveness. The capacity built through the project and co-management arrangements with other stakeholders are likely to improve the management and governance compared to the baseline scenario. Such improvements will be due to increased buy in by local communities and other relevant stakeholders in the value of PAs, due to the flow of sustainable resources from these PAs, increase in number and quality of livelihood benefits from these sites (at least for 50 persons in six PAs as shown in Appendix 1), and increased national visibility arising from the improved management of these sites as model site to emulate.

   In the baseline of the project, developing alternative livelihoods for people at the PA fringes is not a priority and rarely meaningful incomes are generated from PAs. These issues will be explicitly addressed through the GEF investments. The capacity to design and execute a communication strategy which enhances local acceptance of the conservation of globally significant species does not currently exist among the lead State agencies and the stakeholders. GEF investments through this project will provide the technical capacity and fund key elements of such a communications strategy for the PA system.

   An annual inventory and biodiversity monitoring programmes and capacity to do them will markedly improve the management of globally threatened species. The species recovery strategies will ensure the survival of key species. Such improvements to the management of globally important species will not be undertaken without the incremental investments under this GEF project. Similarly, cohesive, efficient, and cost-effective PA management in six PAs, enabled by GEF investments, provide conservation benefits to act as models for replication (particularly for conservation and community participation approaches) all of which are absent in the baseline scenario. Likewise, demarcation of the boundaries is unlikely to happen in the baseline state, without a scientific assessment of the PA boundaries using GEF funds identified in this project.

3. **Generating new funds involving NGOs/CBOs:** The Country is committed to providing new and additional co-finance equalling about ten times the GEF trust fund commitment for this project. The GEF investment has a catalytic effect in mobilizing available national resources (e.g. Green Fund) for PA management. A direct outcome of this project will be that FPAMA staff and NGO/CBOs will be able to access and use the available funds efficiently for PA management, through the capacity development programme proposed. They will think strategically about the management and use of these funds and be able to secure funding for more conservation activities in the future (sustainable financing) through establishment of a National Trust Fund for PAs. Improved financial planning by training programs will help in managing the finance efficiently.

The capacity developed by GEF funding will result in reduction of the funding gap for PAs management by USD 100,000. The GEF incremental funds will lead to more capable and financially stable PA model, with the right enabling environment for revenue generation therein, tailored to the specific PAs situation. The revenue generated from two PAs (where ecotourism will be piloted), will contribute to the FPA Fund which will be spent mainly for financing the PAs sustainably. The incremental investments for establishing the FPA Fund represents a shift from multi-agency-driven systems to a systemically-managed framework. Six site-level ecotourism business plans will help to bring more funds and build the infrastructure in the PAs and maintain them. In the absence capacity developed by GEF interventions, this gap reduction is impossible and FPA Fund is unlikely to be sustainable.

4. **Adoption of international best practices:** The project provides TT an opportunity to bring its conservation and PA management practices up to a standard that is consistent with international best practices. The direct benefit will be the funding for capacity building provided by the project and the benefit of learning from international experiences from other GEF projects, and through the technical assistance and back-stopping provided by FAO. A less obvious benefit will be that the inclusion of this project in the GEF portfolio will make it easier to promote reforms and changes in attitudes within the country, if these are seen as being backed by international experiences and expertise.
5. **Target on issues of global concern:** The project will also enable the national project partners to work on some issues of international concern (to derive GEBs) which is not a major priority for them. The project will ensure including the provisions in the legislation for binding TT to International conventions and thus avoid the problems of non-legislating laws mentioned before.

1.1.2 FAO's comparative advantages

This project will take full advantage of FAO's comparative advantage in capacity development, technical assistance, and field programme in forestry and fisheries. The FAO has a country office in TT and strong relationships with national stakeholders. Therefore, they can facilitate the multi-stakeholder engagement needed for this project, particularly to encourage adequate budget allocation for PAs and the range of options for the funding of the PAs.

FAO is the United Nation's agency with the mandate to work on forestry, fisheries, sustainable natural resource management and conservation. It is recognized by the GEF as the agency with comparative advantage in this area. The mandate of the Forestry Department of FAO is to support member countries to implement sustainable forest management by providing policy advice, technical knowledge and reliable information while ensuring that forests and trees contribute to sustainable livelihoods. As a global intergovernmental organization, FAO's support to regional governance structures such as the Regional Forestry Commission for Latin America and the Caribbean Western Central Atlantic Fishery Commission (where TT is a member) is well appreciated. FAO also has a well-established Fisheries Department that has expertise in providing guidance on MPAs for fisheries management, which is relevant to this project.

FAO is a major development partner of TT in agriculture, fisheries and forestry. Some FAO projects that benefited TT since 2000 are in Table 2 in Appendix 12.

FAO has supported the forestry and biodiversity related programmes in TT and in the region through TCP-funded projects and through other global programmes like the NFP Facility, the EU-FLEGT programme and GEF. FAO is recognized by the recipient countries as a competent development partner in forestry. FAO's multidisciplinary team comprising forestry, agriculture, fisheries and legal professional staff are well equipped to cover the different technical requirements involved in the project in a holistic way. The multidisciplinary technical backstopping capacity both from FAO, Rome and the Sub-Regional Office in the Caribbean enables effective project implementation. Through its Sub-Regional Office for the Caribbean, and the FAO country Office, FAO maintains good working relations with the forest authorities and the research institutions and NGOs working in forestry in TT.

Specific areas of FAO's technical expertise and experience relevant to this project, which has been gained through global projects and regular programme activities over the last decade, was outlined in the PIF and include:

- Assistance provided to countries to develop and implement sustainable financing mechanisms for forestry (36 countries in Africa covered in 2000-2005; 19 countries in Latin America covered in 2005-2010).
- Legal advice and legislative drafting support to countries in the Latin America and Caribbean region, as well as in Africa and Asia on a range of issues relating to sustainable forest management, PAs and biodiversity conservation (both primary legislation (e.g. Acts of Parliament) and implementing regulations)
- Regular programme activities and projects on institutional reform (e.g. recently assisting Suriname with the creation of its independent forest management authority and creation of a new forest authority in Liberia after 15 years of civil war there).
- Global leadership on the development and implementation of integrated fire management guidelines
- Experience in assisting countries with forest law enforcement through the current FAO-EU FLEGT Partnership Programme for ACP Countries
- Forest and Farm Facility (old NFP facility)

In addition, within the region, FAO's expertise and experience is demonstrated by its sub-regional forestry programme, which includes:

- Assistance provided to the Government of TT to produce their new forestry policy and PA policy. (This experience was the main reason why FAO was chosen specifically by the government to be the GEF Agency for this project).
- A regional National Forest Programme Facility project supported Trinidad for strengthening stakeholder participation in forest policy development.
- A regional ACP-FLEGT project helped to build capacity for participatory forest management for good governance through which government and civil society representatives were trained in methods and practices to facilitate participatory forest management arrangements.
- The FAO Sub-Regional Office assisted the Forestry Division to get the forest cover map prepared for TT (by the International Institute for Tropical Forestry of the US Forest Service).
- A FAO-TCP Facility project helped in identifying the causes of the sudden death of *Cedrela odorata* (Cedar) forest plantations (with the University of the West Indies).

The proposed GEF project will build on this foundation of lessons learned and good practice to bring up good PA management practices nationally.

1.1.3 Participants and other stakeholders

During project preparation, several consultations were held with diverse stakeholders, government agencies, NGOs, donors etc. Based on the feedback received from these and from the inception, midterm and terminal workshops (total of six events) during project preparation, the stakeholders were identified to play different roles in the project are detailed in Table 4 in Appendix 12.

The national project partners will be MEWR in Trinidad and THA in Tobago. They will develop the capacities of their staff and the wider enabling environment (policies, plans, structures and systems, and information for management) for better management of PAs through the project. The country will benefit from the results of the project because enhanced management of PAs will improve the delivery of essential ecosystem services and enhance conservation of biodiversity. Building upon the

results of the PPG phase, a comprehensive stakeholder analysis, at individual site level, will be conducted at the start of the project. This will need to be continuously updated during the project, as capacities and roles may change and new stakeholders may emerge during the project.

The CTA should integrate this stakeholder analysis into a Participation Strategy which will guide how beneficiaries are engaged as project partners and how potential conflicts with stakeholders are managed. The Participation Strategy will identify how different stakeholders will be engaged at different levels of participation in the project depending on their level of interests, rights and responsibilities. For example, key stakeholders will need to be members of the stakeholder management committees. The Participation Strategy will outline the strategies for engagement of stakeholders and include specifications on the process for establishment and coordination of various stakeholder committees under the project. This will need to include Terms of Reference with criteria for selection of committee members, roles and responsibilities, and mechanisms for operation, capacity building, evaluating performance and ensuring continuous improvement of committees. The Participation Strategy will also outline mechanisms for coordination among state agencies and engagement of other key stakeholders. Apart from government agencies with direct management responsibility relevant to PA management, local communities and resource users, other key stakeholders who need to be effectively engaged in the project include: government agencies with responsibility for management of key sectors relevant to PA management (e.g. tourism, land planning, legal affairs); private landowners; NGOs and academic and training institutes playing key roles in areas of work relevant to PA management (e.g. research, education, livelihood development); and private sector associations which can mobilise their members to engage in key activities (e.g. ecotourism development, sustainable resource extraction, recreation etc.).

1.1.3.1 Beneficiaries

People whose livelihood depends on the goods and services from the forest (Table 1.2) will benefit as the project will ensure their sustainable supply.

Table 1.2 Stakeholders living around the proposed project sites and dependence on PAs

PA	Names of villages	Total population	Type of dependence and number of people[1,2,3]
Caroni	Bamboo, El Socorro, El Socorro Extension, Beetham Estate, Felicity	24,467	Fishing, recreation, tour guiding, shellfish, conch and freshwater fish harvest and other NWFP collection (mostly food-related) Tour guides- 20-40 Local visitors- 13,500 Boat operators- 3
Nariva	Manzanilla, Plum Mitan, Biche, Rio Claro, Ortoire, and the settlement along the Cocal-Manzanilla Road	9,185	Harvest of freshwater invertebrates and fish, recreation, tour guiding and NWFP collection (mostly subsistence food-related)
Trinity	Moruga and Guyaguyare	1,857	Hunting and NWFP collection
Matura	14 communities in Matura Salybia, Balandra, Rampanalgas, Tompire, Mission, Toco, L'anse Noir, Sans Souci, Montevideo, Grande Riviere, Matelot, Anglais Settlement, Cumana	7,542	Hunting, recreation, tour guiding including turtle watching, water and NWFP collection (mostly food-related) Hunters- 500 Squatters- 10 People depending on forests for livelihood- 5,325

			Tour guides- 100-200 (low estimate) Turtle-watching- 15,000-16,000
Main Ridge [1]	Charlotteville, Speyside, Delaford, Betsy's Hope, Louis d'Or, Roxborough, Parlatuvier, L'Anse Fourmi, Hermitage, Bloody Bay	11,500	Hunting, recreation, tour guiding, water and NWFP collection (mostly food-related)
North East Tobago[1]	Charlotteville, Speyside, Delaford, Betsy's Hope, Louis d'Or, Roxborough, Parlatuvier, l'Anse Fourmi, Hermitage, Bloody Bay	11,500	Recreation, tour guiding, diving and fishing

[1] Including the villagers in the previous column

[2] Rough estimate based on the boundaries of the proposed PAs in Appendix 7

[3] The WTP studies indicate the dependence (see Appendix 8). But analysing forest dependence requires detailed socioeconomic studies which were not done during PPG phase. The data indicated in this column are tentative obtained from the discussions with the field staff and from literature.

The National PA Policy stipulates equitable access of the population to goods and services and opportunities from PAs. The people who are likely to gain or lose by implementation of the project as perceived by the participants of the inception workshop are shown below (Table 3 in Appendix 12).

The socioeconomic benefits perceived by stakeholders include:

- More economic benefits to the state and local communities (revenue), proper management of extractive uses (e.g. timber, fisheries) and enhanced contribution to food security (e.g. enhanced fisheries stocks spilling over into other areas)
- More recreational activities developed and sustainably managed benefiting local people in terms of health and better investments following user fee system
- Better wildlife management provides better hunting experience
- More employment and opportunities for communities for self-sustainability
- Capacity development/empowerment of relevant stakeholders (e.g. Government agencies, CBOs, NGOs etc.)
- More non-wood products (e.g. craft, herbal remedies, food and beverage etc.) and their multiplier effects.

Livelihood of at least 50 persons living near five PAs will be ensured through sustainable extractive practices as shown in Appendix 1. Community involvement and benefits are an important component of ecotourism and will contribute to community livelihoods and quality of life as well as ensure conservation of the PAs. Community members can benefit from ecotourism through direct employment at the site (at least 10 new jobs to be created in two PAs, see Appendix 1) as well as through provision of goods and services (accommodation, food and beverage, souvenirs etc.) to visitors. Community members living around the 6 project sites (see Table 1.2) can also benefit from employment in conservation and other PA management programmes. Currently, there is no well-developed formal system to engage communities except at the sea turtle nesting beaches. The Environmental Management Authority (EMA) has embarked on a project in Nariva Swamp to involve community members in resource conservation. It is in the early stages and it is recognized that their capacity will have to be strengthened through training and mentoring over a period of years to ensure they derive benefits. The capacity of government agencies in facilitating participatory processes and the institutional policies, systems and structures also need to be strengthened to enable effective community engagement in resource management. The example of Nature Seekers

clearly shows that community involvement can benefit PA management even though it is a slow/ long-term process (Otuokon, 2013).

1.1.3.2 Ensuring participation of key stakeholders

The project will promote the adoption of the broadest range of stakeholder engagement tools as envisaged in the National PA policy including the delegation of appropriate management responsibilities to governmental and non-governmental stakeholders and the development of agreements/MOUs between the State, CBOs/NGOs and private landowners that facilitate such arrangements.

Participation by stakeholders in PA management and development is not a novel approach in TT, but successful co-management models are limited. Although there have been some informal efforts, for example by the Forestry Division and by the EMA with development of stakeholder management committees, a number of key challenges remain to institutionalising participatory PA management that will be addressed in the project, including via:

- Developing enabling policies and legislation, including formal and informal policies and operational plans within government agencies
- Building capacity of government agencies to facilitate participatory approaches to natural resources management
- Building capacity of other stakeholders, including local communities, to be able to effectively engage in participatory processes
- Developing structures and mechanisms for effective stakeholder engagement, including via stakeholder committees and MOUs

A Participation Strategy will identify key stakeholders who must be integrally involved in decision-making as part of PA management and project implementation. This will help to refine the list of stakeholders in Table 4 in Appendix 12 and define their roles. These key stakeholders will be involved in the various stakeholder committees to be established during the project to facilitate an effective role and voice in decision-making. The strategy will be updated to ensure that all key stakeholders are effectively engaged. Participatory processes will focus on supporting the engagement of stakeholders who may be the most affected but least powerful (e.g. resource users).

A fully implemented co-management agreement is clearly the key to community involvement in and support for day-to-day management of the PA to support sustainable livelihoods in communities and conservation objectives of the PA. Educational and capacity building activities within the communities need to be a priority and community pride and understanding of the importance of conservation need to be created. Community stakeholders need to be involved in decision-making during PA management. For example, community stakeholders need to be involved in design of the visitor facilities and development of strategies for business development.

Training will also be provided under the project to empower local communities to access the Green Fund to further strengthen PA management and provide socioeconomic benefits to communities. Furthermore, discussions with the energy companies during PPG phase indicated the possibilities for their support to CBOs/NGOs to achieve some project elements (e.g. ecotourism development).

1.1.4 Lessons learned from past and related work, including evaluations

The development of PAs in TT during the post-colonial period has been an area of consistent work; however, it has remained largely ineffectual on the ground (Nelson, 2013). As a result there are many lessons that can be learnt from similar projects in the past, and these were considered while designing the current project.

From a technical standpoint, the National Parks System Plan (Thelen and Faizool, 1980), the IADB assessment of the proposed PA system (Allahar, 1991) and the World Bank Protected Areas project (CFCA, 1994) provided useful planning tools for the current project. The first of these provides a comprehensive assessment of the representation of geomorphologic and landscape-level ecological diversity, however the ecological viability of its proposed areas was weak because of the small size of many of the proposed areas and the lack of ecological connectivity between these sites, and is biased in terms of its representation of terrestrial versus marine sites (Nelson, 2013). The assessment by Allahar (1991) on the state of degradation of several of the proposed sites indicates that many of the potential PAs from the 1980 plan (Thelen and Faizool, 1980) were already being degraded through lack of management and inherent design flaws a decade after their proposal. The World Bank Protected Areas project (CFCA, 1994) took a different approach, by selecting high biodiversity areas of large size, but placing lower priority on the representation inherent in the previous systems plan, thus focusing on viability of the proposed areas. The current project builds on these previous studies by selecting areas of high biodiversity, representing a range of ecological systems which had previously been identified by the systems plan, but of larger size (in most cases) than the systems plan (Thelen and Faizool, 1980), to address the issue of viability. In addition, it is expected that the gap analysis proposed under this project will enable the identification of priorities for connectivity, a key design criterion for ensuring the long term viability of the entire PAs system (Nelson, 2013). A critical learning from these previous proposals for PAs in TT was also the need for buy in at the political level for the PAs system, as reflected in an enabling policy framework (Nelson, 2013).

Recent efforts to manage the Buccoo Reef Marine Park (BRMP) provide some useful lessons on the way forward with regard to MPA designation and management. Notably, the Tobago Coastal Ecosystems Mapping Project highlighted the degradation to the coral reefs in Tobago following coral bleaching and subsequent coral disease outbreaks (Van Bochove and McVee, 2012). This study recommended that MPAs with an appropriate management plan be created as a response to this anthropogenic disturbance.

For the proposed MPA, ecosystem based management (EBM) (Agard *et al.*, 2011; Duda 2002) was recommended to achieve the conservation of threatened marine ecosystems. Regional resources and precedents exist for use of EBM including the Caribbean Marine Protected Area Management Network (CamPAM), Reef Resilience (R2), SeaWeb Marine EBM etc. EBM can only work where management regimes are tailored to local circumstances and encourage adaptive management and social learning (Young *et al.*, 2007). This implies that governance must emerge from a collaborative, consultative process where stakeholders are included in all stages of development and implementation of management strategies for the MPA (Wothke, 2013). EBM integrates well with a wider Ecosystem Approach (EA) for sustainable conservation and development in NE Tobago.

A critical conservation strategy for many PAs will be the use of zoning of uses of these sites. This involves spatial and temporal regulation of human activities along a continuum of use (Guarderas *et al.*, 2008). Zoning recommendations are available for NE Tobago (d'Abadie, 2011; van Bochove and McVee, 2012), and will be a key consideration in the development of management plans for this new MPA. Such an approach will also be critical for PAs which are surrounded by non-State ownerships, and where the surrounding land has already been converted to non-natural systems. This will be important for areas such as the proposed Caroni PA, where certain critical ecological communities (freshwater marshes) have been significantly degraded (Nelson, 2013).

There have been several nascent experiments in multi-stakeholder management of PAs in TT, including the extremely successful marine turtle conservation efforts of CBOs in north eastern Trinidad such as Nature Seekers, and privately run NGO PAs such as the Asa Wright Nature Centre. Lessons from these experiences suggest that project's success depends on a sense of ownership by relevant stakeholders.

The lesson learnt from the Forest and PA policies is that the stakeholder consultations are needed to help in buying-in to the changes in management proposed. Another lesson related to PAs management is that having a multi-stakeholder committee alone is not sufficient and there should be clear ToRs that explain how they will be constituted and how they will meet giving adequate representation of local communities. Here a key issue is the devolution of power to manage the respective areas. Thus, legislation enhancing the ability of the State agencies to devolve management responsibility (including the associated rights and liabilities) becomes a key element of the future development of PAs in TT. In this regard, the new PAs policy articulates such an approach, and should the full intent of this legislation be realized, then these capacities will be available for the management of the new PAs system.

The global experience with PAs is that it is difficult to make them financially self-sustainable by relying on one source such as ecotourism. In this regard, sustainable financing lessons from similar initiatives in the region (e.g. Jamaica) will inform the project. The project will learn from the establishment of the national-level conservation trust funds under the Caribbean Biodiversity Fund[1] especially in constituting the board of directors, performance targets and co-financing from the Government and other sources etc. In TT, lessons were learnt from establishing an Environmental Trust Fund as per the Environmental Management Act (1995). This Fund supports the Environmental management Authority and is overseen by an independent Board of Trustees appointed by the President of the TT. The experiences gained from the management of this Fund will help in establishing and managing the FPA Fund. The Green Fund is another successful environmental fund developed by the government of TT to support the green initiatives in the country. It is possible that initial start-up grants from Green Fund to the FPA Fund can be used to facilitate the sustainable financing plan. The "Plan B", where the FPA Fund ceases to be sustainable, maybe to link the Green Fund to support PA management.

While the potential for ecotourism to support the PAs exists, only limited contributions to conservation of the PAs are currently made by tour operators, tour guides or the visitors. The fees currently charged at different sites are presented at Table 5 in Appendix 12. This reflects the failure of current attempts to capture revenue locally. To capture such revenues legislation is required to charge fees, however, there is a view that this would be “politically incorrect”. Locals are used to visiting sites without having to pay and may feel that they are already contributing to conservation through their taxes. However, most of the stakeholders consulted during project preparation supported the introduction of user fees which would contribute to maintenance of facilities and conservation of the natural resources (also see Appendix 8). Based on past experiences, many stakeholders expressed concern that the revenue would not return to conservation and therefore transparency and accountability will be critical to maintain a system of user fees once introduced (Otuokon, 2013).

The proposed project will coordinate with or derive management lessons and information from the projects as shown in Table 9 in Appendix 12.

1.1.5 Links to national development goals, strategies, plans, policy and legislation, GEF/LDCF/SCCF and FAO’s Strategic Objectives

a) Alignment with national development goals and policies

This project has been developed specifically to assist the Government of TT to implement the recently adopted National Forest Policy, National Protected Areas Policy and the forthcoming National Wildlife Policy. Key policy objectives covered by the project include the development of sustainable financing, the harmonization of the PAs system and development of PAs management plans. There are important links of the project elements with other existing national policies including:

[1] http://www.nature.org/ourinitiatives/regions/caribbean/easterncaribbean/caribbean-biodiversity-fund.xml

1. The National Environmental Policy (2006), which emphasizes the conservation of representative and viable ecosystems and biodiversity, empowerment of stakeholders, and care for the environment through civil society participation in resource management and decision-making.
2. The National Tourism Policy, which recognises the importance of protection of the natural and social environment, including through the designation of areas for management.
3. The National Wetlands Policy advocates inclusion of outstanding examples of each type of wetland in the national system of national parks and PAs.
4. The National Water Resources Management Policy advocates the protection of critical watershed areas/coastal areas.
5. The National Environmental Policy (2006) includes provisions for integrative planning and designation of areas to protect coastal and marine areas, maintaining strictly protected forest areas, and preserving representative samples of wetland areas.
6. The National Action Programme to Combat Land Degradation in Trinidad and Tobago 2006 – 2020 promotes spatial planning for sustainable physical development through a National Physical Development Plan. It emphasises sustainable use and protection of land resources.
7. Draft Climate Change Policy (2010) recognises the critical role that forests play in mitigation and adaptation to climate and the need for sustainable management of forests.

The NPAP identifies key actions to establish and manage PAs in TT including the following activities which are integral to this project:

- Establishment of a Forestry and PA Fund via enabling legislation to fund management of PAs.
- Facilitation of revenue collection through application of appropriate user fees, PES schemes taxes, penalties and charges for offences.
- Formulating and implementing a system of incentives to promote and support designation and management of private lands as PAs, as well as to promote and support environmentally-friendly activities on lands surrounding PAs (e.g. urban forestry).
- Ensuring harmonisation of incentives for PA management with other fiscal policies (e.g. taxation and subsidy schemes).
- Providing adequate annual budgetary allocations to the Forest and PAs Management Authority.
- Encouraging/promoting the use of the Green Fund to support civil society participation in PAs management.

Thus, through various policies, the Government is committed to the incorporation of PA management into national planning, the establishment of new PAs across the country, and the creation of a site-specific PAs plans (all key outputs of this project). These activities are also consistent and supportive of the international and regional level agreements/treaties relevant to PA management to which TT is a signatory.

b) Alignment with NAPA, NAPs, NBSAP, NIPs, NAMA

National Biodiversity Strategy and Action Plan**:** The NBSAP for TT was approved by Cabinet in 2001 and established a ten-year plan of action, including the improved management of PAs, expansion of marine PAs, and better stakeholder engagement, as key objectives. Thus, over the last 10 years, a number of the identified strategies and actions have already been implemented (e.g. with the recent issuance of the new forestry and PA policies). This project will build upon those existing efforts and support implementation of the following strategies in the NBSAP:

Sustainable financing: Strategy 13 refers to development of creative financial instruments to achieve biodiversity objectives and Strategies 21, 29 and 37 refer to raising finance more generally. Component 3 of this project will start to meet the needs identified under these strategies.

Harmonized approaches: Strategies 17 and 18 refer to developing and implementing a harmonized approach to biodiversity conservation and management of PAs. This has already begun with creation of the new institution (on paper) and this project will contribute to this by helping to provide capacity building and technical support for the new institution.

Improved law enforcement: Strategy 20 focuses on this and proposed GEF project activities will strengthen law enforcement (improving coordination, raising awareness about the laws related to biodiversity, improving resource mobilization etc.), which is a key capacity building element of this project.

Capacity building: Strategies 22-26 refer to developing research and information and Strategies 27-31 refer to capacity building more generally. Some activities under the components 1 and 3 will contribute to the development of knowledge about the biodiversity of TT. Numerous actions are proposed in the NBSAP about capacity building with, in particular, an emphasis on community-based approaches to conservation. Capacity building activities under this project will include development of community-based approaches (e.g. for PA management). The development of such capacity for PAs management across a range of stakeholders is a critical aspect of this project.

National action programme to combat land degradation**:** This project will contribute clearly and directly to the Forest Resources MIS which was identified as a priority in the NAP.

c) Alignment with GEF focal area and/or LDCF/SCCF strategies

The project is well-aligned with the GEF Biodiversity Strategic Objective 1- Improve the sustainability of PA systems. The project will adopt a site-specific approach to ensure the management effectiveness and sustainability of PAs. Expanding terrestrial and marine PA coverage, increasing management effectiveness in PAs and generating replicable models of sustainable financing for supporting PA systematic are consistent with the strategic objective.

BD-1 Outcome 1.1 (Management Effectiveness): The project will improve the management effectiveness of the PA system at two levels. At the national (system-wide) level, it will assess current PA coverage (ecosystem coverage, gap analysis (indicating the adequacy of the PAs) and condition of existing PAs) and prepare a national strategy for legal designation of existing and required new PAs, along with institutional arrangements and capacity building for implementation of the strategy in the long-run (i.e. beyond the life of the project). At the site level, it will provide for the preparation of detailed management plans and implement priority activities at pilot sites, so that conservation outcomes can be secured and sustained in the long-run.

BD-1 Outcome 1.2 (Enhanced PA financing): The project will enable the FPMA to establish, administer and utilize the new Forestry and Protected Areas Fund, in TT. Specifically, this project will include examination of the existing funding arrangements and funding requirements, and development of mechanisms to identify and fill gaps in funding. It will also include development and implementation of all necessary legal, institutional and operational requirements for the fund to operate at the system level. It will then begin capitalization of the fund by transferring existing forest revenue streams into the fund and, specifically for conservation areas, pilot-testing the collection of user fees for reinvestment into PA management at the system level.

d) Alignment with FAO Strategic Framework and Objectives

This project aligns well with the Strategic Objective 2 (SO2), 'Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner'. It will improve the management effectiveness of the PA system and help in improving sustainable PA management that is related to this Strategic Objective. This project will mainly contribute to achieving the Organizational Outcome "Stakeholders in member countries strengthen governance – the laws,

policies, management frameworks and institutions needed to support in transitioning to sustainable agricultural systems".

GORTT and FAO signed the Country Programme Framework (CPF, 2012-15) on December, 2012.. The present project aligns well with the Priority Area 3 of the CPF (modernization of agriculture sector- specifically the activity related to sustainable management and protection of genetic and natural resource assets essential to agriculture and rural livelihoods). Specific outcome and outputs of the CPF include:

Outcome 3.6- Sustainable management and protection of genetic and natural resource assets essential to agriculture and rural livelihoods
Output 3.6 - Improved Forest and PA Management through institutional strengthening
Output 1.1 - New PAs and coverage of unprotected ecosystems.
Output 1.2 - New PAs and coverage of unprotected threatened species

SECTION 2 – PROJECT FRAMEWORK AND EXPECTED RESULTS

2.1 PROJECT STRATEGY

The project will capitalize on the existing commitments by the Government for moving forward with new wildlife legislation and build on the stated commitments for the institutional change consistent with the new policies (both these processes are underway). The strategy of the project is to precipitate a shift from the existing inefficient system for biodiversity conservation (with its traditional top-bottom approach) to a stakeholder participatory approach for biodiversity and ecosystem services conservation. For this, the project will support the development of key policy- and institutional-enabling approaches to planning and management of terrestrial and marine PAs. For the MPA, a "place-based" ecosystem-based management strategy will be adopted, which can be integrated into a wider national marine PAs network (Wothke, 2013). Similarly, the terrestrial PAs will serve as models for biodiversity conservation by demonstrating best practice in PAs design, management and financial sustainability and serve as key nodes for an ecologically viable national PAs system (Nelson, 2013).

The project will achieve these conservation goals by bringing together key stakeholders and strengthening collaboration between key institutions for biodiversity conservation and sustainable use. Strengthening capacities will contribute to enhanced management effectiveness and improved conservation of threatened species. During project preparation, the key-stakeholders identified community participation, functioning co-management arrangements and education/awareness activities at the community level, as the most important needs to improve management effectiveness for PAs (Wothke, 2013). Adaptable models will be developed for co-management to solve biodiversity threats in a cost-efficient manner, benefiting threatened species and habitats. The project will support outreach to the key stakeholders and enhance public awareness on the value of biodiversity, current threats, and new conservation and sustainable use measures. There will be a particular focus on educating the young and women.Public education programmes will emphasise the need for PAs, stakeholder roles in effective management etc.

In addition, the lack of minimal PAs and threatened species management training among institutional and non-government stakeholders, and the lack of appropriate on-site management infrastructure also represent key gaps in the existing management framework for PAs in the country (Nelson, 2013). The project strategy to address these needs is to provide support for development of site-relevant training tools for all stakeholders, and to strengthen existing infrastructure for PAs and threatened species monitoring and management.

The project approach also emphasises the improvement of financial flows to and from PAs to support effective management and provide benefits to the stakeholders (e.g. through ecotourism). The approach is to develop model PAs and develop best management practices therein to propagate them to other PAs in the system after the project. Strengthening the institutions for managing PAs and enhancing their capacity to generate sustainable funds and manage them is a critical strategy to ensure sustainability.

Participatory project M&E will be the strategy to convince stakeholders of the project's benefits/impacts. Biodiversity monitoring will be done with the involvement and assistance of CBOs, NGOs and local communities. Four main species monitoring strategies were identified for the MPA: a modified ReefCheck protocol, bird counts, a mega-fauna sightings database, and an incentive programme for fishermen to allow reliable catch monitoring (Wothke, 2013). Terrestrial PAs will be monitored through a combination of remote sensing approaches, and field surveys of indicator species identified as important for each of the 5 terrestrial PAs, and which can serve as templates for subsequent PAs in the proposed national PAs system (Nelson, 2013). This field based monitoring will

be undertaken through collaborative arrangements between the local universities, CBOs, NGOs, local communities and the management agencies. These monitoring approaches will complement existing monitoring by government and CBOs.

2.2 PROJECT OBJECTIVES

The overall project goal is to conserve globally important biodiversity and ecosystems in TT. The objectives are to facilitate the development of a new system of PAs for TT, consistent with country's recently approved Protected Areas Policy (NPAP, 2011), by:

- Propose a new PA system for conservation of biodiversity;
- Increase management effectiveness of PAs; and
- Increase capacity for sustainable financing of PAs management.

These specific objectives will be met by parallel actions on the ground, within the six model PAs and at a PAs-systems level. In the former case, the project will showcase the application of enhanced mechanisms for stakeholder engagement and co-management; provide resources and capacity-building for all CBO, NGO and State stakeholders. In the latter case the project will provide the technical support for design of the new system-level PAs by developing the national gap analysis for PAs, development of models for co-management and mechanisms for improving sustainable financing conservation at the pilot PAs.

2.3 EXPECTED PROJECT OUTCOMES

1.1 A consolidated PAs system, which utilises streamlined and simplified management and ensures adequate coverage of all important terrestrials and marine ecosystems. The current list of candidate sites for the country's PA system is presented in Table 2.1, which represents a proposed network of marine and terrestrial PAs of approximately 214,000 ha in size. Six PAs covering about 98,452 ha will be formally designated under the new system during this project. The six project sites proposed are shown in maps below (Map 2.1) and their details are described at Table 2.2.

Table 2.1 Proposed national PA system*

Name	Current Designation	Area (ha)
Arena Forest Reserve	Forest Reserve	1,537
Arima	Forest Reserve	741
Blanchisseuse	Forest Reserve	870
Brigand Hill	Forest Reserve	129
Cap-de-Ville	Forest Reserve	2,107
Central Range	Forest Reserve	1,355
Cedros	Forest Reserve	16,884
Ecclesville	Forest Reserve	517
Erin	Forest Reserve	2,119
Freeport	Forest Reserve	188
Galeota Point	Forest Reserve	130
Godineau Swamp	Forest Reserve	92
Longdenville	Forest Reserve	529
Long Stretch	Forest Reserve	1,405
Las Cuevas	Forest Reserve	230
Manzanilla	Forest Reserve	2,165
McNair Ravine Sable	Forest Reserve	348
Melajo	Forest Reserve	2,167

Morne L'Enfer	Forest Reserve	3,835
Nariva Windbelt	Forest Reserve	2,536
Northern Range	Forest Reserve	1,359
Paria	Forest Reserve	721
Rochard Douglas	Forest Reserve	1,916
San Pedro	Forest Reserve	205
Siparia	Forest Reserve	394
Southern Watershed	Forest Reserve	9,856
Tacarigua	Forest Reserve	708
Tobago	Forest Reserve	3,956
Todd's Road (North)	Forest Reserve	187
Todd's Road (South)	Forest Reserve	84
Tumpuna	Forest Reserve	2,150
Valencia	Forest Reserve	2,785
Victoria-Mayaro	Forest Reserve	53,271
Yarra	Forest Reserve	655
Saut d'Eau Island	Wildlife Sanctuary	10
Soldado Rock	Wildlife Sanctuary	0.81
Kronstat Island	Wildlife Sanctuary	4.8
Buccoo Reef MPA	Marine Restricted Area	700
North-East Tobago MPA	None (includes off-shore bird sanctuaries)	59,280
Main Ridge Tobago	Forest Reserve	3,937
Matura Forest Reserve	Forest Reserve/Environmentally Sensitive Area	9000
Matura, Orosco and Fishing Pond Beaches	Prohibited Areas (seasonal)	39
Caroni Swamp	Forest Reserve/ Wildlife Sanctuary	3258
Nariva Swamp	Forest Reserve/Wildlife Sanctuary/Environmentally Sensitive Area	11,343
Manzanilla Beach	none	70
Trinity Hills	Wildlife Sanctuary	8200
TOTAL		**213,974**

*Need to be discussed with all relevant stakeholders and finalized during project implementation

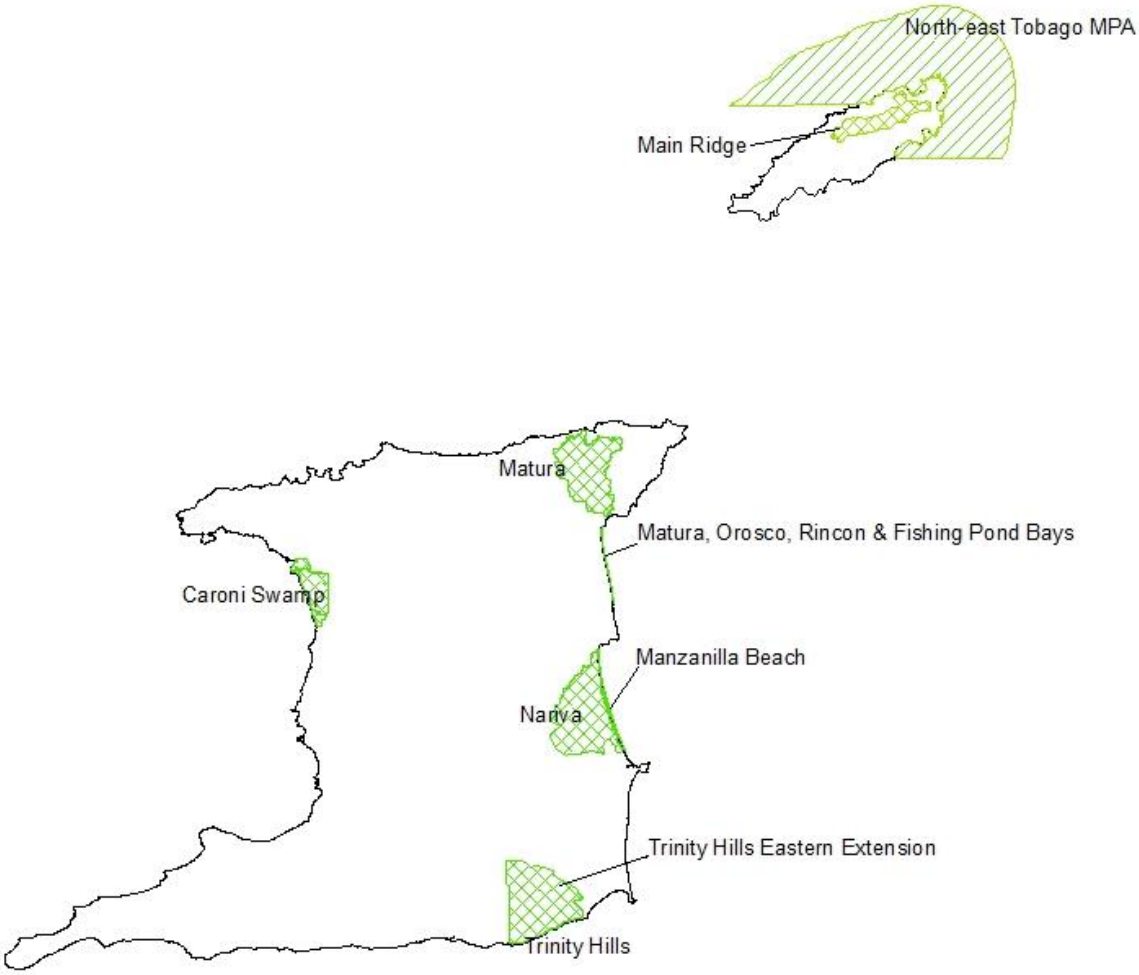
Table 2.2 Proposed project sites in TT

Site	**Area (ha) proposed**	**Satellite area (ha)**
North-East Tobago Marine PA[1]	59,280	Nil
Main Ridge	3937	Nil
Matura	9,000	Matura, Orosco, Rincon and Fishing Pond Beaches – 39 ha
Nariva Swamp	11,343	Manzanilla Beach – 70 ha.
Caroni Swamp	3258 ha	Nil
Trinity Hills	8200	Trinity Hills Eastern extension - 3,325 ha[2]
Total	**95,018**	**3,434**

[1]A buffer area will be considered given the oil exploration going on around North-East Tobago as well as the traditional recreational and subsistence uses within the proposed MPA

[2]This area is currently part of the Victoria Mayaro Reserve

Maps 2.1 Map of proposed PAs in TT including proposed satellite areas



Source: Nelson (2013)

1.2. Management of six PAs improved: The six PAs proposed above will see improvement in total management effectiveness score in GEF Biodiversity Tracking Tool (BDTT) by the end of the project (Table 6 in Appendix 12).

1.3 Biodiversity conservation of unprotected species is strengthened at six project sites: The condition of habitat and 33 threatened species in these sites will be improved (Table 7 in Appendix 12). This will be achieved by establishment of baseline data for many of these species and their habitats, and through the improvement of management of capacity of the FPAMA and its relevant stakeholders, by training in best practices for PAs management (including law enforcement, public education, and habitat and species management).

Biodiversity monitoring will be done in the six PAs, and will include species-specific population monitoring on the twenty species shown at Table 8 (in Appendix 12) considering the difficulty in monitoring all the species within the limited capacity and resources available. Given the ecological differences among these PAs, the types of species to be monitored vary depending on the specific PA. These data will be archived in a new National Biodiversity Information System to be developed

during the project. Such data will serve as the basis for species and habitat management within the six PAs and across the larger national PAs system.

2.1 The FPAMA staff has the resources and infrastructure necessary for effective PA management: Management plans will be prepared that will detail the resources and infrastructure needed for effective PA management at each of the six PAs. This will be reflected by improvements in BDTT score for equipment and facilities, and in the improved technical capacity of the FPAMA staff and relevant stakeholders to manage and maintain this PAs infrastructure.

The equipment and infrastructure needed for improving management in six PAs (e.g. Terrestrial/marine field kits, , fire-watch towers, etc. are shown in the procurement summary in Appendix 5). The needs of equipment and infrastructure will be assessed in PY1 and business plans will be prepared based on these assessments, which will guide infrastructure development in six PAs during project implementation. Co-finance (mostly from the Green Fund) will cover the expenditure for equipment and infrastructure.

3.1 A sustainable financing system which reduces the funding gap and supports the long-term sustainable management of the PA system: The sustainable financing system will be developed during project implementation and a financing plan will be produced. This will outline the specific measures to be taken by the FPAMA/THA and relevant stakeholders to reduce funding gaps within the six PAs, and more broadly across the larger national PAs system. Possible elements of this financing plan are shown in the Table 2.3.

Table 2.3 Possible elements to become part of the sustainable financing plan

Element	Potential	Current status
User fee system for recreation	High	Not developed in PAs
Fine structure for offences	High- but not sustainable	Too low and not collected due to high transaction costs
Fees for collecting resources/hunting	Medium- but may not be sustainable	Too low and not collected due to high transaction costs. Hunting is banned for two years from 01 October, 2013
PES	Low to medium	Not developed in PAs
Timber revenues	Medium	Currently low and not reflecting cost of management
Other taxes (e.g. airport tax)	low	Yet to be developed

3.2 Annual funding gap for management of PA system reduced by USD 100,000 at the end of the project: The user fee system will be developed during project implementation in two of the pilot PAs following the business plans developed during the project period. The user fees recommended during project preparation phase are shown in the Table 2.4. Suitable ecotourism products will be designed during the project cycle and the entry fee and fees for various ecotourism activities will be finalized after detailed stakeholder consultations/WTP studies. The revenue generated by these and other related activities is expected to reduce the funding gap by USD 100,000.

Table 2.4 Suggested start-up fees in TT

Type	Resident Adult (USD)	Non-resident Adult (USD)	Resident Child (USD)	Non-resident Child (USD)
Entry Fee (allows entry and use of facilities e.g. toilets, visitor/interpretation centre etc.)	1.00	3.00	0.50	1.50
User Fee (trail or boat tour etc. – to be a part of the tour fee charged by the tour operator)	0.50	1.00	0.25	0.50

Source: Otuokon (2013)

Note: Initial WTP studies indicated the acceptance of an entry fee up to USD 5 by local residents (see Blommestein, 2013)

4.1. Project implementation based on results based management and application of project findings and lessons learned in future operations facilitated: The project planning was done at activity level and the outputs will be monitored as in the M&E plan (section 4.5). Participatory approach will be adopted for M&E. Given the lack of in-country experience in many of these project areas, the lessons learnt during the establishment of the 6PAs will be useful for replicating the models to other PAs within the country.

2.4 PROJECT COMPONENTS AND OUTPUTS

The project objectives will be achieved through the four project components below.

Component 1- Improvements to the legal and institutional arrangements for PA management (GEF USD 1.6 million, co-finance USD 12.8 million)

This component will support improvements to the existing legal and institutional arrangements for PA management in TT. The component will include legislative gap analysis (building on the results of the analysis done during the PPG phase) and institutional mapping to identify current gaps in legislation and legal basis for all institutions involved in PA management. Conflicting legislation will be remedied through suitable amendments. The new legislation will provide a clear and coordinated legal basis for relevant institutional actors and an enabling environment for the management of PAs.

Component 1 of the project comprises two major activities at the national level and one at the site level. These activities will be underpinned by new legislation specific to PAs that remedies the challenges identified in section 1.1., including by providing a clear and coordinated legal basis for relevant institutional actors and by providing an enabling environment for the management of PAs as in the PA Policy (2011). Firstly, a national PAs system will be developed, agreed and published as a formal commitment by the government and a minimum of six new sites will be legally gazetted (Table 2.2). Thirty-three threatened species will be better protected within these PAs as a result (Table 7 in Appendix 12). Secondly, this project is already recognized by the Government as a first-step towards a more complete implementation of the FPAMA. The capacity of this new institution will be improved, with a focus on improving the scientific basis for conservation and PA management, improving information about biodiversity, raising awareness amongst the public about the benefits of conservation and staff training and upgrading of the indispensable skills.

At the site level, data will be collected and management plans will be produced for the six sites included in the project. This will include identifying threats to conservation at each site and the implementation of remedial actions. These activities will improve coordination in conservation activities and strengthen scientific and technical capacity for conservation and PA management in the country, within the FPAMA and its stakeholders.

The establishment of FPMA expected during early phase of project implementation will merge institutional responsibilities for PAs and clarify management authority. This will rationalize the capacity development to effectively manage the PA system through landscape-scale conservation approaches. The project activities will also promote increased stakeholder involvement in management and the conservation of biodiversity on private lands. Resource monitoring and management planning will promote cost-effectiveness and strategic investment. The legislative and enhanced institutional capacity will ensure generation of sustained funding and better administration and allocation of financing within the PAs system. While the training and technical assistance needed will be provided by GEF, the costs of enacting legal instruments will be covered by national co-financing. All these will lead to a revolutionized management environment that is far more strategic, results oriented, and cost-effective.

The inclusion of the North-East Tobago MPA together with the Main Ridge reserve during project preparation phase, will allow for the implementation of a 'ridge to reef' approach to the management of these PAs, and their associated biodiversity. Currently under-represented species and habitats will be brought into the PA system (e.g.in marine ecosystems coral communities, marine fish and invertebrate species, while in the terrestrial environment endemic frogs and threatened plants will be explicitly protected). Managing the PA system as a single and interlinked landscape will solve many operational coordination challenges in management of the country's biological systems for multiple uses, and yield the advantages of harmonized management. In addition, the emphasis on a landscape ecological approach which uses corridors between core PAs, and explicitly uses a biosphere reserve design approach to mitigate human activities in the surrounding landscape, will lead to more viable wildlife populations and resilient ecological communities (Nelson, 2013).GEF financing will be used to establish six PAs (Table 2.2) and the subsequent capacity building. These areas will become the focus of activities under many project outputs to make them as replicable models to follow for the PA system proposed (Table 2.1).

None of the PAs in TT currently has an operational management plan and therefore, the direction and site-specific approaches for PAs operations are missing. GEF funds will target this barrier by generating model management plans for the six PAs and through FPAMA staff and stakeholder engagement in the evolving of this innovative tool that will build system-wide capacity. Finalized management plans will synergize with other outcomes (2.1, 3.1 and 3.2) and help in ensuring financial and operational sustainability. Development of training materials for PA management will help in retaining the skills through further trainings in future. The following outputs are planned under component 1.

1.1.1 A draft National legislation prepared for PAs, which creates a framework for enforcement.
1.1.2. National PA system plan covering 214,000 ha agreed and published.
1.1.3 A minimum of six new sites covering about 98,452 ha designated as formal PAs under the new legislation.
1.2.1 About 100 FPAMA staff trained in current best practices in PA management and biodiversity conservation.
1.2.2 MIS developed and implemented for PA monitoring and assessment and reporting to international conventions.
1.2.3 Ecological research and monitoring programme to guide PA management developed.
1.2.4 Public education and awareness programme implemented.
1.3.1 Information about biodiversity in the six pilot sites collected and analysed annually.
1.3.2 Management plans produced for the six pilot sites.
1.3.3 Threats to biodiversity conservation identified and appropriate actions taken.

While co-financing will focus on providing human resources and infrastructure for achieving the above outputs, GEF funding will help to develop a robust and scientific basis for the activities required (at system-wide level) and to improve technical capacities at project sites.

Component 2 - Improvements to infrastructure for biodiversity conservation and forest restoration (GEF USD 246,000, co-finance USD 13.8 million)

This component will support new investment in facilities and equipment and enable habitat enrichment activities on the ground. More importantly, it will complement the technical capacity building activities in Component 1 of the project by enabling conservation staff and PA managers to utilize their new skills in the field (learning by doing) and achieve concrete results on the ground that will support other activities such as the introduction of user fees and awareness creation. In this way, this component addresses the existing problem of lack of resources for PA management.

Employing tourism for development of the PAs and contributing to conservation/livelihood of local communities remains a poorly deployed PA management strategy in TT. A situational analysis by Otuokon (2013) has indicated the potential of the PAs in TT for ecotourism, the absence of user fee system and its implications in conservation and community development.

Mass tourism has not yet affected many PAs in TT, providing an opportunity to test low impact ecotourism programs and provide replicable models for development of other PAs in the proposed PA system. The ecotourism activities/infrastructure development proposed during project preparation phase are described in Otuokon (2013). Most of these will be developed using the Green Fund after detailed option analysis in the business plans as planned in the project in PY1 and 2.

There are a few tourism activities in NE Tobago MPA (Wothke, 2013) and further development of new activities need to be approached with care. Wothke (2013) proposed a set of activities for consideration during project implementation which will be assessed during the project cycle following stakeholder consultations. A special focus will be directed towards the establishment of joint ventures between the private sector and CSOs as well as activities that are entirely managed by CSOs. Various management frameworks will be assessed for Visitor Impact Management, Visitor Experience and Resource Protection etc. (Eagles *et al.*, 2002), and will be part of the business plan.

GEF financing will support the formulation of model business plans for six PAs which will involve strategic generation and allocation of financial resources (synergy with component 3). This will set guidelines for more effective and efficient tourism management. Business plans will identify mechanisms for income-generation and business opportunities related to rational development of ecotorim products/resources. Most of the expenditure will come from the Green Fund and private sector (e.g. energy companies) as agreed in principle during project preparation.

The GEF resources will be used to assess the equipment needs and select mission-critical equipment for acquisition during the project. This will ensure that adequate protection activities can be implemented in the six PAs, and so ensure that the conservation goals of the project can be met by PY4. In addition, GEF resources will be used to develop the capacity of FPAMA and THA staff to undertake appropriate maintenance activities to ensure that infrastructure and equipment upgrades are sustained during the project period. Related to this, health and safety and assessment protocols will evaluate whether the equipment procured during the project is effective/appropriate for the PAs concerned.

Most of the equipment for biodiversity monitoring and protection will come through co-finance. These investments will include the design, construction and maintenance of field stations, fire towers, watch towers, and telecommunications capacity, required for the protection of the PAs. In

this context, stakeholders of MPA have demanded the establishment of fully equipped monitoring and patrol stations in the proposed MPA funding for which is also expected from the Green Fund (Wothke, 2013).

At least 500 ha of degraded forests in and around PAs will be identified and restored to ensure that these habitats are improved for threatened species in these PAs. In this regard, the Green Fund is already committed to a project in Nariva which aims to restore deforested areas. During the project, other areas within the remaining 5 PAs will be identified as potential targets for restoration, and his activity will be supported through GEF finance. Restoration of these new areas will be undertaken through Green Fund support, by empowering NGOs/CSOs to undertake these activities and through partnerships between them and the FPAMA and the THA. GEF resources will also be used to develop scientific restoration plans for these additional areas, to ensure that these activities have the greatest chance of leading to improvements in biodiversity indices at these PAs.

In brief, GEF funds will be invested in identifying degraded forest ecosystems where habitat enrichment/restoration will achieve important conservation impact, and through the monitoring of the impacts of these rehabilitation activities. It is expected that such scientific restoration and monitoring will lead directly to GEB. Co-financing by the government will focus on upgrading facilities and equipment that are of national benefit (e.g. visitor facilities, vehicles, new offices for FPAMA wildlife and PA staff) and the entire costs of reforestation/rehabilitation (e.g. degraded areas identified as a management priority).

This component comprises three major outputs as listed below.
Output 2.1.1 Visitor facilities upgraded and maintained.
Output 2.1.2 Equipment for protection activities is upgraded and used effectively.
Output 2.1.3 Degraded areas, identified as a priority in management plans, are rehabilitated.

Component 3 - Development and testing of sustainable financing system (GEF USD 594,282, co-finance USD 215,770)

This component focuses on development of a sustainable financing system at the national level and pilot-test it in two PAs. At the national level, activities will include establishment of a fund for PA management, developing operating procedures and training staff to operate the new system. The new Forestry and Protected Areas Fund (FPA Fund) will be established through co-financing from the Government and the long-term funding through sustainable and environment-friendly income generating activities within and around PAs (e.g. ecotourism fees).

FPA Fund is a major step towards an integrated system level approach. It uses financing from many sources (e.g. ecotourism fees, payment for environmental services, fiscal instruments and corporate social responsibility schemes) to support the PA system. Financial coordination and planning is the key to ensure effectiveness of FPA Fund. During the project, replenishment opportunities for a revolving fund will be explored, through user fees and other sources of revenues (Table 2.3). Specifically, new sustainable finance mechanisms in two PAs will be used generate at least USD 100, 000 annually. To reduce vulnerability to external shocks, diversification of revenue sources will be done through business plans and site-specific management plans. Legal arrangements for FPA Fund establishment and operations would be supported by GEF finance, but GEF funds will not contribute to this fund.

A one-time endowment for FPA Fund establishment from the Green Fund was discussed during project preparation, but was not agreed. This is a project activity under output 3.2.5. (Appendix 2). However, during the four-year project cycle, financing of USD 132 million will be provided by GORTT after merging scattered funds employed in managing forests and PAs currently. This is not counted as

co-finance because it is not a new fund, but funds appropriated from existing sources but redirected to invest in PA management with a more targeted approach.

Training staff in the skills required to identify, develop and implement sustainable and/or innovative financing is crucial to long-term sustainability of the PAs. Capacity building for 25 senior staff in generating user fees by targeting domestic markets, managing the tourism revenue (not existing at this moment) and designing tourism zones while ensuring biodiversity conservation will be a key project target. GEF resources will be used to train the PA managers in budget, financial management etc.

This component will include a system-wide assessment of funding requirements for future strategic planning. At the site level, this will include introducing user fees in two PAs, as well as exploring other options for raising funding at these and other sites. These activities will address the current problem of inadequate resources for biodiversity conservation and PA management. The tourism sector has been already identified as a potential way to protect and conserve the forests of TT (Indufor, 2010). However, the lack of skills in financial/business management amongst conservation staff and a lack of experience with generating funds from the recreational use remains a limiting factor. This component aims to enhance the financial management skills of PA managers (who are currently not trained in such techniques).

The financing plan developed in this component will determine operational and capital needs, identify new revenue sources, develop mechanisms for more income-generation and capitalize business opportunities related to rational use of PA resources. Each PA will develop their own operational model (e.g. benefit sharing between PA and local communities) within the general principles agreed at the national level for sustainable management of PAs.

Training along with key national institutions (e.g. TDC) will be provided to both community members and local entrepreneurs in best international ecotourism practices and experiences (output 2.1.1 in Appendix 2). This will include providing guest services, destination marketing, and business plans. Satisfaction surveys will be conducted among visitors to monitor expectations, experience, and biodiversity knowledge etc. from the second year of the project (output 2.1.1 in Appendix 2).

Site-level business plans (output 2.1.1 in Appendix 2), integrated with ecosystem based management, adaptation planning and development of sustainable harvest mechanisms (e.g. control over hunting, fishing etc.) will bring sustainable revenues through user fees. This approach will also support alternative livelihoods through new income generating opportunities etc. Local people will be trained to develop the skills needed to find alternate livelihood options.

Enabling PA managers and local communities to capture tourism revenues and other revenue-generating opportunities is relevant for ensuring sustainability. Successful models for ecotourism-based development in two PAs can be replicated to the entire PA system. Such demonstration of sustainable practices benefiting both conservation and local people will be useful in up-scaling and replicating successful project elements.

Consolidation of funds through FPA Fund will make system-wide financial framework assessable using the GEF Financial Scorecard. The preliminary assessment during project preparation was challenging due to scattered funds/expenditure which were not easy to disaggregate to PA management. Improving the efficiency and effectiveness of FPA Fund will provide for clearer reporting of the expenditure and results of investments which can be used to improve cost-effectiveness of PA management and reallocate the budget to improve it to benefit globally significant biodiversity.

The main outputs of component 3 are below.

3.1.1 FPA Fund established through legislation and board of trustees appointed.
3.1.2 Operating procedures and manuals agreed and produced.
3.1.3 FPAMA staff (70) trained in operation of the new system.
3.1.4 Senior staff and PA managers (25) trained in budget planning, tourism revenue management and innovative financing techniques.
3.2.1 Funding requirements for management of PA system assessed and agreed.
3.2.2 Strategic plan for sustainable financing produced.
3.2.3 System of user fees designed, piloted and operating in two PAs.
3.2.4 Other forest revenues evaluated and revised where appropriate.
3.2.5 FPA Fund capitalised by implementation of the new financing system.

Component 4 - Monitoring and evaluation (M&E) and information dissemination (GEF USD 175,405, co-finance USD 180,667)

The objective of component 4 is to ensure a systematic results-based M&E of project progress towards achieving project outputs and outcome targets (Appendix 1) and promote the wider dissemination of project results for replication in other PAs (detailed in section 4.5, 4.6 and 4.7). M&E will be participatory, involving key stakeholders, and will be done on a regular basis. Implementation of fiscal policies (e.g. dedicated taxes or obtaining public support and financing for PAs) will require public communication and awareness. A community Outreach Specialist will be recruited to ensure that communication gaps between various actors are minimized. The project dissemination/awareness activities built in the design is the key to make people aware of the project progress and ensure stakeholder buying-in.

Key to the M&E process is the recruitment of a project support team including the adminstrative support staff, budget officer, human resource specialist, community Outreach Specialist and CTA. The recruitment of these staff are a critical first step in the M&E process. This project team will be responsible for preparation of quarterly and annual reports on project implementation and achievements, and will report these to the National Project Steering Committee, GORTT and the FAO. These positions are to be supported through the GEF during the project. The project envisages the constitution of a multi-sakeholder national project steering committee, with represenaion from all the key stakeholders to the PAs. This committee will provideimportant independent M&E oversight during the project cycle, through its regular meetings and review of project progress. The activities of this committee will be supported through GORTT in-kind contribution.

The project will also ensure proper M&E through midterm and final evaluations of project activities and outcomes, to be conducted by an independent team to be contracted to assess project implementation and achievements. This activity will be funded through joint financing by GEF and GORTT.

The M&E function will also be ensured through early stakeholders engagement through two inception workshops, to be led by the project team, and through best practices workshops to be held during project implementation. These activities will be jointly financed by the GEF and the GORTT, and aim to ensure that the stakeholders are appraised of the project goals, objectives and activities, and to ensure that learning developed during the project is rapidly disseminated among practictioners and stakeholders of the PAs system.

The major outputs under component 4 are listed below.

4.1.1 Project monitoring system operating providing systematic information on progress in meeting project outcome and output targets.
4.1.2 Midterm and final evaluations conducted.

4.1.3 Project-related “best-practices” and “lessons-learned”published.
4.1.4 Website to share the experience and information dissemination.

GEF funding will support in salaries of the personnel engaged in M&E and information dissemination. Co-finance will cover the expenditures needed for logistic support for M&E, partcipatory evaluation etc. and the output 4.1.4 above.

2.5 GLOBAL ENVIRONMENTAL BENEFITS

All six proposed PAs are refuges of globally important biodiversity. The proposed MPA contains coral reefs which is globally significant due to the richness of species and intactness. It also includes several islands which are important breeding locations for key sea-bird populations in the Caribbean Sea (Bacon and French, 1972). This PA plays a crucial role in sustaining domestic and international fisheries, as well as service as a nexus for ecotourism and artisanal fisheries (Wothke, 2013). The proposed Nariva PA was the first site declared in TT as a wetland under the Ramsar Convention. This area is an important wetland habitat for migratory shorebirds and passerines, is the last reported habitat for the West Indian Manatee in TT, and one of a handful of locations on the island where the Trinidad with fronted capuchin, an endemic sub-species, is found (Worth *et al*., 1973).The proposed Trinity Hills PA is one of the largest intact remnants of lowland forest in Trinidad, with, viable populations of all the native mammals of the island including both species of native monkeys, ocelot, Neotropical river otter and tayra (Nelson, 1996). This site was also part of the historic range of the globally critically endangered Trinidad piping guan, and a potential site for its reintroduction (McGowan, *et al.*, 2010). The proposed Caroni Swamp PA is the largest mangrove wetland in the country (Juman, and Ramsewak, 2011), and the most heavily utilized ecotourism site on the west coast of the island (James, 1994). The Caroni is also a Ramsar designated wetland, and a critical stop-over point for migratory shorebirds in the Caribbean, including several rare and declining species (Cuffy, 1999; Devenish *et al.*, 2009). This site is also the only known nesting site in TT of the national bird, the scarlet ibis (Bildstein, 1990). The Main Ridge PA is the oldest forest reserve in the Western Hemisphere, dating from 1776, and is host to several species of endemic vertebrates (e.g. Turpin’s frog) and trees (e.g. *Roupala tobagensis*) (Nelson, 2013). This site is also one of the island’s most heavily utilized ecotourism sites, and host to threatened species such as the white-tailed sabre wing hummingbird (Hayes *et al*., 2000). The last of the six PAs is the Matura PA, which includes satellite areas that are important nesting areas for globally threatened marine turtles such as the Leatherback turtle (Eckert, 2004), and its forest habitats are home to the last population of the critically endangered Trinidad Piping guan. This area is also among the highest plant species diversity sites on the island (Van den Eynden *et al.*, 2007). The proposed North-East Tobago Marine PA will be the largest PA in the proposed national PAs system, with an estimated area of over 59,000 ha. The five terrestrial PAs will together cover 7.6 % of the land mass of the country, at a total area of 39,172 ha. These will act as the models to emulate for other PAs in the PA system proposed during the project cycle.

Major global benefits of the GEF investment are summarized below.

- Improved biodiversity conservation within about 98,452 ha of forest ecosystems managed primarily for this purpose and improved PA management practices (about 214,000 ha)
- Population stable or improving of ocelot (*Leopardus pardalis)*, Pawi (*Pipile pipile*), *White* fronted capuchin (*Cebus albifrons*), Ornate hawk-eagle (*Spizaetus ornatus*), and Leather-back turtle (*Dermochelys coriacea*) through better protection in target areas.
- Better management in new PAs will result in increased protection of 33 threatened and globally important species (Table 7 in Appendix 12)
- Floral diversity will be conserved through the broad range of forest communities protected in the 6 new PAs (Nelson, 2013) and initial estimates suggest that at least 25% of the 59 endemic species of flowering plants known from the country (Nelson, 2013) will be protected in the 6 PAs
- The mangroves and freshwater herbaceous swamps and palm marshes (about 10,051 ha) in Caroni and Nariva [1] will be protected and managed more effectively

[1] Includes all of Caroni and 6,793 ha of Nariva

2.6 COST EFFECTIVENESS

1. Selecting cost-effective conservation tools: Investment in PAs pays significant down-stream dividends and safeguards species that carry great option values. Building institutional and sustainable financing improvements are the most cost-effective approach to avoid more costly conservation expenditures for habitat restoration and species re-introduction at a later stage. Following this principle, this project design includes creation of a few cost-effective conservation tools like PA management plans, ecotourism business plans, and co-management models etc., which do not exist currently in PAs.

The establishment of FPA Fund is preferable to the alternative of a one-off endowment when the FPMA is established. The project will improve the capacities of the PA staff and relevant stakeholders to manage PAs effectively and develop ecotourism products. Wherever possible, training of trainers was the cost-effective approach in capacity development.

2. Better focus for GEF financing and high level of co-financing by the government: The project will build upon the existing baseline activities, national and local capacities (very limited), and available infrastructure. Co-financing commitments were sought for most of the activities during project planning to ensure country ownership. The project builds on the existing government efforts to expand the national PA system and strengthen the capacity of the institutions governing PAs to set biodiversity conservation priorities that comply with international standards. Careful consideration was therefore given where GEF funds should be invested (mostly for capacity development and bringing external expertise). Due to detailed project planning during PPG phase with diverse stakeholders, co-financing indicated in PIF went up by 142%. Considering conservation priorities set by TT and a limited project budget, the most strategic and cost-effective investments were integrated to the project design.

3. Cost-effective approach in selection of project sites: Several alternative scenarios were considered from the point of view of cost-effectiveness during project preparation like the selection of project sites. Six project sites were selected considering their ability to conserve a maximum area of key habitats and species and make conservation more efficient and cost-effective. Specifically, these areas contain important representation of several lowland and upland forest communities on both islands (Nelson, 2013), and when integrated into the proposed national system of PAs, have the potential to sustain viable populations of keystone vertebrates (e.g. the Trinidad piping guan) on the islands (Nelson, 2013). In addition, several of these areas (e.g. Matura, Caroni Swamp, Main Ridge Tobago and the North-East Tobago MPA) have traditionally been the focus of ecotourism activities in

the country, and have the greatest potential for the development of economically self-sustaining management systems.

The selection of these areas was based on limiting project expenses by choosing diverse sites representing a wide spectrum of conservation challenges and opportunities so that they can act as replicable models. With the range of ecological systems represented in these 6 areas (from coral reefs and offshore islands to montane forest and seasonal lowland forests and mangrove forests and freshwater marshes) the development of management systems in these PAs will allow for management models which can be applied to all ecological systems present on both islands. Furthermore, the broad geographic distribution of the 6 pilot PAs provides for the engagement of CBOS and NGOs from both islands, and across a large number of communities in the country, potentially broadening the impact of potential benefits to the national community (with limited project costs).

At the PIF stage, only five PAs covering 35,000 ha were proposed, but during the inception workshop, the stakeholders in Tobago demanded inclusion of two more PAs, Buccoo Reef and the North-East Tobago MPA (the largest PA among the 6 proposed project sites). Further discussions with stakeholders and the Steering Committee especially considering the limited budget and the investments required to intervene, North-East Tobago was chosen as a project site (MPA where interventions with minimal cost can have a great impact on the management within the project period - some stakeholders opined that more resources will be needed to recover the habitats in Buccoo Reef due to its degree of disturbance and the challenges of stakeholder conflict at the site). During midterm workshop in Trinidad, stakeholders demanded to add more areas to the MPA. This was considered in the project design considering little increment in adding more areas bringing greater incremental benefits to conservation/management effectiveness. Accordingly, the maps of all PAs were prepared using GIS, so that indicative areas to be demarcated during project implementation could be identified.

During terminal workshop, more areas were added to terrestrial PAs as satellite areas to be considered during project implementation. These areas included additions to the Trinity Hills PA, to reduce the edge effect of this PA and increase its area to allow for an increase in its potential populations of wildlife. At both the Matura and Nariva sites, stakeholders recommended the inclusion of the nearby beach areas as satellite areas to the proposed PAs, because of their existing and/or potential value for conservation of critically endangered marine turtle populations, and due to their value as locations for ecotourism centred on turtle protection. Again, the high incremental benefit of adding little additional investments was the rationale for adding these to the project design (as these additional areas increase the size of the six PAs by 3,434 ha). The area of six project sites increased to 98,452 ha (182% more than what was indicated in PIF) as the outcome of the stakeholder discussions during the PPG phase. These PA cost-effectiveness considerations will result in highly replicable models that adopt landscape-ecological approaches to PA management, and which provides the benefits of economies of scale.

Site selection for developing user fee system (Caroni swamp and Main Ridge reserve) was based on where this system can quite easily be implemented with minimal investments and where the benefits of conservation can be demonstrated most easily to the public (Caroni is very close to the capital city and Main Ridge is the centre of attraction in Tobago). Focusing on such “quick wins”, will be catalytic in generating public and political support for conservation in the country and provide lessons learned for replication elsewhere.

4. Cost-effective approach in rejection of project sites: A Northern Range PA which includes some of the most inaccessible and undisturbed forest on the northern facing slopes of Trinidad’s Northern Rage, was another terrestrial PA proposed by stakeholders during midterm consultations. However,

within the project resources it was found difficult to include this additional area, especially considering the complexities regarding the boundaries, management arrangements etc which may need considerable resources to intervene. In this regard this proposed PA, this was kept as "plan B" should some of the project areas chosen are dropped at a later stage, due to unforeseen reasons.

5. Cost-effective considerations in selection of activities: Careful selection of activities to be implemented and choice of implementation arrangements was also guided by cost-effectiveness. The approach in the project is to move from the current situation where the Forestry Division attempts to undertake all management actions unilaterally, to a model in which other stakeholders with an interest in the resource, share responsibilities for its protection and management. Training provided to project partners (including stakeholders) in strategic planning and budget management will address some of the current inefficiencies in resource utilization, and create the sense of shared responsibility for the resource. Wherever possible, training of trainers was adopted as the cost-effective approach for capacity development. Likewise, developing the public education materials and programs centrally would be more cost-effective and to focus on thematic areas of global/national importance.

6. In-kind inputs through better stakeholder engagement: Technical assistance for several outputs are expected from some NGOs (e.g. biodiversity monitoring). Their travel costs for will be covered by the project budget and co-financing will cover their remuneration as agreed through MOUs between different stakeholders during project inception. This will ensure the retention of local capacity in annually occurring monitoring programmes and reducing recurring costs in future.

Two key indicators for quantifying cost-effectiveness are below.

a. Cost per hectare of GEF funding for PA management: The costs applicable to various outputs are shown in the Table 2.5 below. The project will directly result in strengthened PA management across 98,452 ha of PAs and the unit cost of this is USD 10.7/ha (considering items 2, 4 and 5 in the Table 2.5), but comparable to the levels of investment by GEF on similar projects in other Small Island States. The outputs applicable to the comprehensive PA of 214,000 ha incur a unit cost of USD 6.8/ha (considering items 1, 3 and 6 in the Table 2.5). There is a large fixed cost associated with PA management in the country. Current annual PA management expenditure of about USD 10.7/ha in the country is very low and the ideal amount needed is USD 88/ha per year. For the basic management of PAs USD 33/ha is needed. The proposed unit cost of investment from GEF is comparable to this. Because the project involves management of mangroves and the population density in the country is considerably high in certain areas, the cost is reasonable.

Table 2.5 Costs applicable to various outputs

No	Project output	GEF costs- USD	Applies to area (ha)
1	1.1.1 and 1.1.2	165,778	214,000
2	1.1.3	79,250	98,452
3	1.2.1 to 1.2.4	688,820	214,000
4	1.3.1 to 1.3.3	709,105	98,452
5	2.1.1 to 2.1.3	270,000	98,452
6	3.1.1 to 3.2.5	594,282	214,000

b. Return on investments: USD 594,282 GEF investment in sustainable financing should result in a USD 100,000/year reduction in the funding gap for PA management with 17 % return on that investment in addition to the GEBs. This is realistic considering the carrying capacity of the PAs,

uncertainties related to the tourism sector and negative externalities of such activities. The potential is much more as explained in Otuokon (2013). The comprehensive finance plan covering the entire 214,000 ha will build on these results. Kick starting the process of capturing the recreational value of the PAs within the social and ecological carrying capacity will bring down the funding gaps in long term. Also, the co-finance (e.g. The Green Fund) is likely to continue to address the funding gap because biodiversity will be mainstreamed through this project by involving CBOs/NGOs (whose capacities will be enhanced during the project for accessing the Green Fund).

2.7 INNOVATIVENESS

In an international context, the project does not contain major innovations. However, the project consists of adapting the methods and approaches successfully implemented elsewhere to TT. Moving biodiversity conservation from a solely public sector domain to one which stresses a large role for co-management by stakeholders, in the conservation of these resources is innovative. Co-management models successfully tested and developed will be scaled up at National level after rectifying many current issues. Importantly, biodiversity monitoring has never been consistently done in TT, which represents one of the largest technical challenges with regard to the scientific management of the country's biodiversity. The project will acts as a catalyst to develop a systematic collection of baseline data across the national PA system, by piloting the approach in the 6 new PAs. Further, it engages the non-State stakeholders in this data collection, and ensures that this will be done at the National level. The project also provides for the development of a central database for biodiversity and providing public access to these data, an innovative approach in TT. Implementing a user fee system following WTP studies and channelling user fees to conservation of PAs is another aspect which was never implemented effectively in PAs except a few exceptions where NGOs are involved in leading tourism activities (e.g. Turtle watching).

Development of cooperative arrangements between MEWR, THA, FPAMA, NGOs/CBOs, UWI, IMA and other relevant stakeholders to formulate the management plans will be another innovation in PA management for TT. This approach will help in setting site-specific management targets and continuing the process on the ground and keeping institutional memory and repository of knowledge developed with different partnering institutions beyond the project period. Co-operative arrangements with private sector for biodiversity management constitute another innovative approach which has long-term implications in conservation. Training FPAMA staff and relevant stakeholders (CBOS, NGOs) in project development and management skills required to access the Green Fund to increase the revenue to PAs is innovative and has implications in ensuring stakeholder participation and sustainability of operations. Establishment of an online platform for revenue generation is an innovative approach to address the inefficiency of the current system and reduce transaction costs.

SECTION 3 – FEASIBILITY

3.1 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

Outcomes and outputs of this project have no major adverse environmental or social impacts and it conforms to FAO's list of projects excluded from a detailed environmental assessment. On the contrary, the project and the GEF resources invested are expected to have positive effects on conservation of habitats for globally threatened species and on the sustainable management of forests and wildlife at the six PAs. This project is expected to demonstrate good management practices to conserve biodiversity, provide opportunities for sustainable income generation for communities, and provide a model for sustainable financing across the national PAs system. In this context, the environmental and social impacts will be minimal.

3.1.1. Environmental Impacts

A. Positive impacts:

Improved conservation outcomes within PAs with regard to habitat and species management, and improved control of illegal and unsustainable uses will result in positive impacts. For example, the stabilization of populations of globally threatened species present in the six PAs, improved management of inland fisheries and wildlife use in the PAs, increase in ecological resilience of PAs by reduction of threat posed by anthropogenic disturbances such as fire and alien invasive species, conservation of soil productivity, and the maintenance of water quality within the PAs. The project will also provide for adoption of landscape-scale PAs planning across the country through the systems plan development, which will lead to increased resiliency of ecosystems and viability of wildlife populations.

B. Negative impacts:

Possible adverse impacts include disturbance to flora and fauna due to some tourism practices, including infrastructure development, and/or increased tourist numbers at PAs leading to habitat degradation, wildlife disturbance or introduction of new invasive species or wildlife/plant diseases to PAs. Restoration activities could also lead to unanticipated disruption of artificial ecological systems currently used by rare or threatened species, or species of economic importance. Improved access to PAs may increase illegal access and/or poaching/harvest of NTFP, timber or wildlife resources.

C. Mitigation strategy:

All infrastructure development will take place in already degraded sites, and follow protocols to reduce risk of introduction of exotic species, novel diseases, illegal harvest by construction personnel and disturbance of ecologically critical habitats and species. Existing vegetation would be only selectively removed for developing ecotourism facilities. Structures to improve accessibility and safety will ensure low impacts (erosion control structures, railings and steps etc.). Considering the harmful impacts of mass tourism, care will be taken to internalise the externalities (e.g. carbon costs of travel to PA realised as a constituent of the user fee). Environmental impact assessment would form part of every management plan to ensure that impacts resulting from PA development will be within acceptable limits, and not significantly affect rare, threatened or culturally important species or habitats. No infrastructure will be developed in PAs without conducting an EIA and tourism zones in PAs will be marked to better manage visitation. Improved enforcement and education activities will mitigate potential threats from illegal habitat and species use.

3.1.2. Social Impacts

A. Positive impacts:

- Strengthening and empowerment of NGOs/CBOs through participatory planning, implementation and monitoring in project sites.
- Sustainable hunting practices will provide better experience for hunters through improved wildlife populations
- Creation of employment opportunities related to PA development/management and maintenance/development of ecotourism.
- As a result of ecotourism development, there could be sustained demand for local agricultural products and crafts and residual effects of ecotourism in local economies.
- Development of tangible financial benefits which can improve financial sustainability of the PAs and to local communities adjacent to PAs
- Improved information, knowledge, and skills capacity of civil society stakeholders and local government agencies to manage PAs

B. Negative impacts:

Most of the negative social impacts will be associated with creation of six PAs. These are related to the loss of income and/or consequences in livelihood changes due to the transition from current unsustainable practices, due to improved enforcement, legislative changes in hunting season/permits/permissible numbers, permit fees and changes in areas of access (e.g. control of grazing and fishing). Hunting has already been banned for two years in TT. Long-term illegal utilization of national forests for subsistence and commercial hunting, fishing and seasonal agriculture, will lead to local dislocations due to lack of access to these resources. The expected extent of these social dislocations is not quantified yet.

C. Mitigation strategies:

Detailed socioeconomic and ecological studies (for type and extent of dependency on forests) during preparation of management plans will help in zoning in the PAs which might avoid the conflicts with people's livelihood. Local community members affected will be provided alternate opportunities through their participation in local re-training for community-based ecotourism (at least 20 new jobs created in two PAs), and engagement in PA-level enforcement, habitat improvement and species monitoring and recovery activities. The sustainable extraction practices will be evolved (benefiting at least 50 persons in project sites). Improved capacity to engage in ecotourism and related service industries will partially mitigate loss of access for some users who traditionally depend on illegal or unsustainable harvesting of wildlife, timber or NTFPs at the PAs (see activity 4 under Output 3.2.4). Direct transfers of some proportion of the benefits to local communities around the PAs will serve to increase the buy-in and reduce local dislocations caused by changes in access regimes at the PAs. Social and environmental safeguards will be ensured in implementing the project activities with the support of the PA Management committees.

3.2 RISK MANAGEMENT

Project risks have been identified during the full project preparation as in section 3.2.1 below. The six-monthly Project Progress Reports (PPRs) will be the main tool for project risk monitoring and management (section 4.5). These reports will include an explicit section on actions taken to follow up on risks and mitigation actions identified in previous PPRs. It will also have another section that identifies new risks or risks that continue to need attention, their gravity, potential mitigation actions including identification of who should carry out those actions, and by when they should be completed. The project team will monitor the risk management closely and follow up if needed, providing support for the adjustment and implementation of risk mitigation measures by project

stakeholders. Reporting risk monitoring and rating will also be part of the annual Project Implementation Review submitted to the GEF Secretariat (section 4.5)

3.2.1 Risks and mitigation measures

Risks will be addressed through the project's M&E system during project implementation. This M&E system will allow for regular assessment of whether these risks have changed so that corrective action can be taken. Early detection of project risks will be done based on FAO's experience working in the forestry sector in the region. Multi-stakeholder partnerships will be employed to assist in risk management. The main risks associated with this project are detailed in Appendix 4. Specific risks associated with ecotourism development, terrestrial PAs and the MPA are in Otuokon (2013), Nelson (2013) and Wothke (2013) respectively.

SECTION 4 – IMPLEMENTATION AND MANAGEMENT ARRANGEMENTS

4.1. INSTITUTIONAL ARRANGEMENTS

This project is a national project and as such requires the leadership and the participation of state agencies, the Tobago House of Assembly (THA), and the local government corporations. The main institutional partners will be Ministry of Environment and Water Resources (MEWR) and THA. Specific units who will be responsible for project implementation under MEWR are the Forestry Division (N.B. once the Forest and Protected Area Management Authority (FPAMA) is established and operational, the responsibility will be handed over to FPAMA), Environmental Policy and Planning Division (EPPD) and Environmental Management Authority (EMA). The units under THA are the Department of Natural Resources and the Environment (DNRE) and Marine Resources and Fisheries Department (MRFD). Their national responsibilities are presented in Table 4.1. Other stakeholders and their general roles are shown in section 1.1.3.

Table 4.1 Key institutional partners, their national responsibilities and roles

Key Institutional Partner	National Responsibilities
Ministry of Environment and Water Resources (MEWR)	**MEWR**: MEWR is the GEF Political Focal Point and the focal point for the Convention on Biological Diversity, United Nations Convention to Combat Desertification, Ramsar Convention and other biodiversity related multilateral environmental agreements. It has primary responsibilities for the sustainable management of the environment, the provision of an adequate supply of water and the administration of the Green Fund. The Forestry Division (and the planned FPAMA) falls under MEWR. The Forestry Division is directly responsible for managing wildlife Sanctuaries, Forest Reserves, and other PAs. Once FPAMA is established, as per the PA Policy (2011), it will be responsible for efficient coordination of management of terrestrial, coastal and marine areas; development of partnerships with stakeholders for participatory PA management; development of the necessary multi-disciplinary capacity for PA management; establish, administer and utilize a Forestry and Protected Areas Fund etc. **Environmental Policy and Planning Division (EPPD)**: Responsible for the monitoring and evaluation of the implementation and effectiveness of environmental policies; Conducting research to inform the formulation of environmental policy; The National Focal Point for the Multilateral Environmental Agreements (MEAs) to which the GORTT is signatory; Assisting in the identification and mobilization of financial and technical assistance to support Government's efforts to promote sustainable development. **Environmental Management Authority (EMA)**: EMA is a statutory authority and the GEF Operational Focal Point. Responsibilities include making recommendations for a National Environment Policy; developing and implementing policies and programmes for

	the effective management and wise use of the environment, consistent with the objects of the EM Act etc.
Tobago House of Assembly (THA)	**THA**: THA is the local government body responsible for the island of Tobago for environmental matters. The THA is empowered to formulate and implement policy, propose and adopt Bills, consistent with the written policy and laws of the unitary state of TT. Within THA, the Division of Agriculture, Marine Affairs, Marketing and the Environment has the responsibility for sustainable management of natural resources and skill development of human resources. This Division is subdivided into two Departments below. - Department of Natural Resources and the Environment (DNRE) holds the responsibility for programmes for environment, watershed, wildlife, forestry, terrestrial PA and natural resource management. - Marine Resources and Fisheries Department (MRFD) holds the responsibility for the sustainable management of Tobago's marine resources (from the coastline to a distance of 6 nautical miles off shore).

4.2 IMPLEMENTATION ARRANGEMENTS

The Food and Agriculture Organization (FAO) will be the GEF Agency responsible for the supervision, and provision of technical guidance during the implementation of the project. The key executing partners will be MEWR (through the Forestry Division till FPAMA is established) and THA (through DNRE and MRFD). A Project Coordination Unit, hosted by MEWR will be established to support the day-to-day management, coordination and monitoring of project activities.

1. Project Steering Committee

A multi-stakeholder Project Steering Committee (PSC) will be established to guide and oversee implementation of the project. Specifically the PSC will:

a) Provide guidance to the Project Coordination Unit (PCU) to ensure that project implementation is in accordance with the project document;
b) Review and approve any proposed revisions to the project results framework and implementation arrangements;
c) Review, amend (if appropriate) and endorse all Annual Work Plans and Budgets;
d) Review project progress and achievement of planned results as presented in six-monthly Project Progress Reports, Project Implementation Reviews (PIRs) and Financial Reports;
e) Advise on issues and problems arising from project implementation, submitted for consideration by the PCU or by various stakeholders; and
f) Facilitate cooperation between all project partners and facilitate collaboration between the Project and other relevant programmes, projects and initiatives in TT.
g) Approve TOR for midterm and final evaluations.

The PSC chair will be nominated by MEWR in consultation with THA and PSC members. The Committee's composition will include representation from the Permanent Secretary (MEWR), the Tobago House of Assembly, the Environmental Management Authority, the Conservator of Forests of the Forestry Division (or FPAMA), FAOTT, COPE, NGOs/CBOs, UWI, IMA etc. The PSC may co-opt ad hoc representatives from the other partners from related projects, relevant government departments (tourism, fisheries, TCPD, Ministry of Local Government etc.), industry, energy companies, EPPD etc. as may be necessary. Draft TOR for this committee in the first quarter of

project implementation. The PSC will have the mandate and flexibility to establish site-specific management committees and appoint site coordinators as necessary.

2. Executing Partners – Specific roles and responsibilities in the project

The agencies responsible for execution of the project and their roles are shown below.

MEWR and THA: Lead role in execution of the project at national level and Tobago respectively. Mainly responsible for the following outputs: 1.1.1 Draft National legislation prepared for forests, wildlife and PA management 1.1.2 National PA System Plan agreed and published (214,000ha) 1.1.3 A minimum of six new sites designated as formal PAs under the new legislation (covering about 98,452 ha) 1.2.2 MIS (NBIS) developed and implemented for PA monitoring and assessment and reporting to international conventions 3.1.1 FPA Fund established through legislation and board of trustees appointed 3.1.2 Operating procedures and manuals agreed and produced 3.2.2 Strategic plan for sustainable financing produced 3.2.5 FPA Fund capitalised by implementation of the new financing system 4.1.1 Project monitoring system providing six-monthly reports on progress in achieving project outputs and outcomes 4.1.2 Participatory annual evaluation conducted 4.1.3 Project "best-practices" and "lessons-learned" in relation to co-management models, mainstreaming gender in biodiversity conservation etc. disseminated via publications 4.1.4 Website and social media to share the experience and information dissemination develped
Forestry Division (or FPAMA): Lead the execution of four project components at National and project site-level in Trinidad, specifically responsible for the outputs: 1.2.1 FPAMA/THA staff and PA management partners trained in current best practices in PA management and biodiversity conservation 1.2.3 Ecological research and monitoring programme to guide PA management developed 1.2.4 Public education and awareness programme designed and implemented 1.3.1 Information about biodiversity in 6 pilot sites collected and analysed from PY2-PY4 1.3.2 Management plans produced for the six pilot sites 1.3.3 Threats to biodiversity conservation identified by PY 1 and appropriate actions taken from PY3 2.1.1 Visitor facilities upgraded and maintained from PY2 2.1.2 Equipment for protection activities is upgraded and used effectively by PY3 2.1.3 Five hundred ha of degraded areas, identified as a priority, are rehabilitated for habitat enrichment by PY4 3.1.3 Seventy FPAMA/THA staff trained in operation of the new system by PY3 3.1.4 Senior staff and PA managers (25) trained in budget planning, tourism revenue management and innovative financing techniques by PY 3 3.2.1 Funding requirements for management of PA system assessed and agreed by PY2 3.2.3 System of user fees designed and piloted by PY 2 and system operating in two PAs by PY3 3.2.4 Other forest revenues evaluated and revised where appropriate by PY2
DNRE: Lead the execution of four project components in the Main Ridge Reserve and support the execution of project components related to the MPA (specifically responsible for outputs 1.2.3, 1.2.4, 1.3.1, 1.3.2, 1.3.3, 2.1.1, 2.1.2, 2.1.3, 3.1.3, 3.1.4, 3.2.1, 3.2.3 and 3.2.4 and contribute to other outputs).
MRFD: Lead the execution of all the outputs related to the proposed MPA (specifically the outputs 1.2.3, 1.2.4, 1.3.1, 1.3.2, 1.3.3, 2.1.1, 2.1.2, 2.1.3, 3.1.3, 3.1.4, 3.2.1, 3.2.3 and 3.2.4 and contribute to other outputs).
EPPD and EMA: Support and advisory role in execution of all project components at national level and site level (e.g. habitat restoration) respectively.

Some outputs of the project (e.g. outputs 2.1.1, 1.3.1 etc.) will be executed by partnering with selected NGOs/CBOs, through letter of agreements (CANARI, Nature Seekers, Environment Tobago etc.).

3. Project Coordination Unit

A Project Coordination Unit (PCU) will be established within MEWR which will be led by a Chief Technical Advisor (CTA), the PCU is responsible for the day to day management of the project and timely and efficient implementation of the approved annual work plans. The PCU will:

a) Act as secretariat to the PSC;
b) Organize project meetings and workshops, as required;
c) Prepare Annual Work Plans and detailed Budgets (AWP/B) and submit these for technical clearance by FAO and approval by the PSC;
d) Coordinate and monitor the implementation of the approved AWP/B;
e) During project inception period, review the project's M&E plan and propose refinements, as necessary, and implement the plan;
f) Prepare the six-monthly Project Progress reports and give inputs in the preparation of the annual Project Implementation Review (PIR) by the Lead Technical Officer. Ensure that all co-financing partners provide information on co-financing provided during the course of the year for inclusion in the PIR;
g) Coordinate the project with other related on-going activities and ensure a high degree of inter-institutional collaboration; and
h) Assist in the organization of midterm and final evaluations, as appropriate;
i) Ensure that all co-financing partners provide information on co-financing provided during the course of the year for inclusion in the PIR;

The PCU will consist of a CTA, a Community Outreach Specialist and an Administrative Officer.

4. GEF Agency

The Food and Agriculture Organization will be the GEF Agency of the Project. Administration of the GEF grant will be in compliance with the rules and procedures of FAO, and in accordance with the agreement between FAO and the GEF Trustee. As the GEF agency for the project, FAO will:

a) Manage and disburse funds from GEF in accordance with the rules and procedures of FAO;
b) Oversee project implementation, as part of the PSC, in accordance with the project document, work plans, budgets, agreements with co-financiers and the rules and procedures of FAO;
c) Provide technical guidance to ensure that appropriate technical quality is applied to all activities;
d) Carry out at least one supervision mission per year; and
e) Report to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review (PIR), on project progress and provide financial reports to the GEF Trustee.

The FAO representative, Trinidad and Tobago will be the Budget Holder (BH) for the project's GEF resources. The BH will be responsible for the timely operational, administrative and financial management of the project. She/he, working closely with the lead executing partners, the FAO Lead Technical Officer (LTO) and Lead Technical Unit (LTU), will be responsible for:

a) Management of GEF resources in accordance with the Project Document, the Government Co-operative Programme (GCP) Agreement between FAO and GORTT, and approved Annual Work Plans and Budgets;

b) Procurement of goods and contracting of services for the GEF component of the project and financial reporting in accordance with FAO rules and procedures;
c) Preparation of annual/six-monthly budget revisions, as required with the inputs from the CTA, for submission to the LTO/LTU and the GEF Coordination Unit;
d) Preparation of six-monthly financial reports to be submitted to the GEF Unit and shared with the executing partners and the PSC;
e) Represent FAO in the PSC.

The BH will also be responsible for reviewing and giving no-objection to Annual Work Plans and Budgets (AWP/B), Project Progress Reports and co-financing reports submitted by the Project Coordination Unit, in consultation with the LTO, LTU and the GEF Coordination Unit.

The BH will establish a FAO Project Task Force to support the project. The FAO Project Task Force (comprising representatives from the Forestry Department, Fisheries and Aquaculture Department Legal Office, Technical Cooperation Department, CIO etc. in FAO) will provide recommendations to the LTO/LTU and BH in order to facilitate inter-sectoral and multi-disciplinary approaches within and outside FAO and promote collaboration and synergy with other initiatives as appropriate.

The FAO Lead Technical Unit (LTU): The Forest Economics Team[1] (FAO Forestry Department) will be the LTU for this project. The LTU will support the LTO in providing technical advice and backstopping (at least one annual field project supervision mission) in consultation with other teams in the Department and FAO.

The Sub-regional Forestry Officer for the Caribbean will be the LTO. The LTO will:

a) Review and provide technical clearance to TORs for consultancies, LOAs and contracts, in consultation with the LTU and relevant technical officers in FAO;
b) Participate in the selection of consultants and firms to be hired with GEF funding;
c) Review and provide technical comments to draft technical products/reports and, as necessary, ensure clearance by relevant FAO technical officers of final technical products delivered by consultants and contract holders financed by GEF resources before the final payment can be processed;
d) Review and provide technical clearance to project progress reports submitted by the PCU to the BH;
e) Support the BH in reviewing, revising and giving no-objection to AWP/B to be approved by the PSC;
f) Prepare the annual Project Implementation Review (PIR) report, with inputs from CTA, to be submitted to the LTU and the GEF Coordination (TCI) for clearance (which will subsequently be submitted to the GEF Secretariat and Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio);
g) Field annual (or more frequently as needed) project supervision missions;
h) With the LTU, review and technically clear TOR for the midterm evaluation prior to approval by the PSC, participate in the midterm workshop with all key project stakeholders, development of an eventual agreed adjustment plan in project execution approach, and supervise its implementation;
i) With the LTU, review and technically clear TOR for the final evaluation prior to approval by the PSC, participate in the final project closure workshop with all key project stakeholders and the development of and follow up on recommendations on how to insure sustainability of project outputs and results after the end of the project.

[1] This unit has been selected as the LTU due to its involvement in the project and its familiarity and experience of working with these two countries in the past. Likewise, improving financing to SFM is one of the main works of the unit.

Other FAO experts/units providing technical backstopping: The Development Law Branch (Legal Office, Rome) will provide technical backstopping to ensure the incorporation of international best practice for PA management in legislation and also best practice in relation to legislative drafting (including ensuring the consistency of legislation developed under the project with the broader legislative framework).

One MPA expert from the FAO Fisheries and Aquaculture Department (Rome) and the Fishery and Aquaculture Officer in the FAO Sub-regional Office for the Caribbean (Barbados) will provide technical backstopping to guide (i) the establishment and management of the proposed MPA and (ii) the management of fisheries and aquatic resources in other five terrestrial PAs.

Technical Advisory Group (TAG): The TAG will be chaired by FAO with participation of representatives of relevant technical institutions, and other resource partners involved in similar projects. The TAG will include the Fishery and Forestry Officers from the FAO sub-regional office (Barbados), one expert each from the Legal and Fisheries departments in FAO, Rome and three experts from the FAO Forestry Department, Rome. Other technical experts will be invited as necessary. TAG will ensure peer review and overall technical quality assurance of all project outputs. It will meet every three months using Webex. If requested by PSC/PCU, it will meet in special cases. TAG will provide advice concerning all technical matters such as the technologies, technical tools, practices and guidelines associated with implementation of the project. TAG will constitute a Rapid Action Team (RAT), whenever needed, to tackle specific urgent technical issues.

The GEF Coordination Unit in the Investment Centre Division (TCI) will review and approve project progress reports, annual project implementation reviews (PIRs) and financial reports and budget revisions. The unit will also participate in the midterm evaluation and final evaluation and the development of corrective actions to mitigate eventual risks affecting the timely and effective implementation of the project. The GEF Coordination Unit will, in collaboration with the FAO Finance Division, request transfer of project funds from the GEF Trustee based on 6 monthly projections.

The FAO Finance Division will clear budget revisions, provide annual Financial Reports to GEF and, in collaboration with the GEF Coordination Unit, call for project funds on a six-monthly basis from the GEF.

4.3 FINANCIAL PLANNING AND MANAGEMENT

4.3.1 Financial plan (by subcomponent, outputs and co-financier)

The project will be financed by a GEF grant of USD 2,790,000 with co-financing from the governments of Trinidad and Tobago, the Green Fund, European Union and FAO. FAO will manage the GEF grant, while each of the co-financiers will be responsible for managing their own contributions. A summary of the project cost and co-financing contributions is given in Tables 4.2 and 4.3. The detailed project budget (in the FAO Oracle format) is in Annex 3.

Table 4.2 Project cost by component, outputs and co-financier

Component/output	GORTT	Green Fund	European Union	FAO	Total Co-financing	% Co-financing	GEF	% GEF	Total
Comp. 1: Improvements to legal and institutional arrangements	**1,088,141**	**8,967,378**	**2,135,334**	**630,000**	**12,820,853**	**89%**	**1,642,953**	**11%**	**14,463,806**
1.1.1. Draft National legislation prepared	202,000	-	-	200,000	402,000	88%	54,500	12%	**456,500**
1.1.2: National PA system plan agreed	189,833	-	-	100,000	289,833	72%	111,278	28%	**401,111**
1.1.3 At least 6 PAs designated formally	124,667	4,200,000	2,000,000	-	6,324,667	99%	79,250	1%	**6,403,917**
1.2.1. FPAMA staff trained in current best practices	48,500	-	-	-	48,500	13%	312,000	87%	**360,500**
1.2.2. MIS developed and implemented for PA monitoring	33,333	-	121,167	-	154,500	100%	-	0%	**154,500**
1.2.3. Ecological research and monitoring programme developed	6,500	-	14,167	300,000	320,667	60%	217,520	40%	**538,187**
1.2.4. Public education and awareness programme implemented	17,000	1,000,000	-	-	1,017,000	86%	159,300	14%	**1,176,300**
1.3.1. Information about biodiversity in the five pilot sites collected and analyzed	263,300	-	-	-	263,300	47%	301,710	53%	**565,010**
1.3.2. Management plans produced for the five pilot sites	185,834	-	-	-	185,834	38%	300,000	62%	**485,834**
1.3.3. Threats to biodiversity conservation identified	17,175	3,767,378	-	30,000	3,814,553	97%	107,395	3%	**3,921,948**
Component 2: Improvements to infrastructure	**213,471**	**13,585,980**	**-**	**30,000**	**13,829,450**	**98%**	**246,000**	**2%**	**14,075,450**
2.1.1. Visitor facilities upgraded and maintained	67,121	1,330,122	-	30,000	1,427,243	91%	144,000	9%	**1,571,243**
2.1.2. Equipment for protection activities is upgraded	146,350	5,936,467	-	-	6,082,817	99%	76,000	1%	**6,158,817**
2.1.3. Degraded areas identified and enriched	-	6,319,391	-	-	6,319,391	100%	26,000	0%	**6,345,391**
Component 3: Development of sustainable financing system	**146,050**	**9,720**	**-**	**60,000**	**215,770**	**27%**	**594,282**	**73%**	**810,052**
3.1.1 FPA Fund established through legislation and board of trustees appointed	14,166	-	-	-	14,166	100%	-	0%	**14,166**

3.1.2 Operating procedures and manuals agreed and produced	16,667	-	-	-	16,667	69%	7,500	31%	**24,167**
3.1.3 FPAMA staff trained in operation of the new system	1,400	-	-	-	1,400	8%	16,000	92%	**17,400**
3.1.4 Senior staff and protected area managers (25) trained	1,850	-	-	-	1,850	22%	6,750	78%	**8,600**
3.2.1 Funding requirements for management of PA system assessed	18,334	-	-	30,000	48,334	62%	30,000	38%	**78,334**
3.2.2 Strategic plan for sustainable financing produced	18,334	-	-	-	18,334	42%	25,000	58%	**43,334**
3.2.3 System of user fees designed	50,300	-	-	30,000	80,300	16%	433,032	84%	**513,332**
3.2.4 Other forest revenues evaluated and revised	16,667	9,720	-	-	26,387	57%	20,000	43%	**46,387**
3.2.5 FPA Fund capitalized by implementation the new financing system	8,333	-	-	-	8,333	13%	56,000	87%	**64,333**
Component 4: Monitoring and evaluation and information dissemination	**150,667**	**-**	**-**	**30,000**	**180,667**	**51%**	**175,405**	**49%**	**356,072**
4.1.1 Project monitoring system operating	6,667	-	-	30,000	36,667	35%	69,072	65%	105,739
4.1.2 Midterm and final evaluations conducted	20,000	-	-	-	20,000	22%	69,000	78%	89,000
4.1.3 Project-related "best-practices" and "lessons-learned" published	100,000	-	-	-	100,000	73%	37,333	27%	137,333
4.1.4 Website to share the experience and information dissemination	24,000	-	-	-	24,000	100%	-	0%	24,000
Project Management	**673,333**	**-**	**-**	**-**	**673,333**	**84%**	**131,360**	**16%**	**804,693**
Total Project	**2,271,662**	**22,563,078**	**2,135,334**	**750,000**	**27,720,074**	**91%**	**2,790,000**	**9%**	**30,510,074**

Table 4.3 Source and type of confirmed co-financing

Sources of Co-financing	Name of Co-financier (source)	Type of Co-financing	Co-financing Amount (USD)
National Government	GORTT	Cash	1,185,134
National Government	GORTT	In-kind	1,086,528
National Government	Green Fund	Cash	22,563,078
Donor	European Union	Cash	2,135,334
GEF Agency	FAO	Cash	550,000
GEF Agency	FAO	In-kind	200,000
Total Co-financing			**27,720,074**

4.3.2 GEF inputs

The GEF contribution (9% of the total project finance) will be used to provide technical assistance to build the capacity of TT for effective management of PAs. A major part of the contribution will fund capacity building of FPAMA/THA staff to improve biodiversity conservation, especially of globally important species and ecosystems. The capacity to develop community led PA management will be enhanced using GEF funds. This will improve management of the PAs through local community buy-in and increase in sustainable livelihoods linked to the PAs.

4.3.3 Government inputs

Confirmed sources of national government co-financing amount to USD 2.27 million or about 8 % of the total co-financing, these contributions will cover (i) the staff time of site facilitators as necessary; (ii) the salaries of the staff assigned to the project (administrative support); (iii) the cost of staff time for all other staff engaged in implementing project-related activities; and (iv) the provision of appropriate office space, related office operational costs and local transportation costs. The cash contribution will support for developing the draft National legislation, preparing the system plan, designating new PAs, training staff in different components, preparing status report on PAs, holding workshops to identify gender issues, revising management plans, preparing species recovery strategies, designing and upgrading visitor facilities and promoting ecotourism, constructing/upgrading and maintaining field stations/office space, assessing and procuring equipment, stakeholder consultations, developing user fees, conducting workshops to disseminate the lessons learnt, publishing best practices etc. as detailed in Table 4.4.

Table 4.4 Specific activities related to PA management that GORTT will finance

Activities	USD
Preparing draft National legislation (stakeholder consultations, hiring consultants, administrative procedures etc.)	202,000
Developing a National PA system plan (stakeholder consultations, implementation plan etc.)	189,833
Designate PAs formally (stakeholder consultations, hiring consultants, administrative procedures etc.)	124,667
Capacity development of staff in best practices (staff time, logistics, developing training material etc.)	48,500
Developing MIS and PA monitoring (assess content needs, prepare status reports etc.)	33,333
Developing ecological research and monitoring programme (developing cooperative arrangements, partnerships etc.)	6,500
Developing public education and awareness programme (workshops to identify the key gender issues, developing tools for public education etc.)	17,000
Collecting information about biodiversity in PAs (developing capacity, conducting annual inventory etc.)	263,300
Producing management plans in PAs (developing management priority matrix, developing and revising management plans etc.)	185,834
Identifying threats to biodiversity conservation (developing and implementing sensitization programme for police/judiciary, preparing species recovery strategies etc.)	17,175
Upgrading visitor facilities, branding and marketing ecotourism products etc.	67,121
Assessing equipment needs and upgrading equipment for PA protection	146,350
Developing MOU/LOA and establishing FPA Fund	14,166
Consult with stakeholders and publish manuals to implement the FPA Fund	16,667

Enhancing staff capacity in operation of financing system	1,400
Enhancing staff capacity in new income generating avenues	1,850
Assessing budgetary requirements for PA system	18,334
Producing strategic plan for sustainable financing	18,334
Designing user fees system, benefit sharing mechanisms etc.	50,300
Evaluating forest revenues and stakeholder consultations	16,667
Exploring endowment funding to FPA from Government	8,333
Set up monitoring system for PA improvement	6,667
Conduct periodic evaluation of PA projects	20,000
Publishing “best-practices” and “lessons-learned” in PA management etc.	100,000
Developing website to share the experiences	24,000
Running stakeholder workshops, coordinating with various projects etc.	673,333
Total	**2,271,663**

4.3.4 FAO inputs

As the GEF agency, FAO will draw on its wide range of expertise in forestry, fisheries, agriculture and sustainable land management (particularly in the area of resource conservation and community-based approaches to forest and fishery resource management) to support the proposed project.

The total FAO co-financing contribution to the project will be USD 750,000. This will comprise an in-kind contribution of USD 200, 000 of staff time to provide technical assistance. It will also comprise of the expenditure of USD 500, 000 from other FAO projects and programmes in TT which will be contributing towards the aims and objectives of this GEF Project (Table 4.5).

Table 4.5 Specific activities to be funded by FAO

Projects planned	**USD**	**Cash/In-kind**
Realign the institutions with fragmented responsibilities for effective PA management (TCP (F) on Forestry institutional reforms -with MEWR, January- December, 2014.	50,000 50,000	Grant In-kind
Ensure long-term productivity of lowland tropical forests in the Caribbean- Regional project from October, 2013 to October, 2016. (GCP/RLA/205/GER)	300,000	Grant
Assistance to policy development (TCP on assistance to development of agriculture sector policy- with the Ministry of Food Production (January, 2014 to December, 2015)	200,000	Grant
Local capacity building to suit the needs of results based PA management (FAO staff time and other expenses during the project period)	150,000	In-kind
Total	**750,000**	

4.3.5 Inputs from the Green Fund

The total co-financing contribution to the project from the Green Fund will be USD 22.6 million or 81.4% of the total co-financing. It includes the funds already committed to the habitat restoration project in Nariva. Other major investments from the Green Fund will be used for building infrastructure and procuring equipment for strengthening biodiversity conservation within the 6 project PAs (Table 4.6).

Table 4.6 Specific activities which will be financed by the Green Fund for PA management

Activities	USD
Assess the site-specific staff needs for scientific management of the PAs and recruit the staff required to manage PAs	4,200,000
Develop and implement multiple public education and awareness tools/products in PAs	1,000,000
Stabilize/recover wildlife population and regulate over exploitation	3,767,378
Design and develop/upgrade visitor facilities, identify new products, develop capacity of tour guides on running ecotourism programmes etc.	1,330,122
Construct/upgrade and maintain field stations, office space, watch towers, assess equipment needs and procure them for PAs	5,936,467
Rehabilitate already identified degraded areas (e.g. Nariva Swamp)	6,319,391
Train FPAMA staff and relevant stakeholders (CBOS, NGOs) in project development and management skills required to access the Green Fund	9,720
Total	**22,563,078**

4.3.6 Inputs from the Delegation of the European Union to Trinidad and Tobago

The total co-financing from the fund provided through the Delegation of the European Union to Trinidad and Tobago will be USD 2.1 million or 9 % of the total co-financing. Of this, USD 2 million is already committed for demarcating the boundaries of six PAs to be declared under the new system. About USD 135,000 will be spent for developing MIS and strengthening ecological research in the PA system (Table 4.7).

Table 4.7 Specific PA management activities that the EU already committed to finance

Activities	USD
Surveying (map and demarcate) PA boundaries and geocoding them using GPS	2,000,000
Procuring equipment and software needed and establishing MIS, acquiring baseline data to establish the GIS and populating the database, training FPAMA staff and PA management partners to use and manage MIS and preparing Status Report on PAs	121,167
Collecting all published data on species and ecosystems for the MIS	14,167
Total	**2,135,334**

4.3.7. Other co-financiers' inputs

Other co-financing inputs for the project will be the contribution of staff of a few NGOs/CBOs (e.g. COPE in biodiversity monitoring, conservation etc.) and national research institutions. The NGO contributions will mostly support activities in strengthening linkages of communities and PAs. However, this has not been shown in the project as co-financing because they cannot provide a co-financing letter and many activities will be based on letter of agreements to be agreed at project inception.

4.3.8 Financial management of and reporting on GEF resources

FAO shall maintain a separate account in United States dollars for the project GEF resources showing all income and expenditures. Expenditures incurred in a currency other than United States dollars shall be converted into United States dollars at the United Nations operational rate of exchange on the date of the transaction. FAO shall administer the GEF resources in accordance with its regulations, rules and directives.

Financial Reports

The BH shall prepare six-monthly project expenditure accounts and final accounts for the project's GEF resources. Such expenditure accounts will show the amount budgeted for the year, amount expended since the beginning of the year and the unliquidated obligations as follows:

1. Expenditure details on an output-by-output basis (by 30 June and 31 December).
2. Final accounts on completion of the project on an output-by-output cumulative basis, reported corresponding to the project budget codes as in the Project Document.
3. A final statement of account in line with FAO Oracle project budget codes, reflecting actual final expenditures under the GEF component of the project, when all obligations have been liquidated.

The BH will submit the above reports for review and monitoring by the LTU and the FAO GEF Coordination Unit. Financial reports for submission to GEF will be prepared as per the provisions in the GEF Financial Procedures Agreement and submitted by the FAO Finance Division.

Budget Revisions

The BH will prepare annual budget revisions, with the inputs from the CTA, in the format of the budget in the FAO-GEF Project Document and in accordance with FAO standard guidelines and procedures. The budget revision will be reviewed and cleared by the LTO and the FAO GEF Coordination Unit. The budget revision will be posted in FPMIS by the GEF Coordination Unit.

Responsibility for Cost Overruns

The BH is authorized to enter into commitments or incur expenditures up to a maximum of 20 % over and above the annual amount foreseen in the GEF project budget under any budget sub-line provided the total cost of the annual budget is not exceeded.

In order to ascertain whether it will involve a major change in project scope or design, any cost overrun (expenditure in excess of the budgeted amount on a specific budget line) over 20 % flexibility should be discussed with the FAO GEF Coordination Unit. In case of a minor change, the BH shall prepare a budget revision in accordance with FAO standard procedures. For a major change in the project's objectives or scope, the BH will prepare a budget revision and justification for discussion with the GEF Secretariat.

Unless specifically authorized by the FAO GEF Coordination Unit, savings in one budget sub-line may not be applied to overruns of 20% in other sub-lines (even if the total cost remains unchanged). In such cases, revision to the project document amending the budget will be prepared by the BH to support such a request.

Expenditures should not exceed the approved total project budget (for the GEF resources) or be approved beyond the NTE date of the project under any circumstances. **Any over-expenditure is the responsibility of the BH.**

Audit

GEF resources will be subject to the internal and external auditing procedures as per FAO financial regulations, rules and directives and in line with the Financial Procedures Agreement between the GEF Trustee and FAO.

The audit system at FAO consists of:

(a) An external audit provided by the Auditor-General (or persons exercising an equivalent function) of a member nation appointed by the governing bodies of the Organization and reporting directly to them and;

(b) An internal audit function headed by the Inspector-General who reports directly to the Director-General.

This function operates as an integral part of the Organization under policies established by senior management and furthermore has a reporting line to the governing bodies. Both functions are required under the basic texts of FAO which establish a framework for the TOR of each body. Internal audits of imprest accounts, records, bank reconciliation and asset verification take place at FAO field and liaison offices on a cyclical basis.

4.4 PROCUREMENT

Procurement of goods and contracting of services for project activities financed by GEF resources will be implemented in accordance with FAO rules and procedures. FAO will ensure that the procurement process is transparent while procuring equipment and services proposed in the project budget (Appendix 3). A procurement plan will be prepared as in Appendix 5 following the approval of the project (during inception period).

4.5 MONITORING AND REPORTING

Based on the targets and indicators established in the Project Results Framework (Appendix 1), monitoring and evaluation (M&E) of progress in achieving project results will be done. M&E activities will follow FAO and GEF monitoring and evaluation policies and guidelines. The project M&E Plan has been budgeted at USD 138,072 (see Table 4.2) and the M&E programme will be put in place within the first 3 months of project implementation. The M&E system will also facilitate in learning and mainstreaming of project outcomes and lessons learned in relation to PA establishment, co-management models, ecotourism development, development of financial plans etc. Reporting on project activities, outputs and outcomes will be disaggregated by gender (where applicable).

The current M&E plan will be reviewed and updated during the project inception phase. This exercise will be led by the CTA. It will involve: (i) review of the project's results framework; (ii) refining of outcome indicators; (iii) identification of missing baseline information and action to be taken to collect the information; and (iv) clarification of M&E roles and responsibilities of project stakeholders. The project's M&E system will be put in place within the first 6 months of project implementation.

Based on the revised plan and Results Matrix agreed by stakeholders during the inception workshop, an M&E Manual will be prepared. This will outline the provisions for participatory mechanisms, M&E tasks by different stakeholders and methodologies for systematic data collection and recording.

In addition to the project specific M&E system, the project will support the establishment of monitoring of biodiversity under Component 1. The biodiversity monitoring system will be managed by FPAMA/THA, with sufficient funding from their resources (to ensure sustainability).

4.5.1 Oversight

FAO will be responsible for ensuring that GEF policies and criteria are adhered to and that the project meets its objectives and achieves expected outcomes in an efficient and effective manner. The PSC

and the GEF Operational Focal Point in TT will be responsible for project oversight. Project oversight will be facilitated by: (i) establishing appropriate levels of management authority to provide timely direction, coordination, control and review; (ii) ensuring project management accountability; (iii) documenting project transactions and results through traceability of related documents throughout the implementation of the project; (iv) ensuring that project is implemented within the planned activities applying established standards and guidelines; (v) continuous identification and monitoring of project risks and risk mitigation strategies; and (vi) ensuring project outputs are produced in accordance with the project results framework. At any time during project execution, underperforming subcomponents may be required to undergo additional assessments, implementation changes to improve performance or be halted until remedies have been identified and implemented.

Project revisions

The following types of revisions may be made to this project document with no-objection from the PSC and the approval of FAO GEF Coordination Unit in consultation with the LTO, LTU and BH:

- Minor revisions that do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of inputs already agreed to or by cost increases due to inflation. These minor amendments are changes in the project design or implementation that could include, inter alia, changes in the specification of project outputs that do not have significant impact on the project objectives or scope, changes in the work plan or specific implementation targets or dates, renaming of implementing entities, or reallocation of grant proceeds not affecting the project's scope.
- Revisions in, or addition of, any of the annexes of the project document.
- Mandatory annual revisions which rephase the delivery of agreed project inputs or take into account expenditure flexibility.

All minor revisions shall be reported in the annual Project Implementation Reviews (PIRs) submitted by FAO to the GEF Secretariat and Evaluation Office.

4.5.2 Monitoring responsibilities

The M&E tasks and responsibilities will be achieved through: (i) day-to-day monitoring and field visits (CTA and project staff); (ii) technical monitoring of results indicators (CTA in coordination with other partners); (iii) midterm and final evaluations (independent consultants and FAO Evaluation Office); and (iv) continual oversight, monitoring and supervision (PSC, FAO- LTU, LTO, GEF Coordination unit and BH). All these will be done in close consultation with the key executing partners (THA and MEWR).

The day-to-day monitoring of the project implementation will be the responsibility of the PCU, led by the CTA. It will be driven by the preparation and implementation of an annual work plan and budget (AWP/B) followed up through six-monthly PPRs. This will represent a unified planning process between main project partners. As tools for results-based-management (RBM), the AWP/B will detail the activities proposed for the coming year and output targets to be achieved. The PPRs will report the progress of implementation of activities and achievement of output targets. AWP/B will be submitted to the PSC and to FAO for approval. PPRs will be submitted to both for review and clearance. The AWP/B will be developed in a manner consistent with the project's Results Framework.

4.5.3 Indicators and information sources

Indicators have been established in the Results Framework (Appendix 1) for monitoring project outputs and outcomes. These indicators and means of verification will be applied to monitor both project performance and impact. FAO's monitoring procedures and data collected through progress reporting will track specific outputs and outcomes and flag project risks in advance.

Tracking outcomes as changes in behaviour and relationships of target stakeholders may be done using the outcome mapping method to identify indicators of change. For monitoring of outcomes related to changes in the physical environment and socioeconomic conditions, specific surveys, field inspections and assessments will be carried out.

Output target indicators will be monitored on a six-monthly basis and outcome target indicators will be monitored on an annual basis. Both will be assessed also during the midterm and final evaluations.

4.5.4 Reports and their schedule

Specific reports that will be prepared in relation to M&E are: (i) Project inception report (ii) Annual Work Plan and Budget (AWP/B); (iii) Project Progress Reports (PPRs); (iv) annual Project Implementation Review (PIR); (v) Technical Reports; (vi) co-financing Reports; and (vii) Terminal Report. GEF Biodiversity Tracking Tool completed during project preparation will be completed again at midterm and final project evaluation.

Project Inception Report: An inception workshop will be held after FAO approval of the project and signature of the GCP Agreement. Immediately after the workshop, the CTA will prepare a project inception report in consultation with FAO (BH, LTO and LTU) and other project partners. The report will include a narrative on the institutional roles and responsibilities of project partners, progress to date on project establishment and start-up activities and an update of any changes in external conditions that may affect project implementation. It will also include a detailed first year Annual Work Plan and Budget (AWP/B) divided into monthly timeframes detailing the activities, outputs to be produced, progress indicators that would guide implementation, as well as a detailed budget for the first full year of project implementation. The AWP/B should also include proposals for: (i) dates and locations of specific field visits; (ii) dates and locations of PSC and other key meetings; (iii) dates and locations of workshops and training workshops to be organized; (iv) requirements for procurement, short-term contracts and consultancies, materials and operating expenses; and (v) technical support and review missions to be carried out.

The draft report will be circulated to FAO and the PSC for review and comments before its finalization before the end of the first quarter of project implementation. The revised project inception report will be reviewed and cleared by FAO (LTO and BH). The LTU will submit the final draft to the GEF Coordination Unit for final review and approval. Subsequently, the final draft will be circulated by the BH to all project partners. The final project inception report will be uploaded in FPMIS by the LTO/BH.

Annual Work Plan and Budget (AWP/B): PCU (CTA) will prepare and submit to the FAO Representation in TT a draft Annual Work Plan and Budget, with the approval of PSC, no later than 10 January from project year 2. This should include detailed activities to be implemented by project outputs and divided into monthly timeframes and targets and milestone dates for output indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included together with all monitoring and supervision activities required during the year. The draft AWP/B will be reviewed by the FAO Project Task Force and the final AWP/B will be sent to the PSC for approval and to the FAO for final no-objection and upload in FPMIS by the GEF Coordination Unit. The final AWB/P will be circulated by the BH to all project partners.

Semi-annual Project Progress Reports: PCU (CTA) will prepare six-monthly PPRs and submit them to the FAO Representation in TT no later than July 31 (covering progress from January- June) and 31 January (covering progress from July to December). The report will contain the following: (i) an account of actual implementation of project activities compared to those scheduled in the AWP/B; (ii) an account of the achievement of outputs and progress towards achieving project objectives and outcomes (based on the indicators contained in the results framework); (iii) identification of any problems and constraints (technical, human, financial, etc.) encountered in project implementation and the reasons for these constraints; (iv) clear recommendations for corrective actions in addressing key problems resulting in lack of progress in achieving results; (iv) lessons learned; and (v) a revised work plan for the final six months of the project year. The report will also include an estimate of co-financing received from all co-financing partners. The CTA will incorporate the comments from FAO (LTO, LTU, the GEF Coordination Unit, and BH) and send the final version to the LTO who will give final approval and submit the final PPR to the GEF coordination Unit for final clearance and upload in FPMIS. The final PPR will be circulated by the BH to all project partners.

Annual Project Implementation Reviews: The LTO supported by the FAO LTU, with inputs from the CTA, will prepare an annual Project Implementation Review (PIR) covering the period July (the previous year) through June (current year). The PIR will be submitted to the GEF Coordination in TCI for review and approval no later than 31 July. The GEF Coordination will submit the final report to the GEF Secretariat and Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio. The final PIR will be circulated by the BH to all project partners.

Technical Reports: Technical reports will be prepared to document and share project outcomes and best practices. All drafts of technical reports must be submitted by the PCU (CTA) to the PSC and then the FAO LTU and GEF Coordination Unit for review and clearance, prior to finalisation and publication. These will be disseminated to key target groups as guided by the project communication plan (section 4.7) and will be posted on the FPMIS by the BH.

Co-financing Reports: PCU (CTA) will collect the required information on in-kind and cash co-financing provided by different partners shown in the Project Document. PCU (CTA) will submit a report to the FAO Representation in TT on or before 31 July (covering one year period July through June). The progress with co-finance will be compiled as a section on co-financing in each PPR, too.

GEF-5 Biodiversity Tracking Tool: The Biodiversity Tracking Tool prepared during project preparation will be submitted to GEF at CEO endorsement. This will be updated at the time of the midterm and final project evaluations updated by the PCU (CTA) in consultation with PSC and LTO. The Tracking Tool will be reviewed by FAO (BH, LTU and GEF Coordination Unit) and the final version will be submitted to the GEF Secretariat and GEF Evaluation Office by the FAO-GEF Coordination Unit.

Project Terminal Report: Soon after the terminal workshops, a draft Terminal Report will be prepared. The report will include:

a. a list of main outputs and outcomes achieved and summary of activities concluded including any deviations from original project document;
b. findings of the evaluations;
c. “lessons learned” and any recommendations to improve the efficiency of similar activities in the future and follow-up of the project.

The draft Terminal Report will be prepared by the PCU (CTA) with support from the FAO (LTO) and the PSC. The draft Terminal Report will be sent to FAO (LTU, BH and GEF Coordination Unit) and national project partners for feedback. The revised Terminal Report will be reviewed and cleared by FAO (LTU and GEF Coordination Unit). BH will circulate the Terminal Report to all project partners.

4.5.5 Monitoring and evaluation plan summary

A summary of the responsibility, timing and budget for M&E is shown in Table 4.8.

Table 4.8 Budgeted M&E Plan

Type of M&E Activity	Responsible Parties	Budgeted costs	Time-frame
Two Inception Workshops	CTA in consultation with FPAMA/ MEWR,THA and FAO (LTO, BH), PSC	USD 5,000	Within two months of project implementation
Project Inception Report	CTA with support from FPAMA/MEWR and THA, members of the PSC. Cleared by FAO LTO, LTU, BH, and the GEF Coordination Unit	-	Immediately after two inception workshops
Field-based impact monitoring	CTA with support from FPAMA/MEWR and THA, members of the PSC and Project Consultants	USD 32,752	Continually
Supervision site visits and assessing progress in PPRs/PIRs	CTA/FAO (LTO, LTU and GEF coordination unit)	USD 26,320 The visits of the FAO LTU, LTO and the GEF Coordination Unit will be paid by GEF agency fee. The visits of the CTA will be paid from the project travel budget.	Annual or as required
Semi-annual Project Progress Report (PPR)	CTA with support from FPAMA/MEWR and THA, members of the PSC and FAO (LTO and BH).	-	Six-monthly
Technical reports	CTA and Project Consultants, LTO and LTU	-	As appropriate
GEF Project Implementation Review (PIR)	LTO with inputs from CTA and support of LTU. Cleared and submitted by the GEF Coordination Unit to the GEF Secretariat	Paid by the GEF agency fee	Annually with the reporting period July to June
Co-financing Reports	CTA with support from co-financiers, FPAMA/MEWR and THA, members of the PSC	-	Annual
GEF Biodiversity Tracking Tool	CTA with support from FPAMA/MEWR and THA, members of the PSC and review by FAO (LTO, LTU and BH)	-	At mid-point and end of project
PSC Meetings	CTA in consultation with the Chair of PSC, FPAMA/MEWR,THA and FAO (LTO, BH)	-	Once in two months
Midterm evaluation	External consultant and FAO independent evaluation unit in consultation with the project team including the GEF Coordination Unit and other partners (participatory)	USD 30,000 (for external consultant). The agency fee will pay for expenditures of FAO staff time and travel	After 24 months of project implementation

Type of M&E Activity	Responsible Parties	Budgeted costs	Time-frame
Two Terminal Workshops	CTA, in consultation with FPAMA/ MEWR,THA and FAO (LTO, BH), PSC	USD 5,000	Three months prior to the end of project
Final evaluation	External Consultant, FAO independent evaluation unit in consultation with the project team including the GEF Coordination Unit and other partners	USD 39 000 (for external consultant). The agency fee will pay for expenditures of FAO staff time and travel	Two months prior to the end of project implementation
Terminal Report	CTA with support from FPAMA/MEWR and THA, members of the PSC and FAO (LTO, BH). Cleared by FAO LTO, LTU, BH, and the GEF Coordination Unit	-	Immediately after two terminal workshops and final evaluation
Total Budget		**USD 138,072**	

Note: Staff time of CTA and others not included in the above table.

4.6 PROVISION FOR EVALUATIONS

A midterm evaluation will be undertaken at project midterm (after 24 months) to review progress and effectiveness of implementation in terms of achieving the project objective, outcomes and outputs. Findings and recommendations of this evaluation will be instrumental for bringing improvement in the overall project design and execution strategy for the remaining period of the project's term if necessary. FAO will facilitate the evaluation in consultation with the project partners. The review will, inter alia:

(i) review the effectiveness, efficiency and timeliness of project implementation;
(ii) analyze effectiveness of partnership arrangements;
(iii) identify issues requiring decisions and remedial actions;
(iv) propose any mid-course corrections and/or adjustments to the implementation strategy as necessary; and
(v) highlight technical achievements and lessons learned derived from project design, implementation and management.

An Evaluation Specialist will be hired for conducting the midterm evaluation (which will follow a participatory process ensuring appropriate gender representation to ensure effective inputs by key project implementing partners and stakeholders).

An independent Final Evaluation will be carried out three months prior to the terminal review meeting of the project partners. The FE arranged by FAO would aim to identify the project impacts and sustainability of project results and the degree of achievement of long-term results. This Evaluation would also have the purpose of indicating future actions needed to sustain project results and disseminate products and best-practices.

4.7 COMMUNICATION AND VISIBILITY

Communication and visibility are of key importance to this project, because mobilising public and private support is indispensable for establishing PAs and maintaining them effectively. The project's success depends on the political will for institutional and legal changes as outlined in the PA and Forest policies. Communication strategy in this project will aim to harness political support for these.

A high-profile project launch will be done in the presence of Ministers, the senior officials of the relevant ministries, departments and agencies, traditional authorities, local and regional NGOs/CBOs, media and representatives of local communities. The objectives of project communication and visibility will be varied and include to:

- mobilise stakeholder involvement in and support for the project;
- inform stakeholders about the project progress, results, lessons and best practices;
- create avenues for stakeholders in TT to submit information, comments and questions about the project;
- facilitate sharing of information, experiences, lessons and best practices among key stakeholders, particularly those involved in management in the PAs;
- raise awareness and understanding of management issues, strategies, actions and results;
- stimulate change in policy and practice of PA management in TT; and
- increase visibility locally, nationally, regionally and internationally of the work being done by GEF and project partners to develop a network of PAs in TT which will provide national and global benefits of biodiversity conservation in long-term.

Roles and responsibilities: The project Communications and Community Outreach Specialist will be responsible for project communication and visibility. She/he will be supported by various communications experts (publications officers, press officers, website technicians, graphic designers) of the GORTT.
Process: The process for project communication and visibility will be detailed in a project Communication Plan developed within three months of hiring of the Communication Specialist. Guidelines for use of GEF and partner logos and for attribution of credits and copyrights will be developed and used on all communication products. Launch of the project website and development of promotional materials on the project will be prioritised for completion within three months of hiring of the Communication Specialist. Results of the project reports, especially the midterm and final evaluations, will provide key material for communication and visibility (section 4.5).

SECTION 5 – SUSTAINABILITY OF RESULTS

The project activities are planned and will be implemented to ensure long-term sustainability of project outcomes. Elements of project sustainability include: (i) continued availability of co-finance from the Green Fund to support further enhancement of the PA system in general and of the 6 pilot PA's in particular. (ii) increased flow of revenue to the FPA Fund through small-scale forest-based enterprises; (iii) continued commitment by the Government to improve PA management through extension of learning from 6 pilot PAs to entire national PAs system; (iv) the appointment of and retaining qualified trained staff beyond project; (v) effective inter-agency cooperation to maintain institutional memory and enhance service delivery; and (vi) successful co-management arrangements with active participation by key stakeholders.

5.1 SOCIAL SUSTAINABILITY

Partnerships at technical level, between government and local communities and inter-sectoral linkages developed during the project cycle will help to improve the prospects for sustainability.PA management improvements introduced by the project are likely to sustain the livelihoods of local people living near the PAs. Co-management models will provide income-generating opportunities through sustainably managed forest/fisheries resources, ecotourism etc. Livelihood and economic feasibility studies during the project cycle will identify the strategies needed to enhance local socioeconomic benefits and avoid conflicts. Economic incentive mechanisms developed (e.g. agreements with private land holdings) are likely to benefit land users around PAs beyond the project cycle. The social dimensions and socioeconomic benefits below manifest the likelihood of sustaining the project outcomes.

a. Tourism: Improved PA management coupled with suitable ecotourism development to improve visitor experience could help to sustain and possibly enhance revenues in the communities near to the project sites. This is also likely to enhance local livelihood benefits by enhancing employment opportunities. For example, coral reef-associated tourism was found to contribute significantly to the economy of Tobago (40% of visitors) which was much higher than the economic impact of fisheries (Burke *et al*., 2008). Improved practices will help to sustain financing to PAs and local economies and promote further eco-friendly tourism development in the future In addition; these sites would offer greater experience for local people not only for enjoyment (e.g. bird watching, fishing, regulated hunting etc.) but also for education pertaining to biodiversity conservation even after the project.

b. Off-site benefits: Improved conservation outcomes within PAs and activities to control illegal activities will yield sustained off-site benefits to local people. For example, sustainable management of wetlands and marine areas will result in better maintenance of fisheries and the maintenance of water quality will support the livelihood of the local communities who have only limited alternatives in TT.

c. Community empowerment: Participatory approaches developed under the project are likely to enhance the social capital and will lead to deeper involvement of local people in conservation activities in future. Community strengthening and empowerment as a consequence of participation in the project is likely to sustain beyond the project. Conflicts over resource access and management brought down by proper communication and participatory strategies during the project will minimize the possible frictions in future. Public education and awareness raising activities in the project will inform people about the benefits of biodiversity conservation so that they can understand better why PAs need to be protected and how they can contribute to these efforts. These will enhance public support and participation to sustain project outcomes.

d. Long-term jobs: The FPA Fund will contribute to the creation of long-term jobs.

e. Food security: Because of the long-term benefits derived from interventions like controlled fishing/hunting, the project will ensure long-term supply of food.

f. Gender equality and mainstreaming: During project preparation two types of gender inequalities were identified in effective management of PAs (see midterm stakeholder workshop report); (i) women have less opportunities for effective participation and representation at all levels and (ii) social standing of women are determined by males. Considering the proposals from stakeholders for improvement, this project incorporates a participatory approach integrating the perspective on gender, particularly of youth and women, in all project activities (e.g. activity 3&4, output 1.3.2, activity 8 output 1.3.3 etc.). The project will identify those areas/activities that require special attention to foster the active participation of women and their capacity building (e.g. activity 4 and 6, output 1.2.4). It provides opportunities for both genders to participate in PA development and decision-making pertaining to sustainable supply of PA resources. Project partners will be trained in ensuring adequate representation of gender (e.g. activity 4, output 1.2.1 and activity 7, output 1.2.3). Reporting on project activities, outputs and outcomes will also be disaggregated by gender (where applicable). The outcomes of these interventions are likely to sustain and improve the gender equality beyond project cycle. The traditional user rights will not be endangered by the project, but will contribute to enhance their sustenance.

5.2 ENVIRONMENTAL SUSTAINABILITY

The activities of this project will build the capacity of government officials and other stakeholders to improve management and sustainable use of goods and services arising from PAs. These project activities will provide long-term national environmental benefits and the achievement of the project's global environmental objective. The project outcomes will lead to the long-term viability of globally significant biodiversity in TT by improving the regulatory, planning, institutional and financial frameworks for PA management. Specifically, by removing of existing barriers to effective management of globally threatened species and ecological communities, undertaking species recovery, habitat restoration activities, and the mitigation of key threats in model PAs will provide replicable models for improved management in other areas. The broader national PA system developed through the project will include under-represented species and habitats, and management effectiveness will be ensured through project learning from the six model PAs. The adoption of a landscape approach to management of the ecosystems within the PAs system, will ensure viability of wildlife populations, sustained ecosystem services to local people, and help to improve resilience to climate change.

At the national level, environmental improvements will bring socioeconomic benefits (e.g. increased shoreline protection in Tobago through MPA will improve tourism), which will enhance environmental sustainability further, by strengthening the links between the PAs and the quality of life of people using the PAs. Improved engagement of stakeholders and management of PA resources will reduce the threats and impacts on biodiversity, leading to healthier, resilient and more productive ecosystems in the country. By PY4, the government staff responsible for managing the PAs and stakeholders will have better capacity to monitor biodiversity in six PAs and manage them more effectively, through the extensive capacity development elements of the project. Through joint activities and sharing of information between the civil society stakeholders and the state institutions, these actors will be able to more coherently manage the PAs, which will contribute to environmental sustainability.

5.3 FINANCIAL AND ECONOMIC SUSTAINABILITY

The project will lead to a more financially stable PA system building on the project-initiated activities. The determinants of financial sustainability are (i) continued government support (ii) private sector financial support (iii) funding from the Green Fund to continue the activities initiated by the project in addition to new project activities, (iv) increase the flow of revenues through the introduction of user fees and payments for environmental services and (v) revenues from other bio-diversity friendly businesses. To achieve financial sustainability, the project aims to develop a sustainable finance plan for the PA system and a site-specific finance plan as a constituent of the management plan in six PAs. The project focuses on building sustainable financing mechanisms and cost-effective measures to enhance financial and economic sustainability as below.

- Sustainable financing tools like the FPA Fund and building capacity of PA managers and stakeholders to capture opportunities for diverse revenue generation will increase efficiency and cost-effectiveness.
- As the plan B, if FPA Fund fails, opportunities exist to access the Green Fund for developing and managing PAs once FPAMA is established and the staff are trained in how to access the Green Fund.
- The efforts to create country ownership of the project (e.g. through high level of co-financing from the Green Fund) and their involvement as an integral partner in project planning and implementation will contribute to sustainable funding from them beyond the project cycle, especially with the demonstrated success of the project outcomes.
- CBOs and NGOs trained to access the Green Fund during project cycle will develop more projects (e.g. cash for trash project- see activity 4 output 3.2.4)) to the PA fringes which will promote small scale enterprises (e.g. souvenir trade) that will help in spilling over the benefits of ecotourism to local economy.
- GORTT has indicated during project preparation that they will meet all the recurrent costs for personnel, infrastructure development and maintenance needed for the PA system and their commitments are likely to continue. Many project investments in infrastructure are “one-off” costs with low recurrent costs which reduces financial burden beyond the project period.
- Diversification in sources of funding combined with traditional sources of financing will be incorporated in the finance plan (e.g. user fee for ecotourism, licenses/permits).
- The ecotourism development initiated during the project is likely to continue beyond the project which will reduce the inputs from government and narrow the funding gaps.
- Part of the revenue generated by the user fee system in the PAs will be retained in PAs and shared with the local communities which will increase the interest to pay and institutionalize the user fees.
- The project aims to support revenue-generating activities that are economically viable through locally acceptable and practically feasible financing mechanisms. The viability of these activities (e.g. wildlife farming, home stay and small scale industries in activity 4 output 3.4) will be appraised using standard economic cost-benefit techniques to ensure their sustainability.
- The Public Outreach efforts and knowledge attitude and practices surveys (output 1.2.4) during the project will help to evolve low-cost means of supporting continued dialogue. Long-term professional linkages developed will support synergies in expanding public outreach and collaboration.

- Engaging private sector in tourism development and corporate sponsorships conceived in the project will contribute to financial sustainability.

5.4 SUSTAINABILITY OF CAPACITIES DEVELOPED

Capacity building proposed in this project will ensure that suitable and adequate numbers of people are trained to sustain the project outcomes beyond the project cycle. During project preparation, the most urgent capacity building needs were identified (Appendix 11) and included in the project design. These training needs will be further examined in PY3 (e.g. activity 1 & 3 output 1.2.1). Also, evaluation of training and subsequent modification will be done which will increase the sustainability (activity 6, output 1.1.2). Some components of the project include "training of trainers" activities (e.g. activity 9, output 2.1.1) and almost all of the proposed capacity building activities include the development of training tools, materials and methodologies that can be used in the future. The sustainability of process-oriented activities like co-management activities will be enhanced by general awareness raising activities to attract wider public and political support. Cooperative arrangements developed between the FPAMA, UWI, IMA, NGOs and relevant research partners to address research needs during project is likely to sustain the capacity for addressing the priority needs in PA management, beyond the project cycle (activity 4, output 1.2.3). With the exception of staff turnover, the benefits of capacity built under the project are unlikely to be lost after the project cycle.The integration of non-FPAMA personnel (i.e. CBOs, and NGOs) in many of the training activities proposed in the project, will allow for broad dissemination of management skills and knowledge across a range of stakeholders. This approach will ensure that personnel turnover at the FPAMA will have limited impact on post-project PAs management, and ensure that these capacities are not lost.

5.5 INSTITUTIONAL SUSTAINABILITY

Institutional sustainability will be built through partnerships for improved PA management, legislation, and financial processes. Along with capacity development of staff and allocating sufficient finance to better PA management, the development of institutional partnerships across state institutions as well as national and local CBOs and NGOs will contribute to long-term institutional integrity. Transition to FPAMA as stated in the PA policy, will alleviate current institutional inconsistencies among state agencies. Similarly, the clarification of the parameters for co-management arrangements with NGOs/CBOs (activity 8, output 1.1.3) through the development of formal collaborative arrangements are more likely to support long-term conservation efforts, reduce conflict and support the sustainability of the FPAMA and its partners. Thus, the proposed project will support a cohesive and well-funded institutional framework where staff is better equipped with the capacities to efficiently and effectively manage globally significant biodiversity.

5.6 APPROPRIATENESS OF TECHNOLOGY INTRODUCED

The project will utilize both conventional and modern technological tools and approaches for information-sharing. During project preparation, a blog (www.eppd-tt.blogspot.com) was used as the platform for information dissemination to stakeholders. Project progress, major events and documents were uploaded periodically to this blog. The stakeholders were requested to send their comments about the project elements to eppd.tt@gmail.com. Considering the usefulness and appropriateness of this, web-based discussion platforms and a website will be developed and made accessible to stakeholders during project implementation (output 4.1.4). Similarly, a database on biodiversity will be developed during the project for managing and disseminating data about biodiversity collected in six PAs which will be available to stakeholders through the internet. In addition, GIS & MIS tools will be developed during the project which is appropriate and consistent

with the development happening in other sectors in TT. The project will also utilize remote-sensing and GIS modelling to plan corridors and optimize locations of PA boundaries, and PAs infrastructure.

The project also includes modest amount for low-impact infrastructure development for PA and ecotourism development. Local technology-driven ecotourism activities will be given priority over huge investments required for high technology-driven programmes. These will be developed in consultation with the multi-stakeholder PA committee in every PA to ensure that they are not seen as impositions but rather as activities that meet the interests, needs and priorities of local people. Information technology applications (e.g. online collection of user fees) and technological interventions (e.g. pay machine for user fee in Main Ridge Reserve) will also be used to improve user experience, reduce operational costs, and improve management efficiency in the collection of fees and other tariffs at PAs. The maintenance costs of these will be very small and the agency can maintain these systems beyond the end of the project.

5.7 REPLICABILITY AND SCALING UP

This project is designed to address inefficiency and lack of effectiveness in managing PAs in TT stemming from inadequate legislative, financial and management framework. Each project output is expected to provide a demonstration effect. Successes and failures of project activities in achieving outcomes and outputs will guide future replication across the wider national PAs system. Formulating management plans in six PAs will be a tool for model development. These PAs will serve as models to emulate management effectiveness, co-management arrangements, law enforcement effectiveness etc., for system-wide expansion. During the project, the two PAs where ecotourism will be developed and user fee system introduced, will serve as the models for the demonstration of the adoption, operation and management of such user fee systems in other PAs in the national PAs system. The opportunities provided by this project for scaling up successful management approaches and practices to other PAs is critical for TT where PA management is currently given a low priority, where capacity is weak, and successful integrative models of PAs management lacking. Disseminating project outputs and activities effectively (section 4.7) will help in this. The training manuals, training activities, management handbooks, knowledge and experience resulting from this project will provide the basis for further development of PA management, financing and ecotourism development throughout the wider national PA system. Such scaling up of the learning from the six project sites will lead to a significant improvement in the management of globally important species and habitats in TT.

Replicability of the project will depend on (i) inter-agency cooperation to avoid conflicts between key institutions (FPMA and THA); (ii) adequate and timely finance from the Government, particularly the Green Fund for project activities; and (iii) effective participation of diverse stakeholders. The models developed in TT (especially for the MPA) will serve as the models for further development in the Caribbean region, and the CARICOM could share these tools to address challenges confronting PA management in neighbouring countries.

CONSULTANCY REPORTS PRODUCED DURING PROJECT PREPARATION

Blommestein, E, 2013. Consultancy Report on environmental and socioeconomic elements for improving forest and protected area management in Trinidad and Tobago

Leotaud, N. 2013. Consultancy Report on monitoring and evaluation and communication elements for improving forest and protected area management in Trinidad and Tobago

Nelson, H.P. 2013. Consultancy Report on biodiversity and protected area development elements for improving forest and protected area management in Trinidad and Tobago

Otuokon, S. 2013. Consultancy Report on ecotourism elements for improving forest and protected area management in Trinidad and Tobago (available at http://eppd-tt.blogspot.com/p/gef-improving-forest-and-protected-areas.html).

Ramlogan, R. 2013. Consultancy Report on Legal and Institutional Aspects for improving forest and protected area management in Trinidad and Tobago (available at http://eppd-tt.blogspot.com/p/gef-improving-forest-and-protected-areas.html).

Wothke, A. 2013. Consultancy Report on Marine Protected Area in Tobago for improving forest and protected area management in Trinidad and Tobago (available at http://eppd-tt.blogspot.com/p/gef-improving-forest-and-protected-areas.html).

APPENDIX 1: RESULTS MATRIX (REPLACE)

Project impacts linked to outcomes

Impact	Baseline	Outcome indicators and targets	Assumptions	Monitoring milestones towards achieving outcomes
Global Environmental Objective Strengthen conservation of biodiversity of global importance in Trinidad and Tobago through consolidating the PA system and enhancing capacity and finance for effective PA management. **Project Development Objective** Promote sustainable management of PAs to support local livelihoods and assist in generating sustainable income to benefit the people in and around PAs	**Component 1** 1.1 Current legal and institutional arrangements inadequate for effective conservation. Conflicting and scattered mandates among different agencies engaged in PA management. PA system not consolidated with adequate coverage of all important ecosystems. 1.2 Management effectiveness assessment scores in BDTT: Main Ridge Forest Reserve (31), Caroni Swamp National Park (31), Trinity Hills Wildlife Sanctuary and Reserve (16), Nariva Swamp National Park (27), Matura National Park (23) and North East Tobago (23). 1.3a. The population of the 33 species of global importance are low; e.g. the Trinidad Piping Guan's (Pawi) population is now restricted to N.E. Trinidad and critically endangered, (estimated at between 77-231 individuals in 2009). In addition, critical habitats for the species are unknown (baseline to be clearly established in PY1). 1.3.b The populations of all 20 indicator species identified for each of the 6 PAs are in most cases unknown or poorly known, and for those species that are exploited, all thought to be in decline 1.3c Action to address key threats to biodiversity not taken. Current Threat Scores in BDTT: Main Ridge Forest Reserve (59), Caroni Swamp National Park (95), Trinity Hills Wildlife Sanctuary and Reserve (65), Nariva Swamp National Park (94), Matura National Park (84) and North East Tobago MPA (66).	**Component 1** 1.1 Draft Legislation addressing current legislative and administrative problems prepared and a minimum of six new sites, covering important ecosystems, designated as formal under the new legislation (to cover about 98,452 ha). 1.2. Management effectiveness assessment scores improved: Main Ridge Forest Reserve (34), Caroni Swamp National Park (34), Trinity Hills Wildlife Sanctuary and Reserve (38), Nariva Swamp National Park (30), Matura National Park (25) and North East Tobago MPA (25) 1.3a Population indicators or estimates of at least 33 globally important species stabilized or increased in 6 PAs (b) Key habitat elements identified by PY2, and baseline conditions of at least 1 crticial habitat component improved by 5% by PY4. 1.3b Population baselines for all 20 indicator species established by PY2 and improved by 10% within the 6 PAs by PY4. 1.3c The threat score in BDTT decreased: Main Ridge Forest Reserve (from 59 to 53), Caroni Swamp National Park (from 95 to 85), Trinity Hills Wildlife Sanctuary and Reserve (from 65 to 58), Nariva Swamp National Park (from 94 to 85), Matura National Park (from 84 to 76) and North East Tobago MPA (from 66 to 59).	**Component 1** High level political and institutional commitment for implementing the PA, Forest and wildlife policies and setting up FPAMA/ relevant THA entity with management authority for all PAs Continued stakeholder support at local level	PY (Project Year) 1: Establish an inter-institutional coordination mechanism to start implementation. Assess the progress in enacting the legislation. Identify critical habitats for the 33 species of global importance. PY2: Identify key habitat elements in the critical habitats and establish population baseline for all indicator species. Initiate the steps to establish PAs under new PAs system and implement the measures to enhance management effectiveness. Midterm evaluation: Review the progress in establishing the new PAs, demarcating boundaries and monitoring key indicator species. Review the effectiveness of coordination mechanisms at the FPAMA & THA. Assess the improved capacity of staff to establish and monitor indicator species baselines. Review progress with enabling legislation, and regulations. Completed technical studies, gap analysis. Threats at 6 PAs identified and management actions taken. Progress in proposing draft PAs system. PY 3 and 4: Finalize new PAs and improve management effectiveness in 6 PAs in the new System and biodiversity conservation strengthened

Impact	Baseline	Outcome indicators and targets	Assumptions	Monitoring milestones towards achieving outcomes
	1.3d no biodiversity monitoring system in place	1.3d Biodiversity monitoring system established for 6 PAs		
	Component 2 2.1 Infrastructure for biodiversity conservation and visitor facilities inadequate. Equipment and facilities scores for the BDTT are: Main Ridge Forest Reserve (31), Caroni Swamp National Park (31), Trinity Hills Wildlife Sanctuary and Reserve (16), Nariva Swamp National Park (27), Matura National Park (23) and North East Tobago (23).	**Component 2** 2.1 BDTT score for equipment and facilities increased as below. Main Ridge Forest Reserve (from31 to 34), Caroni Swamp National Park (from 31 to 34), Trinity Hills Wildlife Sanctuary and Reserve (from 16 to 18), Nariva Swamp National Park (from 27 to 29), Matura National Park (from 23 to 25) and North East Tobago MPA (from 23 to 25).	**Component 2:** Allocation of sufficient resources, by the government, to procure and maintain equipment, infrastructure and develop visitor facilities. Support of NGOs and CBOs to collaborate with FPAMA & THA in developing and maintaining the infrastructure	PY 1 and 2: Progress in procuring equipment, and developing visitor facilities. Prepare business plans for ecotourism development. Engagement of relevant partners in managing visitor facilities. Midterm evaluation: Review the level of infrastructure development and involvement of FPAMA/THA staff and propose measures to rectify, if needed. The level of visitor satisfaction. Improvements in BDTT score. PY 3 and 4: Further monitor the progress of infrastructure development and effective use of equipment
	Component 3 3.1 A sustainable financing system does not exist to support the PA system 3.2 Annual funding gap between optimal requirements for effective management and what is currently available is not clearly known (clear figures to be established in PY1 building on the PPG outcomes) 3.3 Goods and services provided by six project sites proposed support the livelihood of only a few individuals in the local communities	**Component 3** 3.1a Options for establishing FPA Fund finalized 3.1b Financial sustainability score in BDTT improved from 13 to 80 3.2 Annual funding gap for managing PA system reduced by USD 100,000 by PY4. 3.3a At least 50 people's livelihood secured by sustainable extraction practices. 3.3b At least 20 new jobs will be created through developing ecotourism.	**Component 3** Political support and local acceptance for user fee system/other forest related revenues and financing plans Enabling policy and institutional environment and markets continue to be conducive to ecotourism growth	PY 1 and 2: Monitor the progress of FPAMA legislation, assessment of funding requirements, and preparation, approval and implementation of the financing plan. Midterm evaluation: Review the progress with respect to the user fee system, evaluation of forest revenues and establishment of FPA Fund. PY 3 and 4: Monitor the progress in implementing the financial plan and income generation. Monitor the progress in capacity building for financial management. Assess progress in meeting funding gaps

Impact	Baseline	Outcome indicators and targets	Assumptions	Monitoring milestones towards achieving outcomes
	Component 4 4.1 Project monitoring and evaluation system does not exist	**Component 4** 4.1 Project monitoring system is designed and operational	**Component 4** Stakeholders and PSC have the capacity and willingness to undertake project M&E function	PY 1 to 2: Monitor the project progress through the monitoring system. Workshops to share lessons learnt. Midterm evaluation: Review the project progress against the indicators. Progress in website development. PY 3 and 4: Monitor the project progress and lessons learnt

Project outputs and outcomes:

	Baseline	Milestones towards achieving output and outcome targets				Data Collection and Reporting	
		Year 1	Year 2	Year 3	Year 4	Means of verification	Responsible for Data Collection
Component 1: Improvements to the legal and institutional arrangements for protected area management.							
Outcome 1.1							
PA system consolidated to streamline and simplify management and ensure adequate coverage of all important ecosystems.	1. PA system outdated and does not cover all key ecosystems or provide for viable populations of representative, rare and threatened species. 2. PAs managed by various agencies with different mandates creating management conflicts and confusion. 3. Lack of formal arrangements/ mechanisms for civil-society co-management of any PA(s).	1. Old PA Systems Plan (1980) & World Bank Protected Areas Plan (1994) evaluated and gap analysis completed.	1. Consolidated PA system system comprising at least 214,000 ha. proposed. 2. Institutional arrangements for improvement of PAs in place, and co-management arrangements with civil society proposed.	1. Consolidated PA system comprising at least 214,000 ha. agreed and gazetted. 2. A minimum of 6 new PAs boundaries surveyed and demarcated, covering at least 98,452 ha.		Minutes of meetings, government notification, cabinet decision(s) on institutional arrangements and proposed systems plan; PA boundary survey reports; and Gap-analysis report.	MEWR & THA

	Baseline	Milestones towards achieving output and outcome targets				Data Collection and Reporting	
		Year 1	Year 2	Year 3	Year 4	Means of verification	Responsible for Data Collection
Outputs and targets							
1.1.1 Draft National legislation prepared for forests, wildlife and PA management (marine and terrestrial) by PY2.	1. Draft National legislation inadequate to meet the current challenges associated with PAs designation, management & stakeholder engagement	1. Existing legislative framework reviewed and gaps identified. 2. New draft legislation drafted	1. Draft National legislation published 2. FPAMA/relevant THA entity legally constituted & board appointed			Legislative gap analysis report Legislative drafts	MEWR & THA
1.1.2. National PA System Plan agreed and published (214,000ha) by PY3.	1. No consolidated PA system exists	Three technical reports prepared by consultants: 1. Review of literature 2. PA gap analysis 3.Sectoral impacts on biodiversity	1. Draft National PA system plan covering at least 214,000 ha proposed 2. Six stakeholder consultations held to formulate the PA System Plan	1. National PA System Plan agreed. 2. National PA System Plan gazetted. 3. Action plan for implementing the System Plan devised		Technical reports; Minutes from focus group consultations; National PA system plan	MEWR & THA
1.1.3 A minimum of six new sites designated as formal PAs under the new legislation (covering about 98,452 ha) by PY3.	1. PAs inconsistent with the new PA policy 2. The PAs not properly designed, surveyed or demarcated. 3. PAs lack adequate human resources	1. Ecological viability and connectivity assessment done for 6 PAs and new PA boundaries identified by GIS 2. Stakeholder consultation held on status and relevance of proposed boundaries and potential conflicts identified (one PA)	1.Stakeholder consultations held on status and relevance of proposed boundaries and potential conflicts identified (remaining 5 PAs) 2.Four boundaries negotiated and agreed for PAs with stakeholders 3.Four boundaries geocoded and demarcated on the ground 4.Agreements with private land owners explored 5. Development of MoUs regarding stakeholder roles in management of PAs initiated	1. Two boundaries negotiated and agreed for PAs with stakeholders 2. Two boundaries geocoded and demarcated on the ground 3. Six PAs surveyed, geocoded and declared. 4. Boundaries of 6 PAs are proposed for gazetting 5. MoUs regarding stakeholder roles in management of PAs developed 6. Agreements with private land owners developed, if feasible.	1. Site specific staff needs for remaining 6 PAs completed	Assessment report (ecological viability and PA connectivity); Minutes from stakeholder consultations and consultation reports ; Agreements with land owners; Assessment reports on staffing requirements; Survey records; MOUs with	MEWR & THA

	Baseline	Milestones towards achieving output and outcome targets				Data Collection and Reporting	
		Year 1	Year 2	Year 3	Year 4	Means of verification	Responsible for Data Collection
						stakeholders	
Outcome 1.2 Management of 6 PAs improved	1. Management effectiveness assessment scores in BDTT: Main Ridge Forest Reserve (31), Caroni Swamp National Park (31), Trinity Hills Wildlife Sanctuary and Reserve (16), Nariva Swamp National Park (27), Matura National Park (23) and North East Tobago (23).	1. Ecological research and monitoring programmes developed	1. MIS plan developed 2. Cooperative arrangements with key stakeholders for research and management needs developed 3. Communications plan developed	1. Capacity of FPAMA & THA staff developed 2. MIS plan implemented	1. Public education plans developed and implemented 2. Management effectiveness assessment scores improved: Main Ridge Forest Reserve (34), Caroni Swamp National Park (34), Trinity Hills Wildlife Sanctuary and Reserve (18), Nariva Swamp National Park (30), Matura National Park (25) and North East Tobago MPA (25).	Ecological research and monitoring protocols/code; MIS plan; Communication plan; Training manuals; Public education materials; Annual status reports; management effectiveness score in BDTT	MEWR & THA
1.2.1 FPAMA/THA staff and PA management partners trained in current best practices in PA management and biodiversity conservation by PY4.	1. There is insufficient technical capacity to implement effective PA management.		1. Capacity Development needs assessed and plans adopted. 2. Effectiveness of law enforcement evaluated	1. Training manuals/guidelines (covering ten key areas) for 6 PAs prepared (incorporating findings from law enforcement assessment) and trainers identified 2. Core FPAMA/THA staff identified for training 3. FPAMA/THA staff (25) trained 4. Tour guides and operators (about 25) trained	1. FPAMA/THA staff (about 75) trained 2. Tour guides and operators (another 25) trained 3. Site specific guidelines and manuals developed 4. Train PA staff in use of site specific manuals	Evaluation reports; CD needs assessment reports; Training records and manuals; Site specific guidelines	MEWR & THA& NTA
1.2.2 MIS (NBIS) developed and implemented for PA	1. Biodiversity information systems and data are limited and fragmented and		1. MIS needs assessment done 2. Baseline data acquired in MIS	1.Hardware and software procured 2.MIS is developed and	1. MIS is updated with on-going monitoring programs	Annual status reports produced by	MEWR & THA /Information system expert/

	Baseline	Milestones towards achieving output and outcome targets				Data Collection and Reporting	
		Year 1	Year 2	Year 3	Year 4	Means of verification	Responsible for Data Collection
monitoring and assessment and reporting to international conventions by PY4.	managed by different institutions (not shared). 2. Protocols and platforms for documenting and sharing information on biodiversity do not exist. 3. Knowledge gaps on biodiversity not known.		3. Public access to information enabled to the agreed level of information disclosure. 4. Reporting mechanisms developed for Multilateral Environmental Agreements.	updated with on-going monitoring programs 3.Baseline data acquired for GIS &MIS; 4.Annual status report on 3 PAs published 5.Core team for MIS designated in FPAMA/THA 6. Staff trained in operation of the MIS.	2. Annual status report on 3 PAs published 3. Baseline data continue to be acquired for MIS.	the MIS; Training reports; Reporting mechanisms for MEAs	MIS focal points
1.2.3 Ecological research and monitoring programme to guide PA management developed by PY4.	1. No systematic ecological research and monitoring programme exists to guide PAs management	1. Research and monitoring programme needs identified. 2. Research priorities/needs/ targets set for PAs 3. In collaboration with key stakeholders, criteria for monitoring set 4. Ecological research and monitoring programme, protocols and codes of conduct designed 5. Focal points and teams identified to conduct ecological research and monitoring programme 6. Data collection on indicator species and ecosystems	1. Cooperative arrangements between the FPAMA/THA, UWI, UTT, Fisheries Division, IMA, NALIS and NGOs to address research needs and data repository roles drafted and signed 2. Data collection on indicator species and ecosystems continued	1. Data collection on indicator species and ecosystems continued 2. Annual status report on biodiversity published 3. Capacity for research and monitoring built among 60 key stakeholders	1. Data collection on indicator species and ecosystems continued 2. Annual status report on biodiversity published	Ecological research and monitoring programme published; Annual status reports; Training reports; Published data on indicator species	MEWR & THA / Monitoring focal points

	Baseline	Milestones towards achieving output and outcome targets				Data Collection and Reporting	
		Year 1	Year 2	Year 3	Year 4	Means of verification	Responsible for Data Collection
		initiated					
1.2.4 Public education and awareness programme designed and implemented by PY4.	1. Limited efforts for public education and awareness on PAs exist. 2. The existing public education materials are of general nature and do not address comprehensively the key issues in PA management. 3. No communications strategy or plan for PAs		1. Communication strategy & plan developed 2. Knowledge attitudes and practice survey conducted (2 PAs) 3. Evaluation of effectiveness of past public awareness activities related to PAs	1. Focal points identified and 25 staff trained in their operation. 2. Educational and awareness material developed and public education and awareness programmes conducted 3. Brochures (at least 4, two on threatened species and two on ecotourism in 3 PAs) designed and 25,000 copies printed and distributed 4. Nine billboard signs kept in 6 PAs marking various zones and communicating changes in rules 5. Stakeholder communication platform established 6. Workshops on gender issues in PAs held	1. Knowledge attitudes and practice survey conducted (remaining 4 PAs) 2. Public education and awareness programme designed for key audiences (e.g. local hunters) 3. One tele-film on biodiversity conservation made and shown to public 4. Nine boards designed and set up 5. One event held to raise awareness on gender issues	Communication strategy and plan; Survey reports; Education and awareness materials; Billboard signs; Training reports; Tele-film; Workshop reports	MEWR & THA / Education Specialist
Outcome 1.3 Conservation of 33 unprotected species strengthened in 6 PAs covering about 98,452 ha. Population indicators (abundance indices) of key species increased or stabilized by PY4	1. The 33 species identified as globally threatened (IUCN) and/or endemic in the 6 PAs, are not adequately protected currently (i) Population baselines or indices for most of the 33 species identified as globally threatened (IUCN) and/or endemic in the 6 project PAs have not been established. (ii) Six of the 33 species are	1. Baseline inventory of 20 indicator species conducted in each of the 6 PAs 2. Systematic population and habitat monitoring protocols developed for indicator species	1. Population and habitats systematically monitored 2. Priority interventions for biodiversity conservation implemented.	1. National species recovery strategies developed for 2 of selected species. 2. Population and habitats systematically monitored 3.Priority interventions for biodiversity conservation implemented 4. Draft management plans prepared for 2 PAs	1. National species recovery strategies developed for another 2 of the selected species. 2. Population baselines or indices for most of 33 species are published 3. The 6 species listed by IUCN as critically endangered, are stabilized or increased by 5%, in the 6 PAs	Species conservation action plans; Monitoring reports; PPRs Population and habitats monitoring system Final evaluation documents	MEWR & THA

	Baseline	Milestones towards achieving output and outcome targets				Data Collection and Reporting	
		Year 1	Year 2	Year 3	Year 4	Means of verification	Responsible for Data Collection
	globally thought to be critically endangered (*Epinephelus itajara, Dermochelys coriacea, Erytmochelys imbricata, Isogomphodon oxyrhynchus, Acropora cervicornis, Acropora palmata, Cebus albifrons (*sub-species only*),* and *Pipile pipile*). (iii) Population baseline for *Pipile pipile* is estimated at 77-231individuals				4.Population baseline for *Pipile pipile* is stabilized or increased 5. Habitat loss within the 6 PAs halted 6. Draft management plans prepared for the remaining 4 PAs		
1.3.1 Information about biodiversity in 6 pilot sites collected and analysed from PY2-PY4.	1. No mechanism or protocol exists for collection of data on indicator species at present. 2. No open-access database exists.	1.Baseline inventory of 20 indicator species conducted in 6 PAs 2.Protocol for collection and analysis of biodiversity data developed	1.Annual inventory of indicator species completed (6 PAs)	1.Open access database developed 2.40 PAs staff and 40 other relevant stakeholders trained in sampling protocols 3.Annual inventory of indicator species completed (6 PAs)	1.Annual inventory of indicator species completed (6 PAs)	Training reports; Public access database; Sampling protocols; Inventory reports	MEWR/THA
1.3.2 Management plans produced for the six pilot sites by PY4.	1.No recent management plans exists for 6 PAs 2. Participation of key stakeholders in PA management is weak, with only one site-specific multi stakeholder committee existing (but not operational) out of the 6 project PAs.		1.Cooperative arrangements agreed with stakeholders 2.Management targets developed for 3 PAs and approved 3.Stakeholder analysis conducted, and strategy and guidelines for stakeholder participation developed and agreed 4.Stakeholder management committees developed for 3 PAs	1. Management targets/priority matrix developed for 3 PAs and approved 2.Stakeholder management committees developed for 3 PAs 3.Draft management plans prepared and revised based on stakeholder consultations (for 2 PAs) and published	1.Draft management plans prepared and revised based on stakeholders consultations (for 4 PAs) and published	Stakeholder analysis report; Stakeholder committee meeting minutes; Priority matrix; Management plans	MEWR & THA / management plan preparation team

	Baseline	Milestones towards achieving output and outcome targets				Data Collection and Reporting	
		Year 1	Year 2	Year 3	Year 4	Means of verification	Responsible for Data Collection
1.3.3 Threats to biodiversity conservation identified by PY 1 and appropriate actions taken from PY3.	1. Threats to terrestrial and marine PAs not identified or addressed; 2. Threats posed to 6 PAs by fire, alien invasive species, over hunting and/or over fishing, and transformation of land around (or within) 6PAs to anthropogenic uses not quantified. No effective interventions to address these threats 3. Status of threatened species unknown in 6 PAs and no species stabilization or recovery activities exist	1..Key threats to biodiversity in 6 PAs identified and management strategies agreed by stakeholders 2.Site specific interventions to address threats at the 6 PAs devised after consultation with stakeholders	1. Forty FPAMA/THA staff and 60 relevant stakeholders trained in strategies to reduce threats to biodiversity 2.Two-day sensitization for 50 Police and Judiciary personnel undertaken 3.Species recovery strategies prepared	1.Site specific management interventions developed for 3 PAs, to reduce two threats to biodiversity by at least 10% of the baseline 2.Undertake wildlife population stabilization/recovery activities in 3 PAs 3.Level of exploitation of harvested species brought within sustainable limits for 3 PAs	1.Site specific management interventions developed for 3 PAs to reduce two threats to biodiversity by at least 10% of the baseline 2.Undertake wildlife population stabilization/recovery activities in 3 PAs 3.Level of exploitation of harvested species brought within sustainable limits for 3 PAs	Status reports of threatened species at 6 PAs; Recovery strategies; Training reports	MEWR & THA
Component 2: Improvements to infrastructure for biodiversity conservation and forest restoration							
Outcome							
Outcome 2.1 FPAMA/THA staff have the resources and infrastructure for effective PA management.	1.BDTT score for equipment and facilities are: Main Ridge Forest Reserve (31), Caroni Swamp National Park (31), Trinity Hills Wildlife Sanctuary and Reserve (16), Nariva Swamp National Park (27), Matura National Park (23) and North East Tobago (23).	1.Acquisition of infrastructure and equipment for biodiversity conservation initiated 2.Equipment needs assessed 3.Business plans for two PAs prepared 4. Degraded areas rehabilitated	1.Business plans for remaining 4 PAs prepared 2. Plan for developing infrastructure prepared. 3.Visitor facilities developed in Caroni 4.Training of relevant stakeholders in facilities management and tour guides initiated	1.Business plans for remaining 4 PAs prepared 2.Visitor facilities developed in Main Ridge 3.New ecotourism products identified 4. Branding and marketing of news ecotourism products initiated	1. BDTT score for equipment and facilities: Main Ridge Forest Reserve (34), Caroni Swamp National Park (34), Trinity Hills Wildlife Sanctuary and Reserve (18), Nariva Swamp National Park (29), Matura National Park (26) and North East Tobago MPA (26). 2.Infrastructure and equipment	Monitoring reports; PPR	MEWR & THA/ management plan preparation team

	Baseline	Milestones towards achieving output and outcome targets				Data Collection and Reporting	
		Year 1	Year 2	Year 3	Year 4	Means of verification	Responsible for Data Collection
					procurement at six PAs completed 3.Ecotourism products branded and marketed		
Outputs and targets							
2.1.1 Visitor facilities upgraded and maintained from PY2.	1.Basic facilities do not exist in many PAs and many facilities not maintained. 2.No buiness plan exsists for ecotourism at any of the six PAs 3.No ecotourism products branded or marketed	1. Guidelines to design and establish visitor facilities and ranger stations in all PAs prepared 2.Two Business plans prepared for ecotourism in PAs 3.Surveys conducted to assess visitor satisfactions	1.Four business plans prepared for ecotourism in PAs 2.Visitor centres developed and upgraded at 1 PA 3.MOU/LOA developed with the relevant partners to manage visitor facilities 4.Ten FPAMA/THA staff and 10 stakeholders trained in facilities management 5.Interpretive strategy developed and awareness raised among local people 6.Training for 15 tour guides conducted 7.Surveys conducted to assess visitor satisfactions	1. Visitor centres developed and upgraded at 1 PAs 2.10 FPAMA/THA staff and 10 co-management stakeholders trained in facilities management 3.New ecotourism products/requirements identified 4.Ecotourism products branded and marketed 5.Interpretive strategy developed and awareness raised among local people 6.Training for 15 tour guides conducted 7.Surveys conducted to assess visitor satisfactions	1. New ecotourism products/requirements identified 2. Ecotourism products branded and marketed 3. Interpretive strategy developed and awareness raised among local people 4. Training for 20 tour guides conducted 5. Surveys conducted to assess visitor satisfactions	Guidelines; Contract documents for site construction and maintenance; Visitor satisfaction surveys; Business plans; MoUs; Training materials	MEWR & THA and local PA management committees
2.1.2 Equipment for protection activities is upgraded and used effectively by PY3.	1.The equipment and infrastructure needed for threat monitoring and wildlife protection at the six PAs is inadequate and requirements not clearly known		1.Strengthening of infrastructure facilities for biodiversity conservation initiated at six PAs 2.Equipment needs assessed and procured for all six PAs 3.Procurement policy and health and safety policy and maintenance plan developed 4.Training of 50 FPAMA/THA staff to use equipment and implement the maintenance	1.Value of quarantine, animal rescue and rehabilitation facilities explored 2.Implement maintenance plan 3.Effectiveness of equipment assessed 4. Training of 50 FPAMA/THA staff to use equipment and implement the maintenance plan completed 5. Infrastructure for	1.Implement maintenance plan 2.Effectiveness of use of equipment assessed	Training participation lists; Verification of infrastructure and equipment in situ/register of equipment and use log; Procurement policy, Maintenance	MEWR & THA PAs stakeholder management committee

	Baseline	Milestones towards achieving output and outcome targets				Data Collection and Reporting	
		Year 1	Year 2	Year 3	Year 4	Means of verification	Responsible for Data Collection
			plan initiated	strengthening biodiversity conservation facilities completed at six PAs		plan; Report from assessment of equipment effectiveness	
2.1.3 Five hundred ha of degraded areas, identified as a priority, are rehabilitated for habitat enrichment by PY4.	1.Degraded areas not clearly identified or improved in any of the six PAs except in Nariva Swamp. 2.No restoration/ rehabilitation plans in place for any of the six PAs except in Nariva Swamp	1.Rehabilitation of already identified degraded areas begins (125 ha in the first year) 2.Species abundance/ diversity at restored sites measured	1. Rehabilitation of identified degraded areas continues (125 ha in the second year) 2.New areas for restoration identified in two PAs 3.Species abundance/ diversity at restored sites measured	1. Rehabilitation of identified degraded areas continues (125 ha in the third year) 2.New areas for restoration identified in 4 PAs 3.Rehabilitation restoration plans made for six PAs 4. Species abundance/ diversity at restored sites measured 5. Site and species selection and rehabilitation procedures prepared.	1. Rehabilitation of identified degraded areas completed (125 ha in the fourth year) 2. Species abundance/ diversity at restored sites measured	Minutes of stakeholders meetings to undertake prioritization; Published restoration plans; Species abundance reports	MEWR & THA/ PAs stakeholder management committee
Component 3: Development and testing of sustainable financing system							
Outcome 3.1 Sustainable financing system developed in PY2	1.No financing system exists to support PAs 2.Current financial sustainability score is 13 in BDTT	1. Options for FPA Fund legislation drafted	1. Options for establishing FPA Fund finalized 2. FPA Fund adopted 3. Operating manuals for FPA Fund prepared	1. Staff trained in fund management	Financial sustainability score in BDTT improved to 80	Published regulations; Operating procedures and draft manuals; Stakeholder consultation reports; Published reports/consultant reports	MEWR, THA& Ministry of Finance
Outputs and targets							
3.1.1 FPA Fund established through legislation and board of trustees appointed by PY2.	1.FPA Fund does not exist	1.FPA Fund Legislation drafted 2.Options for co-financing FPA Fund	1.Enabling legislation enacted and Fund adopted 2.FPAMA board and Fund / trustees appointed 3.MOU/LOA on terms of fund			FPAMA Legislation; MoUs on fund management	MEWR, THA& Ministry of Finance

	Baseline	Milestones towards achieving output and outcome targets				Data Collection and Reporting	
		Year 1	Year 2	Year 3	Year 4	Means of verification	Responsible for Data Collection
		explored	management agreed				
3.1.2 Operating procedures and manuals agreed and produced by PY2	1.No operating procedures and manuals exist		1.Operating procedures and draft manuals for implementing FPA Fund prepared 2.Two consultations with stakeholders on operational procedures and manuals for FPA Fund 3.Publish operational procedures and manuals			Operating manuals; Stakeholder consultation reports	MEWR & THA/ FPAMA& Ministry of Finance
3.1.3 Seventy FPAMA/THA staff trained in operation of the new system by PY3.	Capacity for managing funds do not exist			1.Core group identified at FPAMA/THA for training 2.Develop training module for FPAMA/THA staff in fund management and operational procedures 3.Seventy FPAMA/THA staff trained in fund management and operational procedures		Trainee lists; Training materials	MEWR & THA/ FPAMA
3.1.4 Senior staff and PA managers (25) trained in budget planning, tourism revenue management and innovative financing techniques by PY 3.	1. No training planned or training activities conducted for PA managers on budget planning, tourism revenue management and innovative financing techniques			1.Core staff at FPAMA and THA and other stakeholders identified for training in budget management and innovative financing 2.Train twenty-five FPAMA/THA staff in the above areas		Trainee lists; Copies of training materials	MEWR & THA/ FPAMA
Outcome 3.2 Funding gap reduced by 100,000 annually by PY 4 to support the long-term management of the PA system.	1. The funding gaps between basic and optimal management costs for the PAs system is not clearly known and no concerted efforts made to reduce funding gaps.	1.Strategies for funding PAs developed 2.User fees identified for six PAs 3.Evaluation of	1.Sustainable financing plan prepared 2.Funding requirements assessed 3.User fees introduced in two PAs	1.Staff trained in project management 2.FPA fund made operational	1.Funding gap reduced by USD 100,000 annually	Published user fees; Fund accounting; Published reports/consultant reports; Training manuals;	MEWR & THAs& Ministry of Finance

	Baseline	Milestones towards achieving output and outcome targets				Data Collection and Reporting	
		Year 1	Year 2	Year 3	Year 4	Means of verification	Responsible for Data Collection
		forest revenues completed	4.Endowment to FPA Fund agreed			Financial reports	
Outputs and targets							
3.2.1 Funding requirements for management of PA system assessed and agreed by PY2.	1. Funding requirements not known		1. Funding requirements for PAs system assessed. 2. Two stakeholder consultations on budgetary requirements 3. Budgetary requirements published			Technical report on funding requirements; Stakeholder consultation reports	MEWR & THAs & Ministry of Finance
3.2.2 Strategic plan for sustainable financing produced by PY2.	1. No strategic plan exists	1. Multiple strategies identified for funding PA system 2. Two stakeholder consultations on funding strategies	1. Sustainable financing plan prepared and published			Report on strategies; Stakeholder consultation reports; Sustainable financing plan	MEWR & THAs & Ministry of Finance
3.2.3 System of user fees designed and piloted by PY 2 and system operating in two PAs by PY3.	1. No user fee system exists in PAs	1. Optimal user fees proposed for six PAs	1. User fee collection and benefit sharing mechanisms finalized 2. Social acceptance of user fee system enhanced through public education 3. User fee introduced in two PAs 4. Staff trained to conduct user fee surveys	1. Social acceptance of user fee system enhanced through public education		Trainee lists; WTP studies; Financial reports from FPAMA/THA; Public education materials	FPAMA, MEWR/THA& Stakeholder Management Committees
3.2.4 Other forest revenues evaluated and revised where appropriate by PY2.	1. Other forest revenues not known or evaluated	1. Evaluation of forest revenues conducted 2. Potential for conservation oriented businesses explored	1. Online system for revenue collection established 2. Two stakeholder consultations about forest revenues 3. Potential for conservation	1. 30 FPAMA/THA staff trained in project management skills	1. 30 FPAMA/THA staff trained in project management skills	Reports on revised fees and other revenue mechanisms; Reports on stakeholder consultations;	FPAMA MEWR & THA

	Baseline	Milestones towards achieving output and outcome targets				Data Collection and Reporting	
		Year 1	Year 2	Year 3	Year 4	Means of verification	Responsible for Data Collection
			oriented businesses explored			Training materials; Online revenue collection system	
3.2.5 FPA Fund capitalised by implementation of the new financing system by PY3.	1. No FPA Fund exists		1. Agree on terms of endowment to FPA Fund	1. FPA Fund made operational	1.System operations modified based on lessons learnt	Legislation; Terms of Endowment	MEWR & THA. Ministry of Finance
Component 4 M&E and information dissemination							
Outputs and targets							
Outcome 4.1. Project implementation based on results based management and application of project findings and lessons learned in future operations facilitated.	1. No RBM exists 2. No effective information dissemination platform exists	1. Project support and monitoring team constituted 2. Multi-stakeholder steering committee constituted 3. Periodic project reports prepared	1. Annual evaluation completed 2. Project newsletter published 3. Periodic project reports prepared 4. Workshop to share best practices 5. Website developed	1. Periodic project reports prepared 2. Workshop to share best practices 3. Website maintained 4. Annual evaluation completed 5.Project newsletter published	1. Periodic project reports prepared 2. Workshop to share best practices 3. Website maintained 4. External final evaluation completed 5. Project newsletter published	PPRs; Evaluation reports; Workshop reports; Website; Newsletters	FAO, MEWR & THA
4.1.1 Project monitoring system providing six-monthly reports on progress in achieving project outputs and outcomes from PY1	1. Project monitoring system does not exist	1. Project support team constituted 2. Multi-stakeholder National Project Steering committee constituted 3. Two Inception workshops held 4. Risks and uncertainty identified and response measures explored 5. Annual reports	1. Two six-monthly progress reports 2. Annual reports prepared	1. Two six-monthly progress reports prepared 2. Annual reports prepared	1. Two six-monthly progress reports prepared 2. Two terminal workshops held 3. Annual reports prepared	PPRs, annual reports, quarterly reports, steering committee minutes	FAO, MEWR & THA, M&E specialist, Project support team

	Baseline	Milestones towards achieving output and outcome targets				Data Collection and Reporting	
		Year 1	Year 2	Year 3	Year 4	Means of verification	Responsible for Data Collection
		prepared 6. M&E manual prepared and adopted 7. Two six-monthly progress reports prepared					
4.1.2: Midterm evaluation report by PY2 and final evaluation report by PY4	N/A	1. Independent multi stakeholder team constituted	1. Annual evaluation done by multi stakeholder team 2. Midterm evaluation by external experts	1. Annual evaluation done by multi stakeholder team	1. Annual evaluation done by multi stakeholder team 2. Final evaluation by external experts	Evaluation reports	FAO, MEWR & THA, M&E specialist, Project support team
4.1.3: Project "best-practices" and "lessons-learned" in relation to co-management models, mainstreaming gender in biodiversity conservation etc. disseminated via publications by PY3.	N/A				1. Conduct a workshop to share best practices and lessons learnt and publish outcomes 2. Newsletter published	Workshop report and newsletter	FAO, MEWR & THA
4.1.4 Website and social media to share the experience and information dissemination develped by PY1.	1.No website or social media utilised		1. Team identified to develop and maintain website and social media delivery 2. Website and social media developed	1. Website and social media maintained	1. Website and social media upgraded	Website; Internet traffic to website and social media sites	FAO, MEWR & THA, Project support team
5.1 Project Management activities							
5.1.1. Project managed efficiently	No project management activities exist	1. Project management team constituted 2. Office space and equipment procured 3. PSC and other committees				Personnel contracts; Procurement records; Workshop reports and participation	FAO, MEWR & THA, Project support team

	Baseline	Milestones towards achieving output and outcome targets				Data Collection and Reporting	
		Year 1	Year 2	Year 3	Year 4	Means of verification	Responsible for Data Collection
		constituted				lists; and Committee minutes	

APPENDIX 2: WORK PLAN (RESULTS BASED)

Output	Activities	Responsible institution	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 1: Improvements to the legal and institutional arrangements for PAmanagement																		
1.1.1 Draft National legislation prepared for forests, wildlife, and PAs management.	***Activity 1**: Identify gaps (including through a rapid assessment of the suitability of existing PAs and their integration into the draft legislation, institutional mapping to identify relevant actors etc.) in present legislative framework and suggest alternatives*	MEWR & THA	X	X														
	***Activity 2**: Discuss with stakeholders and redraft legislation after public consultation*	MEWR & THA	X	X	X													
	***Activity 3**: Follow administrative processes/procedures to get the bill proclaimed by the President (CPC, LRC, Cabinet, Parliament, MEWR)*	MEWR & THA			X	X	X											
	***Activity 4**: Constitute the Board of the FPAMA to govern the PA system*	MEWR & THA					X	X										
1.1.2. National PA system plan agreed and published (214,000ha).	***Activity 1**: Conduct 3 technical studies (a) Review literature including a revisit of the 1980 Systems Plan, 1991 LTC land rationalization study, and 1994 World Bank Protected Areas project documents to determine their relevance in the present day context and undertake (b) PA gap analysis (c) impacts on biodiversity from different sectors and response options with regard to PAs design.*	MEWR & THA	X	X	X													
	***Activity 2**: Propose a draft system (bearing in mind the National Physical Development Plan and National Land use Plan)and new PAs based on gap analysis and classify the PAs into a suitable management category in the PA Policy (2011)*	MEWR & THA				X	X	X	X									
	***Activity 3**: Consult with national stakeholders (6 workshops) and consultations facilitation, verbatim reporting*	MEWR & THA					X	X	X	X								
	***Activity 4**: Finalize draft plan (revision of draft based on comments) and submit to Cabinet*	MEWR& THA									X	X	X					
	***Activity 5**: Publish the System Plan*	MEWR& THA											X					
	***Activity 6:** Prepare an action plan for its implementation*	MEWR, THA and NGO/CBO partners											X	X				
1.1.3 A minimum of **six new sites** designated as formal PAs under the new legislation (expected	***Activity 1**: Conduct ecological viability and connectivity assessment for six PAs and identify new boundaries of PAs using GIS in consultation with various authorities*	MEWR & THA		X	X	X												
	***Activity 2:** Consult with stakeholders(six consultations)on the status and relevance of proposed boundaries and identify potential areas of*	MEWR & THA				X	X	X										

Output	Activities	Responsible institution	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
to cover about 98,452 ha[1])	*conflict arising from designation of the new PAs*																	
	Activity 3: *Explore the possibility of agreements with private land owners based on compensation payments in and around new PAs*	MEWR & THA							X	X								
	Activity 4*: Survey (map and demarcate)PA boundaries and geocode them using GPS and obtain approvals for the boundaries of the new PAs from various stakeholders*	MEWR & THA						X	X	X	X							
	Activity 5*: Draft standard agreements with private land owners, if feasible (incentives and tax breaks)*	MEWR & THA									X	X						
	Activity 6: *Hire legal consultant to prepare legislation and gazette and declare six PAs (98,452 ha)*	MEWR & THA										X	X					
	Activity 7: *Assess the site-specific staff needs for effective management of the PAs and recruit the staff required to manage six PAs*	MEWR & THA											X	X	X	X		
	Activity 8*: Evolve MOU with various stakeholders on their roles in management of the sites, including co-management arrangements*	MEWR & THA							X	X	X	X						
1.2.1 FPAMA staff and PA management partners (about 100) trained in current best practices in PA management and biodiversity conservation.	***Activity 1:*** *Assess current capacity, including through stakeholder consultation, to identify capacity development needs (building on the needs identified at PPG phase) and plan training activities including attachments and learning-by-doing activities, internships etc.*	MEWR, THA & FPAMA							X	X								
	Activity 2: *Identify a core group (FPAMA Training Staff/Unit) within FPAMA* in collaboration with PA management partners *to plan training activities*	FPAMA & and PA management partners											X	X				
	Activity 3: *Develop material for FPAMA staff and* PA management partners *training in:* 1. *effective PA management and biodiversity conservation* 2. *ecotourism and PA recreation management* 3. *revenue generation and management* 4. *forest and wildlife law enforcement* 5. *participatory approaches and co-management* 6. *project development and administration* 7. *communication and education* 8. *gender mainstreaming* 9. *Formulating management plans*	FPAMA & and PA management partners									X	X						

[1] Including Trinity Hills: 8200 ha; Main Ridge Tobago: 3937 ha; North-East Tobago MPA: 59,280 ha; Nariva Swamp: 11,343ha; Caroni Swamp 3,258 ha; and Matura: 9,000 ha, Maura, Rincon and Fishing Pond Beaches: 39 ha, and Manzanilla Beach 70 ha. The final size of these areas may change after demarcation/finalization of the PA boundaries following wider stakeholder consultations during project implementation

Output	Activities	Responsible institution	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	10. Monitoring and evaluation of PA management																	
	***Activity 4**: Train 100 FPAMA staff and PA management partners in the above areas (and 50 tour guides and operators in 1, 2, 6 and 7 of the above areas in collaboration with TDC, THA, NTA & TTHTI)*	FPAMA/THA & PA management partners												X	X	X	X	
	***Activity 5:** Develop site-specific guidelines/handbooks in the above areas, and train relevant PA staff and stakeholders on the use of the site specific manuals*	FPAMA/THA& PA management partners													X	X	X	
	***Activity 6:** Evaluate effectiveness of law enforcement measures and modify training suitably*	FPAMA/THA& and PA management partners						X	X	X								
1.2.2 MIS (National Biodiversity Information System (NBIS)) developed and implemented for PA monitoring and assessment and reporting to international conventions. (Conabio[1])	***Activity 1:** Plan, assess content needs and implement the tasks of developing MIS*/(NBIS)	MEWR & THA							X	X								
	***Activity 2:** Identify a core team in FPAMA/THA* and PA management partners *to undertake the tasks of developing MIS*/(NBIS)	MEWR & THA									X							
	***Activity 3:** Procure equipment and software needed and establish MIS*/(NBIS) *Unit*	MEWR & THA									X							
	***Activity 4:** Develop reporting mechanisms on PAs to the national focal points for MEAs*	MEWR & THA								X								
	***Activity 5:** Acquire baseline data to establish the GIS and populate the database for PA management and develop MIS*/(NBIS) *(including stakeholders' details)*	MEWR, THA & UWI										X	X	X	X	X	X	X
	***Activity 6:** Train FPAMA/THA staff* and PA management partners *to use and manage MIS*/(NBIS)	MEWR & THA										X	X	X				
	***Activity 7:** Status Report on six PAs*	MEWR & THA												X				X
1.2.3 Ecological research and monitoring programme to guide PA management.	***Activity 1:** Identify research and monitoring programme needs. Also set research priorities/needs/targets for PAs including ecotourism related studies (e.g. carrying capacity) and develop the criteria for monitoring, in collaboration with key stakeholders*	MEWR & THA		X	X													
	***Activity 2:** Collect all published data on species and ecosystems*	MEWR, FPAMA/ THA, UWI and			X	X	X	X	X	X	X	X	X	X	X	X	X	X

[1]The Governments of the Republic of Trinidad and Tobago and the Republic of Mexico have agreed to a programme of support for the development of a national biodiversity information system in Trinidad and Tobago, mediated through technical and financial support from Mexico's agency Conabio.

Output	Activities	Responsible institution	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		relevant research partners																
	Activity 3: *Identify key partners/focal points in FPAMA, UWI and NGOs for research and monitoring in PAs and define who will do what*	MEWR & THA	X	X														
	Activity 4: *Develop cooperative arrangements between the FPAMA, UWI, IMA, NGOs,* and relevant research partners *to address research needs (partnership agreements to be developed by Ministry/THA and transferred to FPAMA)*	MEWR, FPAMA & THA					X	X										
	Activity 5: *Develop ecological research and monitoring protocols/code of conduct*	MEWR, FPAMA & THA			X	X												
	Activity 6: *Develop a MOU with NALIS (National Library and Information System Authority) to serve as a back-up repository of research outputs in PA and biodiversity in TT and its updating*	MEWR, FPAMA & THA							X									
	Activity 7: *Build the capacity of leading agencies and key stakeholders (60) from FPMA, DNRE, Environment Tobago, TTOS, CFCA etc.) with responsibility for conducting research and monitoring to include gender and other social issues relevant to PAs management*	MEWR, FPAMA & THA											X	X				
1.2.4 Public education and awareness programme implemented.	***Activity 1:*** *Assess needs, streamline options, evolve a communication strategy and develop an implementation plan for* public education and awareness programmes	FPAMA & THA							X	X								
	Activity 2: *Identify, train and engage PA focal-point staff and key partners(25- including two from every project site, THA/FPAMA staff) for public education/awareness programme implementation (two trainings)*										X	X						
	Activity 3: *Undertake a knowledge attitudes and practices survey in two PAs and evaluate what works well and expand to other 4 PAs*	MEWR & THA						X	X								X	X
	Activity 4: *Develop and implement in six PAs multiple public* education and *awareness tools/products (including: smart phone application, social media, radio and television advertisements, documentaries and print media) in the following key thematic areas, preferably site-specific, including:* • *the value of biodiversity conservation and the role of PAs* • *new boundaries of PAs* • *the value of environmental services from PAs* • *new fine structures and legislative measures* • *ecotourism and its importance*	FPAMA & THA											X	X	X	X		

Output	Activities	Responsible institution	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	• *fire prevention and its relevance* • *Gender inclusiveness and its relevance*																	
	Activity 5: *Implement an agreed mechanism to receive information from and answer questions of stakeholders*	FPAMA & THA									X	X	X					
	Activity 6: *Hold two workshops to identify the key gender issues in PA management (25 staff) in collaboration with the Institute for Gender and Development Studies (IGDS), UWI, CAWFOR). Organize events to sensitize PA managers and wider public if necessary, on gender issues and raise awareness on gender and biological conservation.*	FPAMA & THA												X				
1.3.1 Information about biodiversity in the 6 pilot sites collected and analysed every year.	***Activity 1:*** *Establish a detailed baseline inventory for selected flora and fauna in 6 pilot PAs and feeds into activity 1.2.3*	MEWR, THA and IMA		X	X	X												
	Activity 2: *Develop and adopt protocols and strategies for sampling 20 indicator species[1] within each PA.*	MEWR & THA		X	X													
	Activity 3: *Develop an open-access internet-based database for managing and disseminating biodiversity data collected in six PAs, including the status of 20 indicator species within each PA.(to populate MIS at activity 1.2.3).*	MEWR & THA									X	X						
	Activity 4: *Train 40 PA staff and 40 other relevant stakeholders (e.g. NGOs) in sampling protocols, strategies and data analysis*	MEWR & THA										X	X					
	Activity 5:*Conduct annual inventory of 20 indicator species within each PA in six PAs*	FPAMA & THA								X				X				X
1.3.2 Management plans produced for the six pilot sites.	***Activity 1:*** *Develop cooperative arrangements between MEWR, THA, FPAMA, NGOs/CBOs, UWI, IMA and other relevant stakeholders to formulate the management plan and identify a team for every site*	*MEWR, THA & FPAMA*						X	X									
	Activity 2: *Develop site-specific management targets (for ecosystem services, ecosystem processes, indicator species, sustainable use indicators etc. related to the national categorization) and zoning for each PA, including ecotourism zones where visitation allowed)*	*MEWR, THA, FPAMA &relevant stakeholders*								X	X							
	Activity 3: *Conduct detailed stakeholder analyses (building on the results in the PPG phase) and develop a strategy and guideline to involve relevant stakeholders in decision making (e.g. independent multi-stakeholder advisory committee) and subsequent management of six PAs (bearing in mind the gender dimensions)*	*MEWR, THA, FPAMA & relevant stakeholders*						X	X									
	Activity 4: *Develop management priority matrix in collaboration with all*	*MEWR, THA,*										X						

[1]During stakeholder consultations for the drafting of the project document, in many cases more than 20 indicators species were recommended for each PA, by stakeholders. The development of the final list of indicator species will be subject to change based on recommendations arising from activities associated with outputs 1.2.3 and 1.3.1.

Output	Activities	Responsible institution	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	relevant stakeholders (Bearing in mind the issues related to gender, communication, livelihood, tourism/ socioeconomic development, stakeholder engagement etc.)	*FPAMA & relevant stakeholders*																
	Activity 5: *Draft management plans based on targets emphasizing co-management arrangements and roles of various stakeholders*	*MEWR, THA, FPAMA & relevant stakeholders*									X	X	X	X	X	X		
	Activity 6: *Finalize management plans based on consultation with stakeholders, approve and publish them*	*MEWR, THA, FPAMA & relevant stakeholders*											X	X	X	X	X	X
	Activity 7: *Establish site-specific stakeholder management committees (including Procedure and Terms of Reference)*	*MEWR, THA, FPAMA & key stakeholders*								X	X							
1.3.3 Threats to biodiversity conservation identified and appropriate actions taken.	***Activity 1:*** *Identify, quantify and rank site-specific threats in six PAs through detailed studies and further analysis*	*MEWR, THA, FPAMA & relevant stakeholders*		X	X													
	Activity 2: *Develop site-specific interventions for addressing the most relevant threats (in consultation with stakeholders)*	*MEWR, THA, FPAMA & relevant stakeholders*			X	X												
	Activity 3: *Train 40 FPAMA/THA staff and 60 relevant stakeholders (particularly women and youth) on techniques for addressing the threats (two one-day trainings)*	*MEWR, THA, FPAMA & relevant stakeholders*							X	X								
	Activity 4: *Implement site-specific management interventions to address relevant threats to biodiversity*	*MEWR, THA, FPAMA &relevant stakeholders*									X	X	X	X	X	X	X	X
	Activity5: *Develop and implement sensitization for 50police and judiciary on wildlife crime and its implications for PA management (two days)*	*MEWR, THA, FPAMA & relevant stakeholders*							X	X								
	Activity 6: *Prepare species recovery strategies based on the status of threatened species (output 1.3.1) in every PA*	*MEWR, THA, FPAMA & relevant*							X	X								

Output	Activities	Responsible institution	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		stakeholders																
	Activity 7: *Stabilize/recover wildlife population by augmentation, if found essential (e.g. Pawi)*	*MEWR, THA, FPAMA & relevant stakeholders*										X	X	X	X	X	X	X
	Activity 8: *Regulate over exploitation (e.g. hunting, fishing etc.) and evolve sustainable use mechanisms and alternate livelihoods (with special emphasis for gender in collaboration with CAWFOR)*	*MEWR, THA, FPAMA & relevant stakeholders*									X	X	X	X	X	X	X	X
Component 2: Improvements to infrastructure for biodiversity conservation and forest restoration																		
2.1.1 Visitor facilities upgraded and maintained.	***Activity 1:*** *In collaboration with TDC, IUCN and the International Rangers Federation, prepare guidelines to design and establish visitor facilities and ranger stations in all PAs*	MEWR & THA		X	X													
	Activity 2: *In collaboration with TDC, evolve site-specific business plans to develop ecotourism in all six PAs (building on the attempts made during the PPG phase)*	MEWR& THA				X	X	X										
	Activity 3: *Design and develop/upgrade visitor facilities identified during the PPG phase*	MEWR, THA & FPAMA							X	X	X	X	X	X				
	Activity 4: *Identify relevant partners (NGOs/CBOs) to manage the visitor facilities in two PAs and commit through MOU/letters of agreement to ensure their sustainable operation*	MEWR, THA & FPAMA							X	X								
	Activity 5: *Train 20 FPAMA/THA staff and 20 co-management partners in two PAs on visitor facilities management (and to develop and manage projects to access the Green Fund)*	MEWR, THA & FPAMA								X	X							
	Activity 6: *Based on the lessons learnt, identify and implement new requirements/products (including paid nature camps, educational tours, recreational hunting/fishing etc.) for expanding ecotourism facilities/products to other PAs*	MEWR, THA & FPAMA									X	X	X	X	X	X	X	X
	Activity 7: *In collaboration with TDC, brand and market ecotourism products at national and international markets and establish links with hoteliers and tour operators*	MEWR, THA & FPAMA									X	X	X	X	X	X	X	X
	Activity 8: *Develop interpretation strategy/interpretative guides (tour guides, signs and brochures) and raise awareness among local people*	MEWR, THA & FPAMA							X	X	X	X	X	X	X	X	X	X
	Activity 9: *Conduct training for 50 tour guides on running ecotourism programmes- two days training (with TDC)*	MEWR, THA, FPAMA & Key stakeholders							X				X				X	

Output	Activities	Responsible institution	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		(e.g. CFCA)																
	Activity 10: *Conduct surveys to assess visitor satisfaction and obtain feedback on visitor facilities/ecotourism products*	MEWR, THA & FPAMA	X				X				X				X			
2.1.2 Equipment for protection activities is upgraded and used effectively.	***Activity 1:*** *Construct/upgrade and maintain field stations, office space, telecommunication and watch towers*	FPAMA &THA							X	X	X	X	X	X				
	Activity 2: *Assess equipment needs (building on the requirements assessed in PPG phase) and procure equipment for six PAs*	FPAMA &THA						X	X	X								
	Activity 3: *Adopt procurement policy and health and safety policy and develop a maintenance plan*	FPAMA &THA						X	X									
	Activity 4: *Explore the need to construct quarantine, animal rescue and rehabilitation facilities for confiscated wildlife*	FPAMA &THA									X	X						
	Activity 5: *Train 50 FPAMA/THA staff (2 days) to use safety and other equipment and implement the maintenance plan*	FPAMA &THA								X	X							
	Activity 6: *Assess effectiveness of the equipment procured*	FPAMA &THA												X				X
2.1.3 Degraded areas, identified as a priority, are rehabilitated for habitat enrichment (500 ha)	***Activity 1:*** *Rehabilitate already identified degraded areas (e.g. Nariva Swamp)*	EMA, FPAMA &THA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Activity 2: *Identify new restoration sites and targets in and around six PAs*	FPAMA &THA								X	X	X						
	Activity 3: *Develop rehabilitation/restoration plans for these identified degraded areas in six PAs in consultation with stakeholders and seek finance for implementation*	FPAMA &THA											X	X				
	Activity 4: *Determine change in species abundance/diversity in restored sites*	FPAMA &THA				X				X				X				X
Component 3:Development and testing of sustainable financing system																		
3.1.1 FPA Fund established through legislation and board of trustees appointed.	***Activity 1:*** *Draft FPA Fund legislation in consultation with stakeholders*	MEWR, THA & Ministry of Finance	X	X	X													
	Activity 2: *Pass/adopt FPA Fund legislation in Parliament, promulgated by the President*	MEWR & THA				X	X	X										
	Activity 3: *Appoint FPA Board and FPA Fund trustees*	MEWR & THA						X										
	Activity 4: *Agree and sign MOU/LOA on terms of fund management between Central Government and THA*	MEWR, THA & Ministry of Finance						X										
	Activity 5: *Explore the options for co-financing the FPA Fund initially from the Green Fund (*in consultation with key stakeholders)	MEWR & THA	X	X	X	X												

Output	Activities	Responsible institution	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3.1.2 Operating procedures and manuals agreed and produced	***Activity 1:*** *Develop operational procedures and draft manuals to implement the FPA Fund*	MEWR, THA & Ministry of Finance					X	X										
	Activity 2: *Consult with stakeholders (one in Trinidad and Tobago) and publish manuals and operational procedures to implement the FPA Fund*	MEWR, THA & Ministry of Finance							X	X								
3.1.3 FPAMA staff (70) trained in operation of the new system.	***Activity 1:*** *Identify a core group in FPAMA/THA for training in new operational system*	FPAMA & THA										X						
	Activity 2: *Develop a module for FPAMA/THA staff training in (a) fund management and (b) operational procedures*	FPAMA & THA									X							
	Activity 3: *Conduct staff training (70) in the above areas (bearing in mind gender dimensions)*	FPAMA & THA										X						
3.1.4 Senior staff and PAmanagers (25) trained in budget planning, tourism revenue management and innovative financing techniques.	***Activity 1:*** *Identify a core group of FPAMA/THA and other relevant stakeholders for the training in budget planning, tourism revenue management and innovative financing techniques*	FPAMA & THA									X							
	Activity 2: T*rain FPMA/THA staff (25) and other stakeholders in the above areas*	FPAMA & THA										X	X					
3.2.1 Funding requirements for management of PA system assessed and agreed.	***Activity 1:*** *Assess the funding requirements for the PA system (including the areas in and around the PAs having potential for MOU with FPAMA for conservation)*	FPAMA & THA					X											
	Activity 2: *Discuss with stakeholders(one in Trinidad and one in Tobago) budgetary requirements for the effective management of the PA system (including the requirement of NGOs)*	FPAMA & THA						X										
	Activity 3: *Publish budgetary requirements for the effective management of the PA system*	FPAMA & THA							X									
3.2.2 Strategic plan for sustainable financing produced.	***Activity 1:*** *Identify multiple strategies for recurrent funding including national budget, PES, grant funding, conservation agreements, fines, user fees etc.*	FPAMA & THA		X	X	X												
	Activity 2: *Consult with stakeholders*	FPAMA, THA & Ministry of Finance			X	X												
	Activity 3: *Produce a draft sustainable financing plan and publish*	FPAMA, THA & Ministry of Finance					X	X	X									
3.2.3 System of user	***Activity 1:*** *Identify the optimal user fee for six PAs (entry and for*	FPAMA & THA	X	X	X	X												

Output	Activities	Responsible institution	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
fees designed, piloted and operating in two PAs.	*ecotourism activities) through detailed studies (e.g. contingent valuation) and propose a user fee*																	
	Activity 2: *Finalize user fee collection and benefit sharing mechanisms (with NGOs/CBOs/ private sector)*	FPAMA & THA							X	X								
	Activity 3: *Enhance social acceptance through public education on the contributions of user fee (in 2 PAs) to conservation of the PA (% share staying in PA) and local people (% benefits shared)*	FPAMA & THA						X	X	X	X	X						
	Activity 4: *Introduce user fee in two PAs following stakeholder consultations and detailed WTP studies (building on the results obtained in PPG phase) and develop online systems for its collection*	FPAMA & THA							X	X								
	Activity 5: *Train staff to conduct willingness to pay studies periodically to amend user fees*	FPAMA & THA							X	X								
3.2.4 Other forest revenues evaluated and revised where appropriate.	***Activity 1:*** *Evaluate various forest revenues (e.g. timber sales, hunting and other licence fees, fines, research fee etc.), propose their revision and explore new areas (e.g. PES, environmental tax at airport etc.) and set up online systems for collection*	FPAMA & THA			X	X	X	X										
	Activity 2: *Consult with stakeholders (one in Trinidad and Tobago) about the revisions and address their concerns*	FPAMA & THA						X	X									
	Activity 3: *Train 60 FPAMA/THA staff and relevant stakeholders (CBOS, NGOs) in project development and management skills required to access the Green Fund to increase the revenue to PAs*	FPAMA & THA								X				X				
	Activity 4: *Examine the potential of wildlife farming, home stay and small scale industries based on invasive species (e.g. bamboo) to engage local communities in conservation-oriented business (e.g. souvenirs from trash to cash)*	FPAMA & THA		X	X	X	X											
3.2.5 FPA Fund capitalised by implementation of the new financing system.	***Activity 1:*** *Agree on terms of endowment funding to the FPA Fund from /Govt.*	FPAMA & THA							X	X								
	Activity 2: *Build and operate the FPA Fund*	FPAMA & THA										X	X	X	X	X	X	X
	Activity 3: *Learn the lessons and modify the system operation*	FPAMA & THA															X	X
Component 4: Monitoring and evaluation and information dissemination																		
4.1.1 Project monitoring system operating providing systematic information on progress in meeting project outcome and	***Activity 1:*** *Organize two inception workshops for finalizing operation procedures and four year work plan*	MEWR & THA	X	X														
	Activity 2: *Constitute the project support team including Budget officer and Human Resources and procurement officer*		X															
	Activity 3: *Constitute a Multi-stakeholder National Project Steering committee to monitor project progress and ensure effectiveness of activities in delivering the planned outputs*	MEWR & THA	X	X														

Output	Activities	Responsible institution	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
output targets.	***Activity 4:*** *Identify the risks and uncertainties during project implementation and explore necessary measures to minimize the negative impacts on project outcome and output targets*	MEWR & THA	X	X														
	Activity 5: *Prepare M& E manual*	MEWR & THA				X												
	Activity 6: *Report project progress every six months and annually*	PCU		X		X		X		X		X		X		X		X
	Activity 7: *Organize two terminal workshops*	MEWR & THA															X	
4.1.2 Midterm and final evaluation conducted.	***Activity 1:*** *Constitute an independent multi-stakeholder technical team and prepare formats for participatory annual evaluation*	MEWR & THA			X	X												
	Activity 2: *Conduct annual participatory evaluation*	MEWR & THA				X				X				X				
	Activity 3: *Conduct independent midterm and final evaluations*	FAO								X	X							X
4.1.3 Project-related "best-practices" and "lessons-learned"published.	***Activity 1:*** *Conduct a workshop to share best practices and lessons learnt*	FPAMA, MEWR & THA															X	
	Activity 2: *Publish workshop proceedings*	FPAMA & THA																X
	Activity 3: *Publish a Newsletter and other material for sharing experiences*	FPAMA & THA																X
4.1.4 Website to share the experience and information dissemination.	***Activity 1:*** *Identify a team to develop and maintain website*	FPAMA & THA						X										
	Activity 2: *Identify the contents to share in the website and disseminate and popularize the website*	FPAMA & THA						X	X	X	X	X	X	X	X	X	X	X
5 Project management activities																		
Project managed efficiently	***Activity 1:*** *Constitute the Project management team (and ensure services of a CTA, Operations Officer, Budget Officer, Human Resources and Procurement Officer, Administrative officer, Communication Outreach Specialist & site facilitators as necessary and staff from FPMA/THA as needed to manage the project)*	MEWR & THA	X															
	Activity 2: *Set up the project office*	MEWR & THA	X															
	Activity 3: *Constitute TAG and other committees in section 4 of the FAO project document*	MEWR & THA	X															

APPENDIX 3: RESULTS BUDGET

Oracle code and description	Unit	No. of units	Unit cost	Component 1:											Component 2:				Component 3:										Component 4:					Total	Expenditures by year			
				1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	1.2.3	1.2.4	1.3.1	1.3.2	1.3.3	Total	2.1.1	2.1.2	2.1.3	Total	3.1.1	3.1.2	3.1.3	3.1.4	3.2.1	3.2.2	3.2.3	3.2.4	3.2.5	Total	4.1	4.2	4.3	Total	PM	GEF	Year 1	Year 2	Year 3	Year4
5300 Salaries professionals																																						
Budget officer	Weeks	10	2,632											0				0									0	13160			13,160	13160	26,320	6,580	6,580	6,580	6,580
Human Resources and Procurement Officer	Weeks	10	2,632											0				0									0	13160			13,160	13160	26,320	6,580	6,580	6,580	6,580
5300 Sub-total salaries professionals				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26,320	0	0	26,320	26,320	52,640	13,160	13,160	13,160	13,160
5542 International Consultants														0																								
PA Management Consultant	Days	20	500			10,000								10,000				0									0	0	0	0	0		10,000	2,500	7,500		
Training/HR Consultant	Days	40	500				20,000							20,000																		20,000			20,000	
International Law Enforcement Consultant	Days	40	500				20,000							20,000				0									0				0		20,000		6,667	6,667	6,667
Evaluation Specialist	Days	70	500											0				0									0		35,000		35,000		35,000		15,000		20,000
Economist/Finance Officer	Days	40	500											0				0								20,000	20,000				0		20,000			10,000	10,000
5542 Sub-total International Consultants				0	0	10,000	40,000	0	0	0	0	0	0	50,000	0	0	0	0	0	0	0	0	0	0	0	0	20,000	20,000	0	35,000	0	35,000	0	105,000	2,500	29,167	36,667	36,667
5543 National Consultants														0																			0				
Legal Consultant	Days	5	500	2,500										2,500				0									0				0		2,500	2,500			
Public Consultation Facilitator	Days	24	500		3,000	9,000								12,000				0									0				0		12,000	1500	10,500		
Biodiversity/Protected Areas Consultant	Days	50	500						25,000					25,000				0									0				0		25,000	25,000			
Rural Sociology Consultant	Days	10	500						5,000					5,000				0									0				0		5,000			5,000	
Gender Workshop Facilitator	Days	2	500							1,000				1,000				0									0				0		1,000			1,000	
Biodiversity Monitoring Specialist	Days	23	500								11,500			11,500				0									0				0		11,500	2,500		9,000	
PA Management Specialist	Days	45	500										22,500	22,500				0									0				0		22,500	22,500			
MPA Specialist	Days	17	500										8,500	8,500													0				0		8,500		8,500		
Wildlife Law Enforcement Consultant	Days	7	500										3,500	3,500				0									0				0		3,500		3,500		
Infrastructure Specialist	Days	20	500											0	10,000			10,000									0				0		10,000	10,000			
Communications Specialist	Days	20	500											0	10,000			10,000									0				0		10,000	10,000			
Procurement Specialist	Days	12	500											0		6,000		6,000									0				0		6,000		6,000		
Safety Specialist	Days	4	500											0		2,000		2,000									0				0		2,000		1,000	1,000	
Economist	Days	2	500											0				0						1,000			1,000				0		1,000		1,000		
Chief Technical Advisor	Days	1040	231						120,120					120,120				0						120,120			120,120				0		240,240	60,060	60,060	60,060	60,060
Communications & Community Outreach Specialist	Days	1040	154											0				0						160,160			160,160				0		160,160	40,040	40,040	40,040	40,040
Management Specialist	Days	3	500											0				0									0			1,500	1,500		1,500	1,500			
Administrative Officer	Days	1040	94						32,400					32,400				0						32,752			32,752	32,752			32,752		97,904	24,476	24,476	24,476	24,476
5551 Operations Officer	Days	1040	101											0				0									0				0	105040	105,040	26,260	26,260	26,260	26,260
5543 Sub-total National Consultants				2,500	3,000	9,000	0	0	182,520	1,000	11,500	0	34,500	244,020	20,000	8,000	0	28,000	0	0	0	0	0	0	314,032	0	0	314,032	32,752	0	1,500	34,252	105,040	725,344	226,336	181,336	166,836	150,836
5570 Sub-total Consultants				2,500	3,000	19,000	40,000	0	182,520	1,000	11,500	0	34,500	294,020	20,000	8,000	0	28,000	0	0	0	0	0	0	314,032	0	20,000	334,032	32,752	35,000	1,500	69,252	105,040	830,344	228,836	210,503	203,503	187,503

Oracle code and description	Unit	No. of units	Unit cost	Component 1:											Component 2:				Component 3:										Component 4:					Total	Expenditures by year			
				1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	1.2.3	1.2.4	1.3.1	1.3.2	1.3.3	Total	2.1.1	2.1.2	2.1.3	Total	3.1.1	3.1.2	3.1.3	3.1.4	3.2.1	3.2.2	3.2.3	3.2.4	3.2.5	Total	4.1	4.2	4.3	Total	PM	GEF	Year 1	Year 2	Year 3	Year4
5650 Contracts																																					
Three technical studies	Lump sum	1	40,000		40,000									40,000				0										0				0		40,000	40,000			
Propose draft system and new PAs based on gap analysis	Lump sum	1	15,000		15,000									15,000				0										0				0		15,000	5,000	5,000	5,000	
Conduct ecological viability and connectivity assessment	Lump sum	1	20,000			20,000								20,000				0										0				0		20,000	20,000			
Assessment of the site-specific staff needs	Lump sum	1	30,000			30,000								30,000				0										0				0		30,000			15,000	15,000
Develop modulesfor NFPAMA staff and PA management partners training	Lump sum	10	10,000				100,000							100,000				0										0				0		100,000			100,000	
Training of 100 NFPAMA staff and PA management partners in the above areas	Lump sum	2	22,500				45,000							45,000				0										0				0		45,000			11,250	33,750
Development of site specific handbooks and training staff	Lump sum	6	10,833				65,000							65,000				0										0				0		65,000				65,000
Assess needs, streamline options, evolve a communication strategy and develop an implementation plan for public education and awareness programmes	Lump sum	1	23,000							23,000				23,000				0										0				0		23,000		11,500	11,500	
Undertake a knowledge, attitudes and practices survey in 2 PAs	Lump sum	2	14,850							29,700				29,700				0										0				0		29,700		14,850		14,850
Develop and implement in the following key thematic areas, site-specific public education and awareness tools/products	Lump sum	6	16,667							100,000				100,000				0										0				0		100,000			50,000	50,000
Establish a detailed baseline inventory for selected flora and fauna in 6 pilot PAs	Lump sum	6	33,333								200,000			200,000				0										0				0		200,000		200,000		
Management plans produced for the six pilot	Lump sum	6	50,000									300,000		300,000				0										0				0		300,000		150,000	150,000	
Prepare species recovery strategies for key species	Lump sum	1	23,895										23,895	23,895				0										0				0		23,895		7,965	7,965	7,965

Oracle code and description	Unit	No. of units	Unit cost	Component 1:											Component 2:				Component 3:										Component 4:					Total	Expenditures by year			
				1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	1.2.3	1.2.4	1.3.1	1.3.2	1.3.3	Total	2.1.1	2.1.2	2.1.3	Total	3.1.1	3.1.2	3.1.3	3.1.4	3.2.1	3.2.2	3.2.3	3.2.4	3.2.5	Total	4.1	4.2	4.3	Total	PM	GEF	Year 1	Year 2	Year 3	Year4
5650 Contracts																																					
Develop recommendations for sustainable use mechanisms and alternate livelihoods	Lump sum	6	5,000										30,000	30,000				0									0				0		30,000			15,000	15,000
Develop site-specific business plans to develop ecotourism	Lump sum	6	4,167											0	25,000			25,000									0				0		25,000	8,333	16,667		
Train NFPAMA staff and co-management partners in visitor facilities management	Lump sum	2	3,750											0	7,500			7,500									0				0		7,500		3,750	3,750	
Identify and implement new requirements/ ecotourism products	Lump sum	2	7,500											0	15,000			15,000									0				0		15,000			7,500	7,500
Conduct surveys to assess visitor satisfaction	Lump sum	6	10,000											0	60,000			60,000									0				0		60,000	15,000	15,000	15,000	15,000
Identify, map, select new restoration sites and targets in and around 6 PAs	Lump sum	1	10,000											0			10,000	10,000									0				0		10,000		3,333	6,667	
Develop rehabilitation/restoration plans for these identified degraded areas in 6 PAs	Lump sum	6	2,667											0			16,000	16,000									0				0		16,000			16,000	
Develop operational procedures and draft manuals to implement the NFPA fund	Lump sum	6	1,250											0				0		7,500							7,500				0		7,500		7,500		
Develop course for NFPAMA staff training in (a) fund management and (b) operational procedures and Activity 3. Conduct training in these areas	Lump sum	2	4,500											0				0			9,000						9,000				0		9,000			9,000	
Train 25 NFPAMA/THA staff in tourism revenue management and innovative financing techniques.	Lump sum	2	1,500											0				0				3,000					3,000				0		3,000			3,000	
Assess the funding requirements for the PA system	Lump sum	1	30,000											0				0					30,000				30,000				0		30,000		30,000		
Identify multiple strategies for recurrent funding	Lump sum	1	25,000											0				0						25,000			25,000				0		25,000	10,000	15,000		
Identify the optimal user fee for 6 PAs	Lump sum	6	10,000											0				0							60,000		60,000				0		60,000	60,000			
Develop public education materials for enhancing social acceptance	Lump sum	1	36,500											0				0						36,500			36,500				0		36,500		18,250	18,250	
Evaluate various forest revenues	Lump sum	1	10,000											0				0							10,000		10,000				0		10,000	5,000	5,000		
Examine the potential of wildlife farming, homestay and small scale industries	Lump sum	1	10,000											0				0							10,000		10,000				0		10,000	7,500	2,500		
Modify the system operation for NFPA fund operation	Lump sum	1	10,000											0				0								10,000	10,000				0		10,000			10,000	
5650 Sub-total Contracts				0	55,000	50,000	210,000	0	0	152,700	200,000	300,000	53,895	1,021,595	107,500	0	26,000	133,500	0	7,500	9,000	3,000	30,000	25,000	96,500	20,000	10,000	201,000	0	0	0	0	0	1,356,095	170,833	506,315	454,882	224,065

Oracle code and description	Unit	No. of units	Unit cost	Component 1:											Component 2:				Component 3:										Component 4:					Total	Expenditures by year			
				1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	1.2.3	1.2.4	1.3.1	1.3.2	1.3.3	Total	2.1.1	2.1.2	2.1.3	Total	3.1.1	3.1.2	3.1.3	3.1.4	3.2.1	3.2.2	3.2.3	3.2.4	3.2.5	Total	4.1	4.2	4.3	Total	PM	GEF	Year 1	Year 2	Year 3	Year4
5021 Travel																																						
5696- CTA and PCU staff (including Communication Specialist)	Lump sum	1	40,000						20,000					20,000											20,000			20,000				0		40,000	10,000	10,000	10,000	10,000
5685- Legal Consultant	Lump sum	1	2,000	2,000										2,000														0				0		2,000	2,000			
5685- Public Consultation Facilitator	Lump sum	1	4,500		2,250	2,250								4,500				0										0				0		4,500	2250	2,250		
5684- International PA Management Consultant	Lump sum	1	8,000			8,000								8,000				0										0				0		8,000	2,000	6,000		
5684-International HR Consultant	Lump sum	1	16,000				16,000							16,000				0										0				0		16,000			16,000	
5684-International Law Enforcement Consultant	Trip	3	10,000				30,000							30,000				0										0				0		30,000		10,000	10,000	10,000
5685- Biodiversity Consultant	Trip	2	1,750						3,500					3,500				0										0				0		3,500	3,500			
5685- Rural Sociologist	Lump sum	1	1,500						1,500					1,500				0										0				0		1,500			1,500	
5685- Gender Workshop Facilitator	Lump sum	1	600							600				600				0										0				0		600			600	
5685- Biodiversity Monitoring Specialist	Lump sum	1	2,500								2,500			2,500				0										0				0		2,500			2,500	
5694- Travel costs of NGOs partcipating in biodiversity monitoring	Lump sum	1	4,000								4,000			4,000				0										0				0		4,000			2,000	2,000
5685- PA Management Specialist	Lump sum	1	9,000										9,000	9,000				0										0				0		9,000	6,000	3,000		
5685- Infrastructure Specialist	Lump sum	1	2,500											0	2,500			2,500										0				0		2,500	2,500			
5685- Procurement Specialist	Lump sum	1	1,800											0		1,800		1,800										0				0		1,800		1,800		
5685- Safety Specialist	Lump sum	1	1,200											0		1,200		1,200										0				0		1,200		600	600	
5684-Economist/Finance Specialist	Trip	2	13,000											0				0								26,000	26,000				0			26,000			13,000	13,000
5684-Evaluation Specialist	Trip	2	17,000											0				0									0		34,000		34,000			34,000		15,000		19,000
5685- Management Specialist	Trip	1	1,000											0				0									0			1,000	1,000			1,000	1,000			
Sub-total Travel				2,000	2,250	10,250	46,000	0	25,000	600	6,500	0	9,000	101,600	2,500	3,000	0	5,500	0	0	0	0	0	0	20,000	0	26,000	46,000	0	34,000	1,000	35,000	0	188,100	29,250	48,650	56,200	54,000

Oracle code and description	Unit	No. of units	Unit cost	Component 1:											Component 2:				Component 3:										Component 4:					Total	Expenditures by year			
				1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	1.2.3	1.2.4	1.3.1	1.3.2	1.3.3	Total	2.1.1	2.1.2	2.1.3	Total	3.1.1	3.1.2	3.1.3	3.1.4	3.2.1	3.2.2	3.2.3	3.2.4	3.2.5	Total	4.1	4.2	4.3	Total	PM	GEF	Year 1	Year 2	Year 3	Year4
5920 Training and Workshops																																					
Training in GIS & satellite imagery analysis	Lump sum	1	7,200		7,200									7,200				0									0				0		7,200	7,200			
Stakeholder consultations	Worksh op	6	4,638		27,828									27,828				0									0				0		27,828		27,828		
Train 50 tour guides	Training	4	2,500				10,000							10,000				0									0				0		10,000			2,500	7,500
Training for agencies (DNRE/NFPAMA) and key NGO & CBO stakeholders (e.g. CFCA, TTOS, Environment Tobago) in research and monitoring protocols	Training	4	2,500						10,000					10,000				0									0				0		10,000			10,000	
Training in public education/awareness programme	Training	2	1,250							2,500				2,500				0									0				0		2,500			2,500	
Workshops to identify the key gender issues in PA management	Training	2	1,250							2,500				2,500				0									0				0		2,500		2,500		
Training on techniques for addressing the threats	Training	2	2,500										5,000	5,000				0									0				0		5,000		5,000		
Sensitize Judiciary and Police on wildlife crime and implications	Training	1	2,500										2,500	2,500				0									0				0		2,500			2,500	
Train NFPAMA staff and co-management partners in visitor facilities management	Training	2	1,000											0	2,000			2,000									0				0		2,000		1,000	1,000	
Conduct training on running ecotourism programmes	Training	3	1,667											0	5,000			5,000									0				0		5,000				
																																			1,667	1,667	1,666
Conduct training on use of safety equipment	Lump sum	2	2,500											0		5,000		5,000									0				0		5,000		2,500	2,500	
Fund management and operational procedures	Training	2	3,500											0				0			7,000						7,000				0		7,000			7,000	
Training in budget planning, tourism revenue management and innovative financing	Lump sum	1	3,750											0				0				3,750					3,750				0		3,750			3,750	
Train staff to conduct willingness to pay studies	Lump sum	1	2,500											0				0						2,500			2,500				0		2,500		2,500		
Inception and validation workshops	Worksh op	4	2,500											0				0									0	10,000			10,000		10,000	5,000			5,000
5920 Sub-total Training				0	35,028	0	10,000	0	10,000	5,000	0	0	7,500	67,528	7,000	5,000	0	12,000	0	0	7,000	3,750	0	0	2,500	0	0	13,250	10,000	0	0	10,000	0	102,778	12,200	42,995	33,417	14,166

Oracle code and description	Unit	No. of units	Unit cost	Component 1:											Component 2:				Component 3:										Component 4:					Total	Expenditures by year			
				1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	1.2.3	1.2.4	1.3.1	1.3.2	1.3.3	Total	2.1.1	2.1.2	2.1.3	Total	3.1.1	3.1.2	3.1.3	3.1.4	3.2.1	3.2.2	3.2.3	3.2.4	3.2.5	Total	4.1	4.2	4.3	Total	PM	GEF	Year 1	Year 2	Year 3	Year4
6000 Expendable Procurement																																					
Satellite imagery – 1-m resolution of PAs	1 m2	5,000	10	50,000										50,000				0									0				0		50,000	50,000			
Publication of systems plan – printing of 1,000 copies of plan	Copy	1000	16		16,000									16,000				0									0				0		16,000			16,000	
100 handbooks	Copy	100	60				6,000							6,000				0									0				0		6,000				6,000
Boat rental for annual inventory	Days	20	300								6,000			6,000				0									0				0		6,000			3,000	3,000
100 copies of training module for wildlife law enforcement training	Copy	100	25										2,500	2,500				0									0				0		2,500		2,500		
Brochures on PAs	Copy	1000	2											0	2,000			2,000									0				0		2,000		500	500	1,000
Lessons learnt and best practices publication	Copy	999	18.4											0				0									0			18,333	18,333		18,333				
																																			6,111	6,111	6,111
6000 Sub-total Expendable Procurement				50,000	16,000	0	6,000	0	0	0	6,000	0	2,500	80,500	2,000	0	0	2,000	0	0	0	0	0	0	0	0	0	0	0	0	18,333	18,333	0	100,833	50,000	9,111	25,611	16,111
6100 Non-expendable Procurement																																					
Terrestrial field kits for annual ecological monitoring	Kit	30	1,280								38,400			38,400				0									0				0		38,400			38,400	
Marine field kits for MPA	Kit	6	6,552								39,310			39,310				0									0				0		39,310			39,310	
Sign boards	board	18	278											0	5,000			5,000									0				0		5,000			3,000	2,000
Digital cameras	Camera	6	500											0				0									0			3,000	3,000		3,000	3,000			
Laptops	Laptop	6	1,000											0				0									0			6,000	6,000		6,000	6,000			
Fire-watch towers	tower	2	20,000											0		40,000		40,000									0				0		40,000		20,000	20,000	
Printer	printer	6	500											0				0									0			3,000	3,000		3,000	3,000			
Fire-safety kits	Kit	20	1,000											0		20,000		20,000									0				0		20,000		20,000		
Computer chair,tables and accessories	Unit	6	750											0				0									0			4,500	4,500		4,500	4,500			
6100 Sub-total Non-expendable Procurement				0	0	0	0	0	0	0	77,710	0	0	77,710	5,000	60,000	0	65,000	0	0	0	0	0	0	0	0	0	0	0	0	16,500	16,500	0	159,210	16,500	40,000	100,710	2,000
TOTAL				54,500	111,278	79,250	312,000	0	217,520	159,300	301,710	300,000	107,395	1,642,953	144,000	76,000	26,000	246,000	0	7,500	16,000	6,750	30,000	25,000	433,032	20,000	56,000	594,282	69,072	69,000	37,333	175,405	131,360	2,790,000	520,779	870,733	887,483	511,005

IFPAM-TT- ProDoc-
Appendix 3- Results-I

APPENDIX 4: RISK MATRIX

Risk	Impact	Outcomes likely to be at risk	Probability	Mitigation
Environmental risks:				
Climate change impacts (e.g. changes in the water regime, longer and hotter dry seasons, storm intensity and frequency, higher sea-surface temperatures, increased incidence of fires/pests and diseases etc.)	1. Reduction in habitats suitable for BD conservation and worsening habitat conditions for key species 2. Increased pressure on forests because of reduced productivity in agriculture 3. Increased competition from invasive species 4. Loss of resilience of coral reefs, increased susceptibility to coral bleaching and disease 5. Impairment of habitat and species restoration activities at PAs 6. Impact on long-term management of PA infrastructure e.g. coastal structures, interpretive facilities, and zones of permitted use	1.1 to 1.3	Unknown (risks for this project are likely to be small because climate change is a long-term phenomenon)	1. Impacts on biodiversity will be monitored as part of PA monitoring 2. Ecosystem-based adaptation measures will be adopted based on evidence (e.g. monitoring changes in the water regime in mangroves) 3. Collaboration will be ensured with available climate change adaptation projects 4. Management measures will be adopted to minimize the incidence of fires 5. Potential synergistic links between climate driven changes and other anthropogenic disturbances will be identified and measures to reduce these other factors. 6. Landscape scale-planning through enhanced connectivity between PAs in the entire PAs system will be made management priorities to ensure resiliency to climate change is provided to PAs. 7. Life-cycle planning for PAs infrastructure to explicitly account for potential impact of climate change on use of such facilities, and their serviceability over their proposed service life.
Forest fires, pests and diseases, including invasive species	1. Forest degradation 2. Increased competition from invasive species 3. Direct reduction in threatened species populations through mortality, habitat and biodiversity loss	1.1 to 1.3	Low to medium	1. Countermeasures will be adopted in management plans to address forest fires, pests and diseases threatening PA management 2. Occurrence of such events will be recorded in PA monitoring and preventive actions will be improved. 3. Training for PA managers to address these specific threats will be undertaken
Storms, hurricanes	1. Damage to project infrastructure at six PAs; 2. Disturbance of threatened species and habitats at 6 PAs 3. Degradation of habitat recovery/ restoration efforts	1.1-2.1	Low	1. Ensure PA facilities are designed and built to standards which will account for these disturbances 2. Develop monitoring protocols which can determine degree of disturbance by such events.
Economic risks:				
Insufficient co-finance from the Green Fund	Project progress delayed	1.1, 1.2, 1.3, 2.1 and 3.2	Low to medium	NGOs/CBOs and FPAMA/THA staff will be trained to access co-finance from the Green Fund which will support the PA management.

Social, governance and institutional risks:				
Changes in political circumstances and economic priorities	Low support for transition to FPAMA and sufficient fund allocation to FPA Fund	All	Low to medium	1. Decision/policy-makers have been engaged throughout the project preparation process and are ready to bring the institutional changes and approve financial commitments 2. Broad stakeholder engagement will provide political support for institutional transformation and new financing strategies
Insufficient country ownership	Project progress delayed	All	Low to medium	1. National Steering Committee will be entrusted with the mandate to guide the execution of the project
Failure to harmonize various policies	1. PA planning and management will be inefficient (e.g. energy sector in Trinity Hills, oil exploration in MPA etc.) 2. Conflict and resistance to adoption of the proposed PAs system plan	1.2, 1.3, 2.1 and 3.2	Low	1. Collaboration with other sectors through the PSC (e.g. tourism, energy) will be ensured to harmonize the National policies 2. A communication and outreach strategy will be evolved to reach out to the stakeholders to ensure support for such harmonization
Poor coordination between government agencies and stakeholders	1. Lack of proper enforcement will continue to cause environmental degradation 2. Project progress delayed	All	Medium	1. PA and Forest policies were developed by a multi-stakeholder committee appointed by the cabinet and a similar arrangement will be used to enact wildlife legislation for ensuring coordination 2. All new measures developed by the project will be followed-up by training and awareness-raising that will include relevant agencies outside the groups directly affected. 3. Legal agreements and MOU will be made to ensure the delivery of implementation arrangements.
Delay in transforming to the new institution as outlined in the PA policy (FPMA)	1. Lack of support for the project and low level of buy-in by the Forestry Division staff 2. Project progress delayed	All except 1.1	Medium to high	1. Actions in the Work Plan will be reprioritized to implement the activities first in those PAs with high stakeholder support 2. Forestry Division staff will be made aware of the benefits of the project 3. Government staff will be informed regularly about the developments 4. Administrative arrangements through the Forestry Division in Trinidad and the DNRE in Tobago to ensure that PA activities are undertaken, and potential stakeholder-led activities are not delayed.
Insufficient staff and lack of timely recruitment	1. Lack of insufficient staff for increasing management effectiveness 2. Project progress delayed	All except 1.1	Low to medium	1. Actions will be reprioritized in the Work Plan to implement activities first in those PAs with enough staff 2. Project staff will liaise regularly with the Forestry Division staff to get sufficient staff allocated to PAs 3. Committed Green Fund resources will be sought to recruit sufficient staff as in the management plan
Limited support and implementation capacity in government	1. Lower chance of long-term sustainability. 2. Project progress delayed	All except 1.1	Low to medium	1. The weakness in capacity will be addressed through (i) encouraging working in partnerships with diverse stakeholders and (ii) identifying the capacity gaps and taking corrective actions 2. Project progress will be regularly monitored (especially the management effectiveness score in GEF Biodiversity Tracking Tool)

				and corrective actions will be taken as necessary 3. Government staff will be regularly informed about capacity developments to increase their buying-in. 4. Progress of capacity development will be regularly reviewed by PSC
Limited capacity of stakeholders to assist in PA and ecotourism development	1. Lower chance of long-term sustainability. 2. Project benefits will be low for communities, resulting in negative attitudes and practices	1.2, 1.3, 2.1 and 3.2	Low to medium	1. Local communities will be involved in planning and implementing PA and ecotourism development 2. Capacities of local people will be built and the benefits of ecotourism will be shared
Inadequate adherence to the PA management plan	1. Current threats to biodiversity conservation will not be reduced 2. Forest degradation will continue	1.2 and 1.3	Low to medium	1. Key stakeholders will be involved in formulating the management plan 2. Proposed measures to increase management effectiveness will be consulted widely. 3. Awareness will be raised among the general public about the changes
Private landowners refuse to set-aside areas for conservation purposes.	1. Current threats to biodiversity conservation will not be reduced 2. Forest degradation will continue. 3. Ecosystems remain fragmented	1.1 to 1.3	Low to medium	1. A high level of local participation will be ensured in project activities 2. Complementary support will be provided by improved management practices 3. Awareness will be raised about the economic benefits of improvements 4. Benefits of biodiversity conservation will be demonstrated to local community members
Little economic incentives to improve land management practices around PAs	1. Bad farming practices continue to cause environmental degradation 2. Decrease in biodiversity	1.2 and 1.3	Low to medium	1. Awareness will be raised about the economic benefits of improvements 2. Assistance will be provided to famers to adopt biodiversity-friendly practices in around PAs
Resistance to introduction of user fees in PAs.	1. Sustainable user fee system in PAs will be endangered and funding gaps will continue or widen resulting in low management effectiveness. 2. FPA Fund will suffer from low revenues	2.1, 3.1 and 3.2	Unknown (user fee does not exist in most of the PAs- risk may be medium to high)	1. Willingness to pay surveys will be done before introducing the user fee 2. Tour operators and hoteliers will be involved in ecotourism development in PAs 3. User fees will be collected from visitors rather than tour operators (who are likely to be more resistant) 4. Information materials and public awareness programmes will be used to show how these funds are invested for conservation and community development 5. Plan B for revenue generation for sustaining FPA Fund will be included in the finance plan 6. Tourism products will be diversified in business plans and visitors will be made aware of what they pay for 7. Suitable visitor facilities and services will be improved/constructed to enhance visitor experience against the user fee 8. The pilot approach for user fee development will allow improvements when it is replicated to system level. Lessons learnt from other Caribbean islands will guide legislation and user fee system

				development
Resistance to new regulations in PAs (e.g. hunting/fishing).	1. Current threats to biodiversity conservation will not be reduced 2. Population of key species will decrease	1.2 and 1.3	Medium to High	1. Key stakeholders will be involved in evolving new regulations 2. Traditional mechanisms will be used for enforcement with appropriate modem methods that are locally accepted 3. Awareness will be raised among public about long-term benefits of controlled use and new regulations/other changes 4. Alternate livelihood and new employment opportunities will be provided to those severely affected
Low awareness among stakeholders about conservation	1. Current threats to biodiversity conservation will not be reduced 2. Unsustainable exploitation of forests and wildlife will continue	1.2 and 1.3	Low to medium	1. Awareness will be raised among public about long-term benefits of conservation
Uncontrolled tourism growth (Inadequate regulation of visitor numbers and activities)	Degradation of habitats and pollution	1.2.1.3, 2.1 and 3.2	Medium to High	1. Carrying capacity assessment will be part of ecotourism planning and used as the basis for enforcing site-limits 2. Will attempt Limits of Acceptable Change/Environmental Management Systems 3. Guidelines will be provided to tour operators and visitors
Low visitor arrivals due to global factors	1. Reduced income to PAs 2. Possible closure of ecotourism businesses of local communities	2.1, 3.1 and 3.2	Low to medium	1. Business plans will ensure promotion of strong domestic market 2. Effective marketing strategy will be evolved 3. Safety and security of sites will be ensured 4. Multiple income generating options will be incorporated in the finance plan

APPENDIX 5. PROCUREMENT PLAN

	Requirement	Unit	Estimated Quantities	Estimated Cost	Unit Price	Solicitation Method	Procurement Method	Buyer	Targeted Tender Launch Date	Targeted Contract Award Date	Targeted Delivery Date	Final Destination and Delivery Terms	Status	Other Constraints/Considerations
A	**International consultants**													
1	PAs Management Specialist	Days	20	10,000	500									
2	Training/HR Consultant - with expertise in PAs	Days	40	20,000	500									
3	International Law Enforcement Consultant	Days	40	20,000	500									
4	Economist/ Finance Officer	Days	40	20,000	500									
5	Evaluation specialist	Days	70	35,000	500									
B	**National consultants**													
1	Legal Consultant	Days	5	2,500	500									
2	Public Consultation Facilitator	Days	24	12,000	500									
3	Biodiversity/Protected Areas Consultant	Days	50	25,000	500									
4	Marine Protected Area Specialist	Days	17	8,500	500									
5	Rural Sociology Consultant	Days	10	5,000	500									
6	Gender Workshop Facilitator	Days	2	1,000	500									
7	Biodiversity Monitoring Specialist	Days	23	11,500	500									
8	PA Management Specialist	Days	45	22,500	500									
9	Wildlife Law Enforcement Consultant	Days	7	3500	500									
10	Infrastructure Specialist	Days	20	10,000	500									
11	Communications Specialist	Days	20	10,000	500									
12	Procurement Specialist	Days	12	6,000	500									
13	Safety Specialist	Days	4	2,000	500									
14	Economist	Days	2	1000	500									
15	Chief Technical Advisor	Days	1,040	240,240	231									
16	Communications & Community Outreach Specialist	Days	1,040	160,160	154									

17	Administrative Officer	Days	1,040	95680	94									
18	Management Specialist	Days	3	1,500	500									
19	Operations Officer	Days	1,040	105,040	101									
C	**Contracts**													
1	Three technical studies	Lump sum	1	40,000	40,000									
2	Propose draft system and new PAs based on gap analysis	Lump sum	1	15,000	15,000									
3	Conduct ecological viability and connectivity assessment	Lump sum	1	20,000	20,000									
4	Assessment of the site-specific staff needs	Lump sum	1	30,000	30,000									
5	Develop modules for FPAMA staff and PA management partners training	Lump sum	10	100,000	10,000									
6	Training of 100 FPAMA staff and PA management partners in the above areas	Lump sum	2	45,000	22,500									
7	Development of site specific handbooks and training staff	Lump sum	6	65,000	10,833									
8	Assess needs, streamline options, evolve a communication strategy and develop an implementation plan for public education and awareness programmes	Lump sum	1	23,000	23,000									
9	Undertake a knowledge, attitudes and practices survey in two PAs	Lump sum	2	29,700	14,850									
10	Develop and implement in the following key thematic areas, site-specific public education and awareness tools/products	Lump sum	6	100,000	16,667									
11	Establish a detailed baseline inventory for selected flora and fauna in 6 pilot PAs	Lump sum	6	200,000	33,333									
12	Management plans produced for the six pilot	Lump sum	6	300,000	50,000									
13	Prepare species recovery strategies for	Lump	1	23,895	23,895									

	key species	sum												
14	Develop recommendations for sustainable use mechanisms and alternate livelihoods	Lump sum	6	30,000	5,000									
15	Develop site-specific business plans to develop ecotourism	Lump sum	6	25,000	4,167									
16	Train FPAMA staff and co-management partners in visitor facilities management	Lump sum	2	7,500	3,750									
17	Identify and implement new requirements/ ecotourism products	Lump sum	2	15,000	7,500									
18	Conduct surveys to assess visitor satisfaction	Lump sum	6	60,000	10,000									
19	Identify, map, select new restoration sites and targets in and around six PAs	Lump sum	1	10,000	10,000									
20	Develop rehabilitation/restoration plans for these identified degraded areas in six PAs	Lump sum	6	16,000	2,667									
21	Develop operational procedures and draft manuals to implement the FPA Fund	Lump sum	6	7,500	1,250									
22	Develop course for FPAMA staff training in (a) fund management and (b) operational procedures and Activity 3. Conduct training in these areas	Lump sum	2	9,000	4,500									
23	Train 25 FPAMA/THA staff in tourism revenue management and innovative financing techniques.	Lump sum	2	3,000	1,500									
24	Assess the funding requirements for the PA system	Lump sum	1	30,000	30,000									
25	Identify multiple strategies for recurrent funding	Lump sum	1	25,000	25,000									
26	Identify the optimal user fee for six PAs	Lump sum	6	60,000	10,000									
27	Develop public education materials for enhancing social acceptance	Lump sum	1	36,500	36,500									

28	Evaluate various forest revenues	Lump sum	1	10,000	10,000									
29	Examine the potential of wildlife farming, home stay and small scale industries	Lump sum	1	10,000	10,000									
30	Modify the system operation for FPA Fund operation	Lump sum	1	10,000	10,000									
D	**Office facilities, equipment etc.**													
1	Terrestrial field kits for annual ecological monitoring.	Kit	30	38,400	1,280									
2	Marine field kits for MPA	Kit	6	39,310	6,552									
3	Sign boards	board	18	5,000	278									
4	Digital cameras	Camera	6	3,000	500									
5	Laptops	Laptop	6	6,000	1,000									
6	Fire-watch towers	tower	2	40,000	20,000									
8	Printer	printer	6	3,000	500									
10	Fire-safety kits	Kit	20	20,000	1,000									
11	Computer chair, tables and accessories	Unit	6	4,500	750									
12	Satellite imagery – 1-m resolution of PAs	1 m2	5000	50,000	10									
13	Publication of systems plan – printing of 1,000 copies of plan	copy	1,000	16,000	16									
14	100 handbooks	Publication	100	6,000	60									
15	Boat rental for annual inventory	Days	20	6,000	300									
16	100 copies of training module for wildlife law enforcement training	Publication	100	2,500	25									
17	Brochures on PAs	copy	1,000	2,000	2									
18	Lessons learnt and best practices publication	Publication	999	18,333	18.4									

Note: This table will be completed after stakeholder consultations in the first quarter of project implementation

APPENDIX 6: TERMS OF REFERENCE

Improving Forest and Protected Area Management in Trinidad and Tobago.
MEWR-THA-FAO-GEF

A. Draft Terms of Reference of Chief Technical Advisor

Background and Tasks:

This 4-year project is a partnership of MEWR and THA (as recipients) with FAO and the Global Environmental Facility (GEF) (as technical and financial assistance providers, respectively). The goal of the proposed project is to conserve biodiversity in TT by consolidating the PA system and enhancing capacity and finance for PA management through strengthening existing laws/management efforts and promotion of sustainable financing.

Under the overall supervision of the FAO Representative (Trinidad and Tobago), the technical supervision of the Lead Technical Officer (FAO) and in close collaboration with the heads of FPAMA and THA, PSC, Lead Technical Unit (FAO) and the FAO-GEF Coordination Unit in the Investment Centre in Rome (TCID), the consultant will have the following responsibilities and functions.

1. Provide technical support to all four components of the project and respond to the technical needs of the MEWR/THA and participate in the meetings with them when required.
2. Manage the day-to-day implementation of the project including: (a) preparing TORs for consultants and contracts (b) participation in the identification and selection of consultants, (c) monitoring the quality of the work of consultants and (d) review and evaluation of consultant products and (e) prepare draft TOR for the PA management committees to be discussed with the stakeholders.
3. Ensure project coordination between various stakeholders (propose draft MOUs specifying the roles of CSOs in the project to be considered by the stakeholders and PSC) and support to implement the project in accordance with the approved Project Document and in compliance with the GEF requirements, rules and procedures. Integrate the stakeholder analysis into the participation strategy and update it as needed.
4. Lead the PCU to provide support to PSC and TAG and manage and provide overall supervision for all staff in the PCU. Provide technical advice to the PSC and TAG, when needed.
5. Lead PCU's regular and systematic monitoring of outputs and provide training to PCU in Results-Based Project Management as needed.
6. Prepare all the necessary periodic programme progress reports required by FAO, GEF and other partners (mentioned in sections 4.5.3 and 4.5.4) and provide inputs to FAOTT and LTO for preparing reports (including budget revisions).
7. Coordinate the work of national consultants to ensure that project-supported initiatives meet the standards of best practice.
8. Ensure that the GEF Biodiversity Tracking Tool are filled out accurately and in a timely manner.
9. Establish communication linkages with technical counterparts in other related national projects and facilitate the exchange of information and building of partnerships. Ensure the visibility and promotion of the project goals and objectives, contribute to their achievement, through targeted outreach as advised by the Communications Team.
10. Provide assistance to M&E team and participate in M&E evaluation exercises.
11. Arrange timely recruitment and procurement of quality services and equipment and in accordance with applicable rules, regulation and standards established by the FAO.
12. Liaise with project partners to ensure timely co-financing contributions as committed.
13. Other tasks as needed for the project implementation.

Minimum Requirements

- An advanced university degree, preferably in biodiversity conservation or related field.
- Seven years of professional experience in biodiversity conservation/PA management, preferably in implementing projects.
- Familiarity with administrative and technical aspects of PA management.
- Excellent written/spoken skills.

Additional Requirements: Experience with internationally funded projects, particularly by GEF, will be an asset.

Duration: 48 months

B. Draft Terms of Reference of other project positions

Based upon the guidance of this document, the CTA will prepare TOR for the following technical positions. Draft Terms of Reference for short-term positions will be presented to the PSC for approval within three months of project initiation.

Consultant	Task	Days
PAs Management Specialist (International)	Explore development of draft agreements with private land owners based on compensation payments in and around new PAs	20
Training/HR Consultant - with expertise in PAs (International)	Assess current capacity, (through stakeholder consultation), identify capacity development needs and plan training activities (a HR consultant) including attachments and learning-by-doing activities, internships etc.	40
International Law Enforcement consultant (International)	Evaluate effectiveness of law enforcement measures by FPAMA and PA management partners and modify training suitably	40
Economist/ Finance Officer (International)	Provide technical guidance for building and operating the FPA Fund	40
Evaluation specialist (International)	Conduct midterm and final evaluations	70
Budget Officer	Assist in financial planning reporting of the project	50
Human Resources and Procurement officer	Assist in procurement and recruitment in the project ensuring GEF and FAO procedures are followed properly	50
Legal Consultant (National)	Lead public consultation & redraft legislation	5
Public Consultation Facilitator (National)	1. Facilitate national consultation on draft systems plan. 2. Consult with stakeholders on the status and relevance of proposed boundaries and identify potential areas of conflict arising from designation of the new PAs.	24
Biodiversity/Protected Areas Consultant (National)	1. Identify research and monitoring programme needs. 2. Establish research priorities/needs/targets (including ecotourism studies, carrying capacity) and criteria for monitoring. 3. Develop ecological research and monitoring protocols/code of conduct.	50
Rural Sociology Consultant (National)	Training for agencies (DNRE/THA/FPAMA) and key NGO & CBO stakeholders (e.g. CFCA, TTOS, Environment Tobago) to include gender and other social issues relevant to PAs management in research and monitoring programme.	10

Gender Workshop Facilitator (National)	Hold 2 workshops to identify the key gender issues in PA management for PAs managers and key stakeholders (in collaboration with the Institute for Gender and Development Studies and UWI).	2
Biodiversity Monitoring Specialist (National)	1. Develop & adopt protocols/strategies for sampling at least 13 indicator species in each PA. 2. Train PAs staff and relevant stakeholders in sampling protocols, strategies and data analysis.	23
PA Management Specialist (National)	1. Identify, quantify and rank site-specific threats in 5 terrestrial PAs through studies and analysis. 2. Develop site-specific interventions for addressing the most relevant threats (in consultation with stakeholders. 3. Propose cost-effective threat intervention options 4. Train stakeholders at two 1-day workshops.	45
Marine Protected Area Specialist (National)	1. Identify, quantify and rank site-specific threats in MPA through studies and analysis. 2. Develop site-specific interventions for addressing the most relevant threats (in consultation with stakeholders. 3. Propose cost-effective threat intervention options	17
Wildlife Law Enforcement Consultant (National)	Develop and deliver materials to sensitize Judiciary and Police on wildlife crime and implications for PAs management	7
Infrastructure Specialist (National)	Prepare guidelines to design and establish visitor facilities and ranger stations in all PAs, in collaboration with TDC, IUCN and the International Rangers Federation.	20
Communications Specialist (National)	Develop interpretation strategy/interpretative guides (for tour guides, signs and brochures) and raise awareness among local people.	20
Procurement Specialist (National)	Assess equipment needs for protection activities.	12
Safety Specialist (National)	Train FPAMA staff in use of safety equipment.	4
Economist (National)	Train staff to conduct willingness to pay studies periodically to amend user fees.	2
Communications & Community Outreach Specialist (National)	1. Develop a project Communication Plan 2. Design and implement communication strategies for the project including enhancing social acceptance through public education on the contributions of user fee (in two PAs) to conservation of the PA (% share staying in PA) and local people. 3. Provide inputs to increase visibility of the project.	1040
Administrative Officer (National)	Provide administrative support for all components of the project.	1040
Management Specialist (National)	Conduct 3 workshops to share best practices and lessons learnt	3
Operations Officer (National)	Provide operational support for project implementation	1040

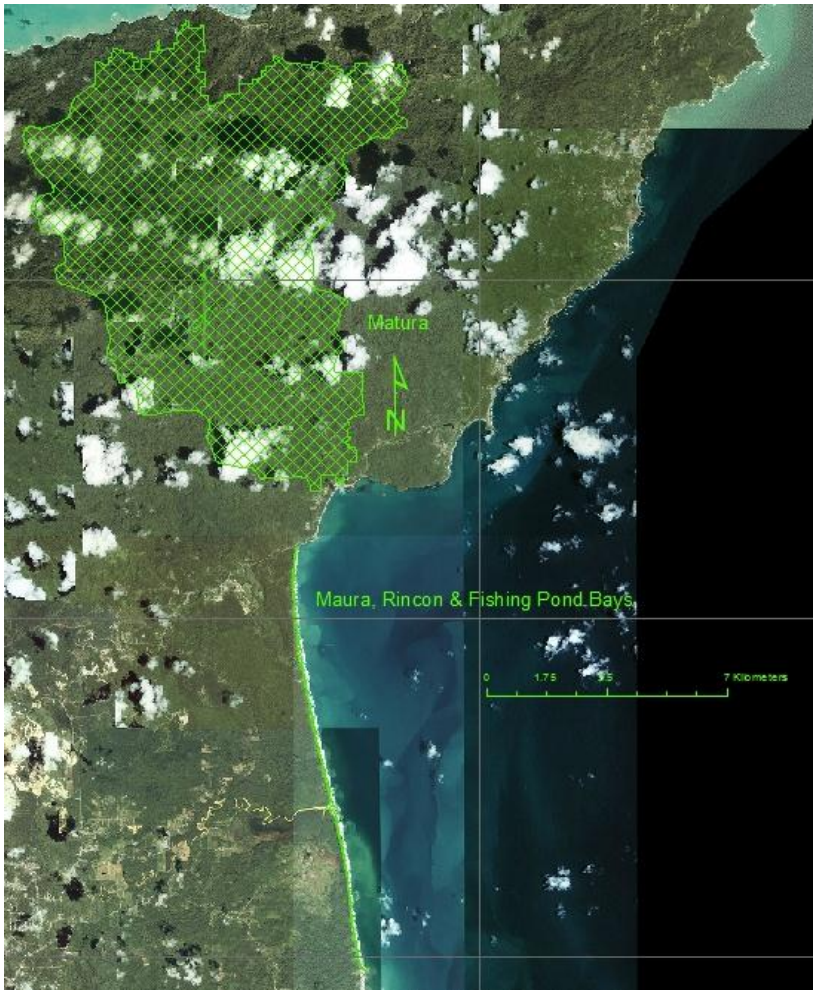
Justification for Travel: Local travel (including internal/domestic flights) is essential for consultants to reach six project sites as they are spread across two islands. This travel will be indispensable for consultations with local stakeholders and implementing other activities planned.

APPENDIX 7 PROJECT SITE MAPS

Map A.1. Boundary of proposed Caroni Swamp Protected Area

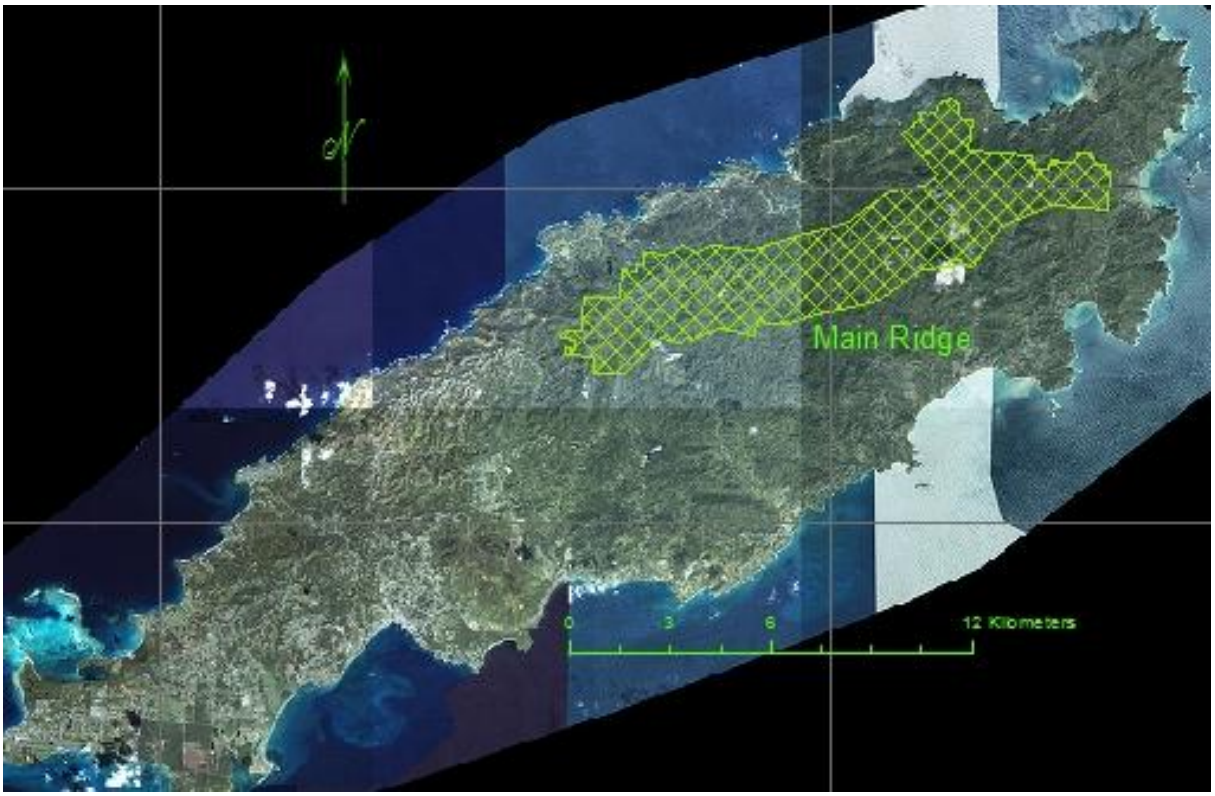
Map A.2. Boundary of proposed Nariva Swamp & coastal zone Protected Area

Map A.3 Boundary of proposed Matura Forest & coastal zone Protected Area

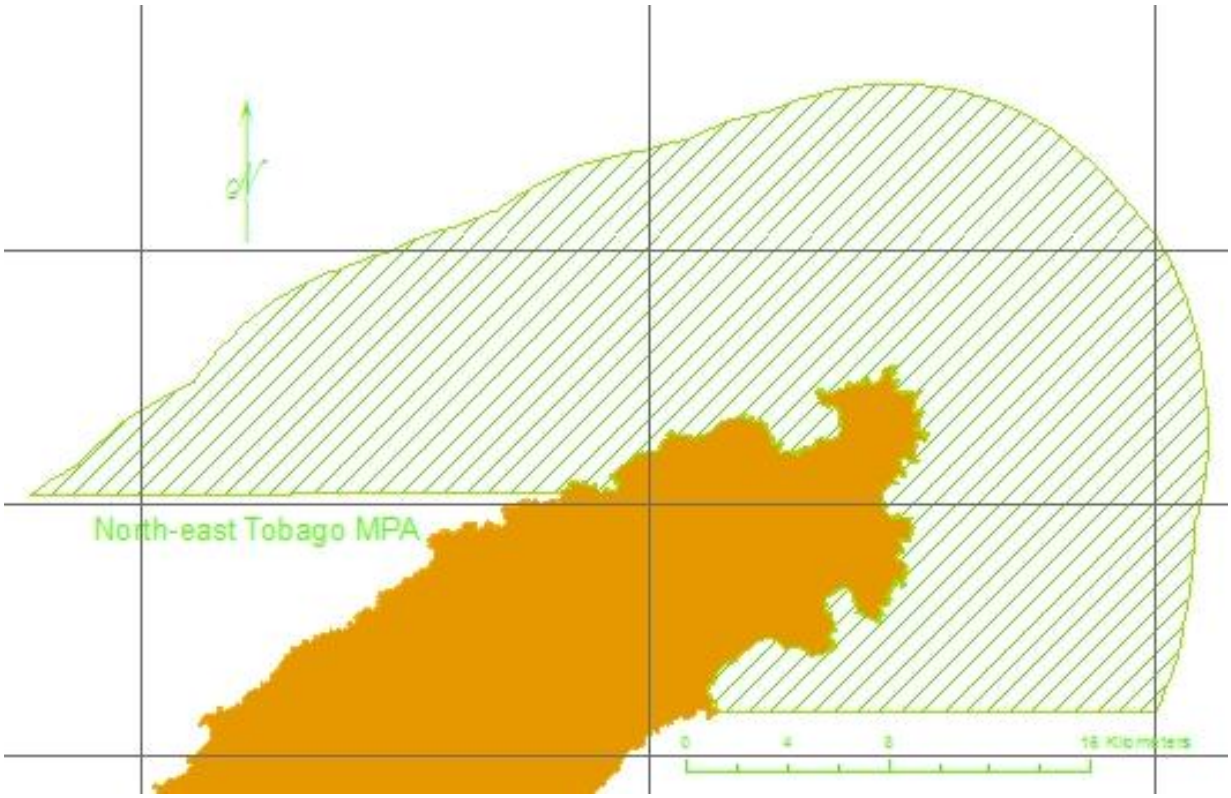


Map A.4 Boundary of proposed Trinity Hills and eastern extension Protected Area

Map A.5. Boundary of proposed Main Ridge Protected Area



Map A.6 Boundary of proposed North-East Tobago Marine Protected Area



APPENDIX 8 RESULTS OF WTP STUDIES

A. WTP study in Main Ridge Forest Reserve, Tobago

Why? Data gaps were observed during the project preparation phase on how the PAs contribute to livelihoods of nearby communities and how people perceive the introduction of user fees. To address this DNRE interviewed 80 residents who live around the Main Ridge Forest Reserve.
Parameters: Information on visitation rates and the reasons for visits to the Main Ridge Forest Reserve were collected. Questions also focused on livelihoods, (e.g. products, inclusive of water collected and how important these were to their food supply and income). Perceptions on the changes in the Reserve were assessed and willing to pay a user fee was solicited.
Results: 57 of the 80 interviewees collect products from the Main Ridge Forest reserve. Food items (yams, wild meat, honey and crayfish) were referred on 31 occasions, while medicinal herbs were also frequently collected. Half of those who responded indicated that products from the Main Ridge Forest Reserve comprise at least 10 % of their food supply and income. People also collect water from the Main Ridge Forest Reserve, 13 of the 69 people who responded to the question collect water at least once a week, while another 40 collect water sometimes. By and large this water is used for drinking (53 respondents indicated this use). Suggestions for improvement of the Main Ridge Forest Reserve and their livelihood included tour guides, better facilities, signage, infrastructure, security, more staff and more maintenance.
Interviewees were willing to pay a user fee for either the collection of products from the forest, for entering the Main Ridge Forest reserve or both (52 out of the 74) as in Table A.8.1. Five persons indicated that locals should not pay and 3 people stated financial constraints as the reason for not paying a user fee. 67 respondents replied affirmatively for ecotourism development with only 1 person opposed.

Table A.8.1: Willingness to pay a user fee by the residents living around the Main Ridge Forest Reserve

Amount willing to pay (TT$)	Number of respondents
None	22
5	6
10	17
15	4
20	8
>20	17
No response	6

B. WTP study in Caroni Wildlife Sanctuary

A study was planned to elicit the level of ideas user fee from the visitors in the proposed Caroni PA. A questionnaire was designed and finalized after the pilot test. However, due to the lack of enough interest from the Main stakeholders (Forestry Division, Boat operators etc.), this was dropped after a few surveys. Detailed studies on this are planned in the project as a part of the ecotourism management.

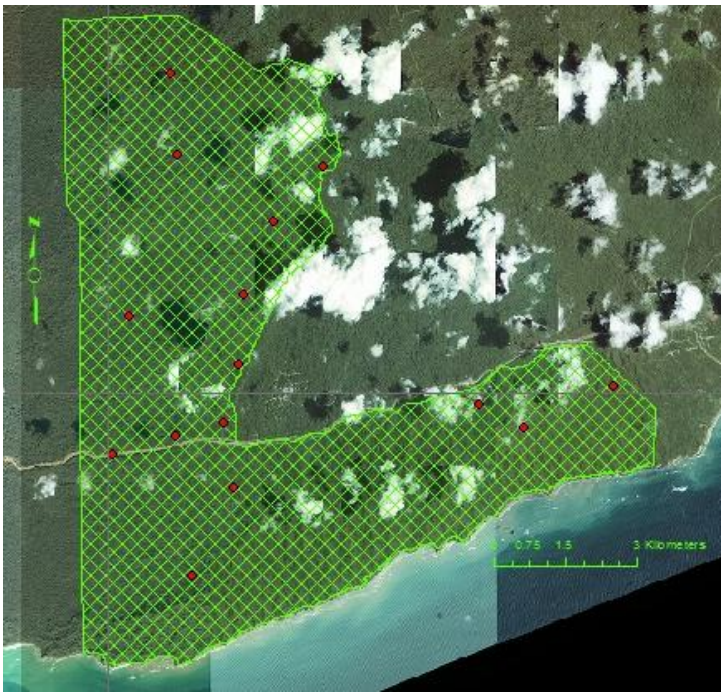
Source: Blommestein (2013)

APPENDIX 9 WILDLIFE CENSUS/METHODOLOGY

An important data gap identified during the project formulation process was the lack of data which could serve as a baseline for measuring the impact of improvements in PAs management, arising from implementation of the project. This situation was though particularly important for the Trinity Hills PA, for which there were much larger data gaps among the published literature, than for the other 5 PAs proposed in this project. In this regard, it was proposed to undertake a rapid survey of the mammalian wildlife at this proposed PA during the PPG phase.

To facilitate this, the Biodiversity Specialist/Team leader initiated discussions with the Forestry Division and the MEWR to undertake such a survey, during the PPG. Specifically, the Biodiversity Specialist designed a randomized transect survey of thirty-five 1-km transect lines (Map A.7) and agreed to train the Forestry Division staff to undertake the survey. These data were to be used to undertake analyses using distance estimators (Buckland *et al*., 2001). This type of population estimation was successfully applied in Trinidad at the Central Range Wildlife Sanctuary (Nelson *et al.,* 2011), and was to have been applied at Trinity Hills. After the training, the Forestry Division staffs were expected to undertake the field work and send date to the Biodiversity Specialist for analysis and preparation of results.

Map A.7 Proposed locations of 35 transect (1km) survey stations a Trinity Hills Wildlife Sanctuary



However, in June 2013 the Biodiversity Specialist was advised by the Forestry Division that there was sufficient literature from the state oil company (Petrotrin) and from the National Herbarium. These unpublished data (including a 958 page report from Perotrin) were forwarded to the Biodiversity Specialist by the Environmental Manager of the MEWR and from the Conservator of Forests, respectively. Because of the limited time remaining for the PPG, the inability to mobilize and train the Forestry Division staff, this survey was not undertaken. However, a comprehensive survey is planned in the project in the lines described above during project implementation.

APPENDIX 10 ECOTOURISM DEVELOPMENT IN PROJECT SITES

With respect to ecotourism development and management, a number of issues will need to be addressed as below. The National Ecotourism Policy and Strategy should be finalised jointly by the Ministry of Tourism and the Ministry of Environment and Water Resources and its agencies along with civil society organisations. In addition to the need to address improved management of the National PA System, the key issues constraining ecotourism development in TT are:

- Lack of a user fee system
- Limited involvement of tour operators in conservation
- Inadequate facilities & services
- Inadequate regulation of numbers/activities
- Limited capacity for ecotourism/visitor management
- Limitation of tour guides
- Limited national level marketing

Some Key Recommendations for Implementation under the GEF Project – System level

1. Assist Ministry of Tourism to complete the Draft National Ecotourism Policy and prepare a National Ecotourism Strategy and Action Plan, including ensuring the involvement of the MEWR and its agencies, especially the FPAMA along with CSOs.
2. Ensure that policy and implementation frameworks support collaborative management from planning through "on-the-ground" management to allow stakeholder participation and public-private-civil society collaboration. This should include establishment of a National Advisory Committee and local PA Advisory Committees for all sites.
3. Facilitate training of a core team of ecotourism professionals within the relevant agencies and civil society organisations, and covering key competencies.
4. Provide technical assistance to prepare Ecotourism Development/Management Plans, inclusive Business Plans for the two PAs (Caroni Swamp and Main Ridge Forest Reserve).
5. Provide technical assistance for the design and development/upgrading of visitor facilities in the two selected PAs.
6. Provide technical assistance to develop interpretation strategies and materials e.g. signs, tour guides, brochures for the two selected PAs.
7. Provide technical assistance to develop a national brand and marketing strategy.
8. Conduct surveys to assess visitor satisfaction to obtain feedback to improve the ecotourism facilities and programmes.
9. Assess the lessons learned and best practices from each pilot site and along with research, use this information to expand ecotourism in the other PAs.

Key recommendations for establishing ecotourism at Caroni Swamp and Main Ridge Reserve are in the consultancy report for which the funding is expected from the Green Fund, subsequent to the feasibility analysis and formulation of the business plans. Community involvement is currently best developed in the Matura National Park with the Nature Seekers (a CBO playing a key role). Also, CANARI (an NGO) is building the capacity of this along with other CBOs and NGOs. These groups could be involved in providing assistance in capacity building, particularly in relation to community involvement and benefits.

APPENDIX 11 CAPACITY DEVELOPMENT PLAN

Output	Training focus	Provider	Target group	Number of days
1.2.2.	GIS & satellite imagery analysis	Contractor	5 persons (FPAMA/THA Staff)	15 days
1.1.2.	Stakeholder consultations facilitation, verbatim reporting	By Facilitator	National stakeholders	Six, 1-day each
1.2.1	- Effective PA management and biodiversity conservation - Ecotourism and PA recreation management - Revenue generation and management, - Forest and wildlife law enforcement, - Participatory approaches and co-management - Project development and administration, - Communication and education, - Gender mainstreaming, - Formulating management plans, - Monitoring and evaluation of PA management	Contractor	100 FPAMA/THA staff	4 days
1.2.1	- Effective PA management and biodiversity conservation - Ecotourism and PA recreation management, - Project development and administration, - Communication and education	Contractor	50 tour guides	4 days
1.2.3	Research and monitoring protocols for PAs including gender and other social issues relevant to PA management.	Rural Sociologist & Biodiversity/PA Specialist -	60 staff (DNRE/FPAMA) and key NGO & CBO stakeholders (e.g. CFCA, TTOS, Environment Tobago)	4 days
1.2.4	Public education/awareness programme implementation)	Public Awareness/education contractor	25 persons - DNRE/FPAMA (at least 2 from each PA)	Two, 2-day sessions
1.2.4	Workshops to identify the key gender issues in PA management (in collaboration with the Institute for Gender and Development Studies, UWI).	Gender workshop facilitator	25 persons - DNRE/FPAMA (at least 2 from each PA)	Two, 2-day sessions
1.3.1	Sampling protocols, strategies and data analysis[1]	Biodiversity monitoring specialist	40 staff (including at least 5 persons from every project site) and 40 other stakeholders (e.g. NGOs)	Six, 3-day sessions
1.3.3	Techniques for addressing the threats to PAs	PA management specialist	100 (40 FPAMA/THA staff & 60 relevant stakeholders, particularly women and youth)	Two, 1-day sessions
1.3.3	Wildlife crime and implications for PAs management	Wildlife law enforcement	50 people from judiciary and police	1-day session

		consultant		
2.1.1	Visitor facilities management	Visitor facilities management training contractor	40 (20 FPAMA/THA staff and 20 co-management partners)	1-day session
2.1.1	Running ecotourism programmes	TDC/FPMA/THA	50 tour guides	Three, 2-day sessions
2.1.2	Use of safety equipment	Safety specialist	50 FPAMA/THA staff	2-day session
3.1.3	Operation of the new financial system.	Fund management and operational procedures	70 FPAMA/THA staff	Two, 2-day sessions
3.1.4	Budget planning, tourism revenue management and innovative financing techniques	Revenue generation specialist	25 senior staff and PA managers	Two, 3-day sessions
3.2.3	How to conduct willingness to pay studies periodically to amend user fees	Economist	25 staff	Two, 2-day sessions
3.2.4	Project development and management skills required to access the Green Fund to increase the revenue to PAs [2]	Green Fund	60 FPAMA/THA staff and relevant stakeholders (CBOS, NGOs)	Two, 2-day sessions
4.1	Inception and terminal workshops	CTA/facilitator	200 persons	Four, 1-day each

[1] Expenses for this training will be provided by the GORTT

[2] Expenses for this training will be provided by the Green Fund

Note: The above were based on the capacity development needs identified during PPG phase and that can be done with the limited budget. Capacity development needs specific for ecotourism and MPA development are recommended in Otuokon (2013) and Wothke (2013).

APPENDIX 12 OTHER TABLES CITED IN THE PROJECT DOCUMENT

Table 1 Globally important flora and fauna in TT

Indicator Species		Global Status
Scientific Name	**Local/Common Name**	
1. *Acropora cervicornis*	Staghorn Coral	IUCN – Critically endangered
2. *Acropora palmata*	Elkhorn Coral	IUCN – Critically endangered
3. *Bactris setulosa*	Gris-gris/Sampson-wood	IUCN – Near Threatened
4. *Calidris pusilla*	Semipalmated Sandpiper	IUCN - near threatened
5. *Campylopterus ensipennis*	White-tailed sabre-wing hummingbird	IUCN - near threatened
6. *Cebus albifrons*	White fronted capuchin	IUCN – Critically endangered sub-species
7. *Chelonia mydas*	Green Turtle	IUCN – Endangered
8. *Chelonoidis denticulata*	Morocoy	IUCN – Vulnerable
9. *Conirostrum bicolor*	Bicoloured Conebill	IUCN - near threatened
10. *Dermochelys coriacea*	Leatherback turtle	IUCN – Critically endangered
11. *Epinephelus itajara*	Atlantic Goliath Grouper	IUCN – Critically endangered
12. *Epinephelus striatus*	Nassau Grouper	IUCN – Endangered
13. *Eretmochelys imbricata*	Hawksbill Turtle	IUCN – Critically endangered
14. *Flectonotus fitzgeraldi*	Fitzgerald's marsupial frog	IUCN – Endangered
15. *Fulica caribaea*	Caribbean Coot	IUCN - near threatened
16. *Isogomphodon oxyrhynchus*	Daggernose Shark	IUCN – Critically endangered
17. *Mannophryne olmonae*	Bloody bay frog	UCN – Vulnerable
18. *Mannophryne trinitatis*	Trinidadian stream frog	IUCN – Vulnerable
19. *Montastraea annularis*	Boulder Star Coral	IUCN – Endangered
20. *Montastraea faveolata*	Star Coral	IUCN – Endangered
21. *Pipile pipile**	Pawi/Trinidad piping guan	IUCN – Critically endangered
22. *Podocarpus trinitensis*	Podocarpus	IUCN – Near Threatened
23. *Pristimantis turpinorum*	Turpin's frog	IUCN – Vulnerable
24. *Pristimantis urichi*	Urich's Litter Frog	IUCN – Endangered
25. *Roupala tobagensis*	-	IUCN – Vulnerable
26. *Solanum tobagense*	-	IUCN - near threatened
27. *Sphyrna lewini*	Scalloped Hammerhead	IUCN – Endangered
28. *Sphyrna mokarran*	Squat-headed Hammerhead Shark	IUCN – Endangered
29. *Spizaetus ornatus*	Ornate Hawk-eagle	IUCN - near threatened
30. *Thunnus thynnus*	Atlantic Bluefin Tuna	IUCN – Endangered
31. *Trichechus manatus*	West Indian manatee	IUCN – Vulnerable
32. *Tryngites subruficollis*	Buff-breasted Sandpiper	IUCN - near threatened
33. *Vampyrum spectrum*	False vampire bat	IUCN - near threatened

Table 2 FAO projects that benefited TT since 2000

Project / Initiative	**Thematic Area / Methodology used**
Preparation for an expansion of the Domestic Fisheries for Large Pelagic Species (2001-03)	Technically feasible management options for the development of coastal and oceanic large pelagic fisheries. The evaluation of the biological, social and economic consequences of each option.
Scientific Basis for Ecosystem-Based Management in the Lesser Antilles including interaction with Marine Mammals and Other Top Predators (2002-07)	Ecosystem assessment to support marine resources and fish production, through sustainable and responsible fisheries conduct
Fishermen ice box programme (2001-02)	Fishermen Group income generation project

Project / Initiative	Thematic Area / Methodology used
Assistance for the Management of the Giant African Snail (2002-03)	Sustainable integrated and environmentally sound management strategy for the control of the Giant African Snail.
Technical Assistance in Support of the Regional Special Programme for Food Security (RSPFS) at Country Level (2006-07)	National component of the RSPFS. Smallholder production and marketing enhancement.
Technical Assistance in the Support of the Regional Special Programme for Food Security for CARIFORUM (2006-07)	Technical assistance to the governments of the region for the implementation of the RSPFS.
Forest fire management a regional forest fire cooperation and management (2004-06)	Forest fire management a regional forest fire cooperation and management
Excellence in Agricultural Extension Service Delivery System (2008-11)	An inventory of current extension services capacity. Training of 120 extension officers in market oriented approach.
Evaluation of Giant African Snail Technical and Administrative Programme (2010-11)	Trans-boundary pests: Technical assistance to Ministry for implementing a programme to control the Giant African Snail.

Table 3 Beneficiaries of the project

Beneficiaries	Negatively affected
▪ Domestic and foreign ecotourists and recreational users(recreational opportunities, landscape beauty) ▪ Tourism/reef tour operators, Tour guides (improved facilities and improved revenue capture) ▪ Journalists/ Photographers (landscape beauty) ▪ State tourism authorities (improved opportunities for tourism and marketing) ▪ Hunters (sustainable harvest) ▪ Department of Natural Resources and Environment (DNRE), Forestry Division and Fisheries Division (better discharge of international obligations and access to funding, improved data) ▪ Community members, local Community groups and small businesses/community members from adjacent regions (sustainable livelihoods) ▪ Academia and nature journalists (improved safety in field, improved data and opportunities for co-operation in research) ▪ Water and Sewerage Authority (WASA) (more reliable and better quality water supply) ▪ Fisher folk (sustainable harvest) ▪ Non-timber forest product users (more reliable and managed resource extraction) ▪ Business/private sector (business opportunities) ▪ Biodiversity conservation institutions (conserved biodiversity) ▪ Disaster management agencies (reduced risk to	• Illegal quarry operators (lack of access to state property and reduced income) • Some communities (who would pay for resources previously obtained freely or new restrictions on how to use resources e.g. cutting trees, hunting, fishing etc.) • Poachers (reduced income by better enforcement) • Corrupt officials (reduced opportunity) • Energy operators (no more open access) • Squatters (loss of access to land and relocation) • Researchers (restrictions/regulations on access) • Extractive industries and product users down the line (e.g. restrictions on access and quantity to resources and consequent loss of revenues). • Recreational/tourism service providers and users (restrictions to / regulation of certain activities)

natural disasters) ▪ State agencies responsible for maintenance of roads and other infrastructure, local government authorities (erosion and flood control from enhanced watershed management, enhanced coastal protection) ▪ State regulators (clear jurisdiction and more effective management)	

Table 4 Major stakeholders and their roles in the project

Stakeholder	Role(s) in the project
A. Government	
Ministry of Environment and Water Resources	Policy/legal support and assistance with creation of new authority and fund. Technical support for Government co-financing arrangements. National government oversight of project implementation.
Forestry Division (to become FPAMA) and Tobago House Assembly (mainly DNRE and Fisheries Department)	Implementation of all project activities in the field and support to the project staff. Support for project management/oversight and M&E. Recipients of training.
Environmental Management Authority	Policy and legal support, peer review. Partner for reforestation/habitat enrichment/biodiversity monitoring.
Regional Corporations	Policy and planning support. Assistance with implementation of project activities
Ministry of Finance	Advice on establishing and operating the FPA Fund. Technical support for Government co-financing arrangements. Support for adoption of PES systems in national accounting systems.
Tourism Development Corporation/Ministry of Tourism	Support for capacity development and facilities development for ecotourism.
Fisheries Division, Ministry of Food Production	Support for development of future MPAs and national systems plan for PAs.
Green Fund	Co-finance of various project activities including developing ecotourism, capacity building for PAs management, strengthening PAs infrastructure, and habitat and species recovery and financing PAs. Support for establishing and operating FPA Fund.
Water and Sewerage Authority (WASA)	Support for implementation of PES system. Collaborator through Mega Watershed project and for developing visitor facilities.
Police Service, Coast Guard, Ministry of National Security (MNS) and Judiciary	Recipients of some training activities (e.g. for law enforcement) and collaboration on PAs management involving law enforcement.
Fire Service Division, MNS	Support for addressing threats to biodiversity.
Ministry of Planning	Support for PAs system development in context of national spatial plan, and adoption of PES systems

	in national accounting.
Ministry of Community Development	Technical support for capacity building of community groups and development of community sustainable livelihoods.
Ministry of Trade, Ministry of Labour and Small and Micro Enterprise Development	Support for developing community enterprises and marketing sustainably harvested products from PAs systems.
B. International	
FAO	Project management, oversight and funding. Support for project M&E. As the implementing and executing agency FAO will provide technical support including quality control of project activities and outputs. Information and knowledge sharing. Development and dissemination of lessons learned.
Delegation of the European Union to the Republic of Trinidad and Tobago	Financial support for various components of the project.
IUCN	Technical assistance
C. NGOs, research and training institutions	
Caribbean Natural Resources Institute (CANARI)	Assistance in implementation of participatory approaches, development and delivery of training modules, development of sustainable community livelihoods.
Caribbean Network for Integrated Rural Development (CNIRD), Caribbean Fisheries Training & Development Institute	Development and delivery of training modules.
Eastern Caribbean Institute of Agriculture and Forestry (ECIAF), University of Trinidad and Tobago (UTT), Faculty of Natural Sciences - University of the West Indies, National Herbarium, Department of Management Studies (Tourism), Sustainable Economic Development Unit etc. (University of the West Indies), TT Hotel & Tourism Institute (TTHTI), Trinidad and Tobago campuses& Institute of Marine Affairs (IMA)	Support for biodiversity monitoring and assessment, research, education and training. Also for development and delivery of training modules.
Environment Tobago, Caribbean Forest Conservation Association, Trinidad and Tobago Orchid Society, Council of Presidents for the Environment, Pointe a Pierre Wildfowl Trust, Nariva Environmental Trust, TT Ornithological Society, TT Biological Society, UWI Biological Society, Centre for Rescue of Endangered Species of TT, Zoological Society of TT, Asa Wright Nature Centre, Nature Seekers Inc., Buccoo Reef Trust, Manatee Conservation Trust, Save Our Sea Turtles TOBAGO, North East Sea Turtles, Speyside Eco Marine Park Rangers, Ecological Research Institute Charlotteville, Blanchisseuse Environmental Awareness Trust,	Partners in implementing key project activities like biodiversity assessment and monitoring, developing modules for PA management, ecotourism development, education activities. Support for enhancing management effectiveness and developing strategies for species recovery. Sharing lessons learned and participation in selected project activities. Support to develop livelihoods from the sustainable use of biodiversity. Support for promoting ecotourism and sharing the lessons learnt.

Grande Riviere Environmental Awareness Trust, Trust for Sustainable Livelihoods, Sustainable Development Network (SDN), Brasso Seco – Paria Tourism Action Committee, Network of Rural Women Producers and other NGOs and associations	
Trinidad Environmental Science Teachers Association	Support for developing education material.
D. Private sector (including associations) and the public	
Hoteliers and tour operators, Scuba diving operators, Reef boat operators, Yachting Association of TT, TT Sailing Association, TT Tour Operators Association, TT Tour guide association, Tobago Tour Guide Association, TT Hotel and Tourism Association, Tobago Hotel and Tourism Association etc.	Support for the introduction of user fees to finance PAs and recipients of training.
Hunters association (e.g. TT Hunter Associations, South East Hunters Association Tobago Sport Hunters' Association etc.), TT Game Fishing Association, TT Sport Fishing Association, national and local fisher folk organisations, Toco Handicraft Association etc.	Recipients of awareness raising activities and participants in some conservation activities. Support for the introduction of user fees to finance PAs and recipients of training.
Local community members using resources from PAs including NTFP users (e.g. traditional medicines, craft material), subsistence farmers, fishermen, harvesters of marine products etc.	Support for developing strategies for sustainable use of biodiversity. Recipients of awareness raising activities trainings and participants in some conservation activities.
Energy sector companies (British Petroleum, Repsol, British Gas, Petroleum Company of Trinidad and Tobago, BHP Billiton etc.)	Contributors to development of visitor's facilities in PAs and communities in PA fringes. Logistic support for ecological studies. Support for PAs systems plan development and management of PAs (e.g. regulation of access to leased areas).
Private land owners	Partners in conservation through MOUs.
Tour guides/ tour operators	Inputs to design innovative ecotourism products. Also, recipients of ecotourism training. Recipients of awareness raising activities and participants in some conservation activities.
Consultant firms including Eco-Engineering Consultants Ltd, Kairi Consultants Ltd., Eco-Project Ltd., Rapid Environmental Assessments Ltd. etc.	Inputs for developing ecotourism/management plans, training modules etc. Support for PAs systems plan development and management of PAs through appropriate mitigation measures for development.
Film producers, media, creative artists, publishers etc.	Support for developing public education material.
Local people living adjacent to PAs and people involved currently in tourism activities	Recipients of trainings. Target group of certain project activities (e.g. job creation by ecotourism, alternate livelihood etc)
The general public	Recipients of awareness raising and participants in public education activities.

Table 5 Fees charged at some sites in TT

Site and Attraction	Foreign	Local
Caroni Bird-watching Tour	TT$50	
Pointe-a-Pierre Wildfowl Trust, Trinidad (NGO) Entry fee (includes guided tour)	TT$15 (children – half price)	
Asa Wright Nature Centre, Trinidad (NGO) Entry and Guided tour	USD 30 USD 6 (Child)	TT$30 TT$10 (Child)
Matura Turtle Beach (CBO – Nature Seekers)	Tour: US$20	Tour: TT$20
	Permit: TT$5 (Adults) TT$2 (Child)	
Argyle Falls, Tobago (CBO) Entry and Climb the Falls with a guide	TT$40	TT$25
Pigeon Point Heritage Park, Tobago – beach (Govt. formerly private) Entry fee (includes use of all facilities)	USD3	TT$18

Source: Otuokon, 2013

Table 6 Scores for management effectiveness for project sites in GEF Biodiversity Tracking Tool

Site	Current score	Score expected in PY4
North-East Tobago Marine PA	23	25
Main Ridge	31	34
Matura	23	25
Nariva Swamp	27	30
Caroni Swamp	31	34
Trinity Hills	16	18

Table 7 Thirty-three threatened species expected to have improved status by PY4

Threatened Species		Global Status	Protected Area
Scientific Name	**Local/Common Name**		
1. *Acropora cervicornis**	Staghorn Coral	IUCN – Critically endangered	North East Tobago
2. *Acropora palmata**	Elkhorn Coral	IUCN – Critically endangered	North East Tobago
3. *Bactris setulosa*	Gris-gris/Sampson-wood	IUCN – Near Threatened	Matura, Trinity Hills, Main Ridge
4. *Calidris pusilla*	Semipalmated Sandpiper	IUCN - near threatened	Nariva Swamp, Caroni Swamp
5. *Campylopterus ensipennis**	White-tailed sabre-wing hummingbird	IUCN - near threatened	Main Ridge
6. *Cebus albifrons**	White fronted capuchin	IUCN – Critically endangered sub-species	Matura, Trinity Hills, Nariva Swamp
7. *Chelonia mydas**	Green Turtle	IUCN – Endangered	Matura, Trinity Hills, North East Tobago
8. *Chelonoidis denticulata**	Morocoy	IUCN – Vulnerable	Trinity Hills
9. *Conirostrum bicolor**	Bicoloured Conebill	IUCN - near threatened	Nariva Swamp, Caroni Swamp
10. *Dermochelys coriacea**	Leatherback turtle	IUCN – Critically endangered	Matura, Trinity Hills, Nariva Swamp, North East Tobago
11. *Epinephelus itajara**	Atlantic Goliath Grouper	IUCN – Critically endangered	North East Tobago
12. *Epinephelus striatus**	Nassau Grouper	IUCN – Endangered	North East Tobago
13. *Eretmochelys imbricata**	Hawksbill Turtle	IUCN – Critically endangered	Matura, Trinity Hills,

Threatened Species		Global Status	Protected Area
			North East Tobago
14. Flectonotus fitzgeraldi	Fitzgerald's marsupial frog	IUCN – Endangered	Matura, Trinity Hills
15. Fulica caribaea	Caribbean Coot	IUCN - near threatened	Nariva Swamp, Caroni Swamp
*16. Isogomphodon oxyrhynchus**	Daggernose Shark	IUCN – Critically endangered	North East Tobago
*17. Mannophryne olmonae**	Bloody-bay frog	UCN – Vulnerable	Main Ridge
*18. Mannophryne trinitatis**	Trinidadian stream frog	IUCN – Vulnerable	Matura, Trinity Hills
*19. Montastraea annularis**	Boulder Star Coral	IUCN – Endangered	North East Tobago
*20. Montastraea faveolata**	Star Coral	IUCN – Endangered	North East Tobago
*21. Pipile pipile**	Pawi/Trinidad piping guan	IUCN – Critically endangered	Matura, Trinity Hills
*22. Podocarpus trinitensis**	Podocarpus	IUCN – Near Threatened	Matura, Main Ridge
*23. Pristimantis turpinorum**	Turpin's frog	UCN – Vulnerable	Main Ridge
24. Pristimantis urichi	Urich's Litter Frog	IUCN – Endangered	Trinity Hills
25. Roupala tobagensis	-	IUCN – Vulnerable	Main Ridge
26. Solanum tobagense	-	IUCN - near threatened	Main Ridge
*27. Sphyrna lewini**	Scalloped Hammerhead	IUCN – Endangered	North East Tobago
*28. Sphyrna mokarran**	Squat-headed Hammerhead Shark	IUCN – Endangered	North East Tobago
29. Spizaetus ornatus	Ornate Hawk-eagle	IUCN - near threatened	Trinity Hills
*30. Thunnus thynnus**	Atlantic Bluefin Tuna	IUCN – Endangered	North East Tobago
*31. Trichechus manatus**	West Indian manatee	IUCN – Vulnerable	Nariva Swamp
32. Tryngites subruficollis	Buff-breasted Sandpiper	IUCN - near threatened	Caroni Swamp
*33. Vampyrum spectrum**	False vampire bat	IUCN - near threatened	Matura Trinity Hills

*The species which will be monitored during the project cycle

Table 8 Indicator species to be monitored in project sites during project implementation

Protected Area	Indicator Species		Scale of Monitoring (national/local)	Importance (National &/or Global)	National designation (current)
	Scientific Name	Local/Common Name			
Matura	*Dasyprocta leporina*	Agouti	National	National	Game species
	Agouti paca	Lappe	National	National	Game species
	Dasypus novemcinctus	Armadillo	National	National	Game species
	Mazama americana	Red brocket deer	National	National	Game species
	Pecari tajacu	Collared peccary	National	National	Game species
	Leopardus pardalis	Ocelot	National	National	ESS/Protected
	*Cebus albifrons**	White fronted capuchin	National	Global (IUCN – Critically endangered sub-species)	Protected
	Tamandua tetradactyla	Mataperro/Tamandua	National	National	Protected
	Lontra longicaudis	Neotropical river otter	National	National	Protected
	*Vampyrum spectrum**	False vampire bat	National	National/Global (IUCN - near threatened)	Vermin
	*Pipile pipile**	Pawi/Trinidad piping guan	National	Global (IUCN – Critically endangered) & endemic	ESS/Protected
	Procnias averano	Bearded Bellbird	National	National	Protected
	Grallaria guatimalensis	Scaled antpitta	Local	National	Protected
	Platycichla flavipes	Yellow-legged thrush	Local	National	Protected

	Catharus aurantiirostris	Orange-billed nightingale thrush	Local	National	Protected
	Motmot bahamensis	Trinidad motmot	National	Global (endemic species)	Protected
	Rodriguezus garmani (Eudaniela garmani)	Manicou crab	Local	National	none
	*Mannophryne trinitatis**	Trinidadian stream frog	Local	Global: endemic species & IUCN – Vulnerable	Protected
	*Dermochelys coriacea**	Leatherback turtle	National	Global: Critically endangered (IUCN)	ESS/Protected
	*Podocarpus trinitensis**	Podocarpus	National	Global: endemic & IUCN – Near Threatened	Harvested spp.
Trinity Hills	*Dasyprocta leporina*	Agouti	National	National	Game species
	Agouti paca	Lappe	National	National	Game species
	Dasypus novemcinctus	Armadillo	National	National	Game species
	Mazama americana	Red brocket deer	National	National	Game species
	Pecari tajacu	Collared peccary	National	National	Game species
	Leopardus pardalis	Ocelot	National	National	ESS/Protected
	Alouatta seniculus	Red howler monkey	National	National	Protected
	*Cebus albifrons**	White fronted capuchin	National	Global (IUCN – Critically endangered sub-species)	Protected
	Tamandua tetradactyla	Mataperro/Tamandua	National	National	Protected
	Lontra longicaudis	Neotropical river otter	National	National	Protected
	Eira barbara	Tayra	National	National	Protected
	*Vampyrum spectrum**	False vampire bat	National	National/Global (IUCN - near threatened)	Vermin
	*Pipile pipile**	Pawi/Trinidad piping guan	National	Global (IUCN – Critically endangered) & endemic species	ESS/Protected
	Procnias averano	Bearded Bellbird	National	National	Protected
	Ramphastos vitellinus	Channel-billed toucan	National	National	Protected
	Geotrygon sp.	Quail-dove	National	National	Protected
	Iguana iguana	Green Iguana	National	National	Game species
	*Chelonoidis denticulata (Geochelone denticulata)**	Morocoy	Local	Global (IUCN Vulnerable)	Protected
	*Dermochelys coriacea**	Leatherback turtle	National	Global: Critically endangered (IUCN)	ESS/Protected
	Dilocarcinus dentatus	Freshwater crab	Local	National	none
Nariva Swamp	*Dasyprocta leporina*	Agouti	National	National	Game species
	Agouti paca	Lappe	National	National	Game species
	Dasypus novemcinctus	Armadillo	National	National	Game species
	Mazama americana	Red brocket deer	National	National	Game species
	Pecari tajacu	Collared peccary	National	National	Game species
	Leopardus pardalis	Ocelot	National	National	ESS/Protected
	Alouatta seniculus	Red howler monkey	National	National	Protected
	*Cebus albifrons**	White fronted	National	Global (IUCN –	Protected

		capuchin		Critically endangered sub-species)	
	*Trichechus manatus**	West Indian manatee	Park	Global (IUCN – Vulnerable)	ESS/Protected
	Lontra longicaudis	Neotropical river otter	National	National	Protected
	Eunectes murinus	Green anaconda	Park	National	Protected
	Ara manilata	Red-bellied macaw	Park	National	Protected
	Ara ararauna	Blue and yellow macaw	Park	National	Protected
	Dendrocygna autumnalis	Black bellied whistling duck	Park	National	Game species
	Dendrocygna bicolor	Fulvous whistling duck	Park	National	Game species
	Oryzoborus crassirostris	Large-billed seed finch	Park	National	Protected
	Sporophila bouvronides	Lessons seedeater	Park	National	Game species
	*Dermochelys coriacea**	Leatherback turtle	National	Global (IUCN - Critically endangered)	ESS/Protected
	Pomacea urceus	Black conch	Park	National	None
	Hoplosternum littorale	Cascadura	Park	National	None
Caroni Swamp	*Cyclopes didactylus*	Silky anteater	Park	National	Protected
	Noctilio leporinus	Fishing bats	Park	National	Vermin
	Lontra longicaudis	Neotropical river otter	National	National	Protected
	Procyon cancrivorous	Crab-eating raccoon	Park	National	Protected
	Caiman crocodylus	Spectacled caiman	National	National	Game species
	Eudocimus ruber	Scarlet ibis	National	National	Protected
	Crotophaga major	Greater ani	Park	National	Protected
	Anthracothorax viridigula	Green-throated mango	Park	National	Protected
	Xiphorhynchus picus	Straight-billed Woodcreeper	Park	National	Protected
	Phoenicopterus ruber	West Indian flamingo	Park	National	Protected
	Sclateria naevia	Silvered ant-bird	Park	National	Protected
	Sterna hirundo	Common tern	Park	National	Protected
	Seiurus noveboracensis	Northern water-thrush	Park	National	Protected
	Setophaga ruticilla	American redstart	Park	National	Protected
	Nyctibius griseus	Common pootoo	Park	National	Protected
	Pandion haliaetus	Osprey	National	National	Protected
	Pelecanus occidentalis	Brown pelican	National	National	Protected
	Ucides cordatus	Hairy crab	Park	National	None
	Cardisoma guanhumi	Blue crab	Park	National	None
	Corallus ruschenbergerii	Ruschenberger's tree-boa	Park	National	Protected
Main Ridge	*Dasypus novemcinctus*	Armadillo	National	National	Game species
	Procyon cancrivorous	Crab-eating raccoon	Park	National	Protected
	Dasyprocta leporina	Agouti	National	National	Game species
	Mivalgo chimachima	Yellow headed caracara	Park	National	Protected
	Synallaxis cinnamomea	Stripe-breasted spinetail	Park	National	Protected
	Pseudoscops clamator	Tobago striped owl	Park	National	Protected
	*Campylopterus ensipennis**	White-tailed sabre-wing hummingbird	Park	Global (IUCN – Near	ESS/Protected

				Threatened)	
	Motmot bahamensis	Trinidad motmot	National	National	Protected
	Chiroxiphia pareola	Blue-backed manakin	Park	National	Protected
	Trogon collaris	Collared trogon	Park	National	Protected
	Platycichla flavipes	Yellow-legged thrush	Park	National	Protected
	*Mannophryne olmonae**	Bloody-bay frog	Park	Global (IUCN - Vulnerable)	none
	*Pristimantis turpinorum**	Turpin's frog	Park	Global (IUCN - Vulnerable)	none
	Erythrolamprus ocellatus	Tobago false coral snake	Park	National	Protected
	Boa constrictor	Boa constrictor	Park	National	Protected
	Platyrinchus mystaceus	White throated spade-bill	Park	National	Protected
	Florisuga mellivora	White necked jacobin	Park	National	Protected
	Amazona amazonica	Orange winged parrot	Park	National	Pest/Vermin
	Buteogallus urubitinga	Great black hawk	Park	National	Protected
	*Podocarpus trinitensis**	Podocarpus	National	Global: endemic & (IUCN – Near Threatened)	Harvested sp.
NE Tobago MPA (including offshore islands)	*Phaethon aethereus*	Red-billed tropicbird	Park	National	Protected
	Puffinus lherminieri	Audubon's shearwater	Park	National	Protected
	Sula sula	Red-footed booby	Park	National	Protected
	Pandion haliaetus	Osprey	National	National	Protected
	Diadema antillarum	Sea urchin	Park	National	none
	*Acropora palmata**	Elkhorn Coral	National	Critically endangered (IUCN)	none
	*Acropora cervicornis**	Staghorn Coral	National	Critically endangered (IUCN)	none
	Montastraea sp.	Brain corals	National	National	none
	*Montastraea annularis**	Boulder Star Coral	National	Endangered (IUCN)	none
	*Montastraea faveolata**	Star Coral	National	Endangered (IUCN)	none
	Serranidae	Groupers	National	National	none
	Palinuridae (Panulirus sp.)	Spiny lobster	Park	National	none
	Strombas gigas	Queen conch	Park	National	none
	Selachii	Sharks & Rays	National	National	none
	*Sphyrna lewini**	Scalloped Hammerhead	National	Endangered (IUCN)	none
	*Sphyrna mokarran**	Squat-headed Hammerhead Shark	National	Endangered (IUCN)	none
	*Isogomphodon oxyrhynchus**	Daggernose Shark	National	Critically endangered (IUCN)	none
	Scaridae	Parrot fish	Park	National	none
	*Thunnus thynnus**	Atlantic Bluefin Tuna	National	Endangered (IUCN)	none
	*Erytmochelys imbricata**	Hawksbill turtle	National	Critically endangered (IUCN)	Protected
	*Chelonia mydas**	Green Turtle	National	Endangered	Protected

				(IUCN)	
	*Dermochelys coriacea**	Leatherback turtle	National	Critically endangered (IUCN)	Protected/ESS
	*Epinephelus itajara**	Atlantic Goliath Grouper	National	Critically endangered (IUCN)	none
	*Epinephelus striatus**	Nassau Grouper	National	Endangered (IUCN)	none

Note: Species on this list represent a combination of those recommended during stakeholder consultations, those known from the latest IUCN (2013) red list of threatened species, and those which have commercial or intrinsic national value. It is limited to 20 species per site for the 6 pilot PAs. Plants are underrepresented in this list due to their paucity on the IUCN red list. *Species of Global Importance (Source: Nelson, 2013)

Table 9 Coordination and linkages of the project with other initiatives in TT

Project	Sponsor/ Agency	Benefit / Linkage
Trinidad and Tobago Forest Cover Mapping Project	International Institute of Tropical Forestry	The forest cover maps will provide baseline information for the development and implementation of a system for PA monitoring and assessment, for the establishment of an ecological research and monitoring programme to guide PA management, and will assist in the gap analysis of the PA system.
National herbarium expansion and the national vegetation survey and monitoring project	The Darwin Initiative / University of Oxford/, University of the West Indies /MOEWR-Forestry Division.	Its outputs will support the collection and analysis of biodiversity data in the six project sites and formulation of PA management plans
The EU Environment Programme	EU/MOEWR	Co-financing the demarcation of boundaries of six PAs by the EU Environment Programme
The Green Fund		Co-financing development of six PAs and support development of ecotourism
Sustainable Management of By-Catch in Latin America and the Caribbean	GEF/FAO/MFP- Fisheries Division	Lessons of participatory co-management and utilization of technical advisory groups. Possible cost-sharing in relation to co-management arrangements or institutional support enabling fishing communities or fishers to participate in management. Effective coordination will be sought to share experiences of participatory management and adopt best practices to support sustainable livelihoods. Particularly, the project will seek common areas under component 3 of the project 'diversifying sustainable livelihood'.
Project for Ecosystem Services (ProEcoServ)	UNEP/ UWI and The Green Fund	Coordination will be sought to learn from the experiences and making the outputs useful to the proposed project activities (e.g. PES based on spatial mapping of

		ecosystem services completed in the project). Another area will be to build on the partnerships built for public-private cooperation for ecosystem management. Also, the lessons learnt in involving local communities will be used while preparing the sustainable financing plan in the project.
Mitigating the Threats of Invasive Alien Species in the Insular Caribbean	GEF/UNEP/CABI/Ministry of Food Production	Provision of technical support and site specific management recommendations with regard to IAS within the pilot PAs
Caroni Swamp Research Development Initiative Project	The University of the West Indies/ Ministry of Tertiary Education and Skills Training	Filling knowledge/information gaps for improved management of Caroni Swamp Protected Area
Conabio Project	GORTT and the Government of Mexico	Collaboration to develop MIS and develop ecological research and monitoring programme
The Caribbean Large Marine Ecosystem (CLME) project	GEF/UNDP	Collaboration to evolve best practices suited to the national context following Ecosystem-Based Management (EBM) approach. Also sharing lessons learnt and resources related to the Information Management System regarding marine resources. Coordination will be sought to establish stakeholder partnerships and joint efforts in capacity building. Lessons will be shared on generating alternate livelihoods. Coordination will also be sought for better management of reefs and habitat restoration in the MPA in Tobago.