



GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FSP

TYPE OF TRUST FUND: GEFTF

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PART I: PROJECT INFORMATION

Project Title:	Integrated Ecosystem Management and Restoration of Forests on the South East Coast of St Lucia		
Country(ies):	St. Lucia	GEF Project ID:	9406
GEF Agency(ies):	UNEP	GEF Agency Project ID:	01403
Other Executing Partner(s):	Ministry of Sustainable Development, Energy, Science, and Technology	Submission Date:	March 11, 2016
GEF Focal Area(s):	BD, LD, CC, SFM	Project Duration (Months)	60 months
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>		Corporate Program: SGP <input type="checkbox"/>
Name of parent program:	N-A	Agency Fee (\$)	420,673

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
CCM1 – Program 1	GEFTF	500,000	2,000,000
CCM2 – Program 4	GEFTF	506,674	4,000,000
BD1 – Program 2	GEFTF	1,895,352	8,700,000
LD2 – Program 3	GEFTF	1,026,119	6,800,000
SFM3 – Program 8	GEFTF	500,000	4,300,000
Total Project Cost		4,428,145	25,800,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: To enable sustainable economic development of the South East Coast by maintaining healthy ecosystems, sustainable livelihoods, and securing global environmental benefits						
Project Components	Fin. Type	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
1. Ecosystems Management	TA	1. Increased government, civil society, and private sector capacity for sustainable development and ecosystem management	1.1 A monitoring and information system is in place to support sustainable ecosystem management and scientific capacity of stakeholders 1.2 Management effectiveness and designation of 2 Protected areas, at least 2 relevant	GEFTF	1,400,000	9,000,000

			<p>corridors, and at least 2 protected species (est. 4,000 ha)</p> <p>1.3 At least 1 Public-private partnership or financing mechanism promoting both economic development and ecosystem protection will be established.</p>			
2. Rehabilitated Landscapes	TA	2. GoStL, municipal governments and communities increasingly restore and rehabilitate productive landscapes.	<p>2.1 2,500 00 ha reforested in degraded areas, agricultural areas and headwaters</p> <p>(682,850 tons of CO2-eq would be mitigated over 20 years, or 34,143 tons of CO2-eq per year from reforestation of 2,500 ha of degraded land)</p> <p>2.2 Sea grass beds, reefs, mangroves and productive coastal systems have been protected and rehabilitated (500 ha)</p> <p>2.3 Erosion controlled in areas exhibiting significant soil degradation and siltation</p>	GEF TF	1,700,000	9,589,135
3. Sustainable Livelihoods	TF	3. Targeted communities adopt sustainable economic pathways.	<p>3.1 Vulnerable communities have access to renewable energies to improve livelihoods</p> <p>3.2 Guidelines for eco-touristic development piloted and adopted</p> <p>3.3 5,000 ha are under sustainable agro-forestry practices</p> <p>(177,146 tons of CO2-eq would be mitigated over 20 years, or 8,857 tons of CO2-eq per year sequestration are from the operated land use change</p>	GEF TF	1,117,281	5,771,430

			(from conventional agriculture to agroforestry) and - 589,875 tons of CO2-eq would be mitigated over 20 years, or 29,494 tons of CO2-eq per year sequestration are from practicing agroforestry)			
			3.3 Non-tourism producer groups (agriculture, non-forest timber producers) receive equipment and training for production, transformation, and commercialization and value addition of innovative and promising, sustainable livelihoods (e.g. sea moss, seaweed, palm leaves).			
			Appropriate community-based renewable energies (e.g. solar, wind, hydro) with a value chains approach, will be established to support rural communities in accessing a reliable supply, reducing GHG emissions by 9,000 tons of CO2 over 10 years or more.			
Subtotal					4,217,281	24,360,565
Project Management Cost (PMC)					210,864	1,439,435
Total Project Cost					4,428,145	25,800,000

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: ()

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
Multilateral	World Bank	Grant	15,000,000
Multilateral	European Union	Grant	10,000,000
Government	Government of St. Lucia	In-kind	800,000
Total Co-financing			25,800,000

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS ^{a)}

GEF	Trust	Country/	Focal Area	Programming	(in \$)
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Agency	Fund	Regional/ Global		of Funds	GEF Project Financing (a)	Agency Fee (b) ^{b)}	Total (c)=a+b
UNEP	GEFTF	St.Lucia	CC		1,607,306	152,694	1,760,000
UNEP	GEFTF	St.Lucia	BD		1,585,730	150,644	1,736,374
UNEP	GEFTF	St.Lucia	LD		805,885	76,559	882,444
UNEP	GEFTF	St.Lucia	MFA	SFM	429,224	40,776	470,000
Total GEF Resources					4,428,145	420,673	4,848,818

a) Refer to the [Fee Policy for GEF Partner Agencies](#).

E. PROJECT PREPARATION GRANT (PPG)¹

Is Project Preparation Grant requested? Yes No If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: \$136,988					PPG Agency Fee: 13,012		
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee ² (b)	Total c = a + b
UNEP	GEFTF	St. Lucia	CC		\$36,530	\$3,470	\$40,000
UNEP	GEFTF	St. Lucia	BD		\$36,530	\$3,470	\$40,000
UNEP	GEFTF	St. Lucia	LD		\$36,530	\$3,470	\$40,000
UNEP	GEFTF	St. Lucia	MFA	SFM	\$27,398	\$2,602	\$30,000
Total PPG Amount					\$136,988	\$13,012	\$150,000

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	4,000 Hectares
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	7,500 Hectares
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO _{2e} mitigated (include both direct and indirect)	1,449,871 tons of CO ₂ -eq sequestered 9,000 tons of CO ₂ over 10 years based on selection of solar for RE pilots

¹ PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to \$50k for PF up to \$2m (for MSP); up to \$100k for PF up to \$3m; \$150k for PF up to \$6m; \$200k for PF up to \$10m; and \$300k for PF above \$10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

² PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

PART II: PROJECT JUSTIFICATION

Project Description. Briefly describe: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area³ strategies, with a brief description of expected outcomes and components of the project, 4) [incremental/additional cost reasoning](#) and expected contributions from the baseline, the GEFTF, LDCE, SCCF, and [co-financing](#); 5) [global environmental benefits](#) (GEFTF) and/or [adaptation benefits](#) (LDCE/SCCF); and 6) innovation, sustainability and potential for scaling up.

1) Global environmental problems, root causes and barriers that need to be addressed

Saint Lucia is a small island developing state of the Eastern Caribbean with an estimated population of around 182,000. The island is volcanic in origin and has a very rugged topography with a central ridge of mountains. It is estimated that some eighty percent of the country has slopes greater than ten degrees, and nearly 8,000 hectares have slopes of over thirty degrees, making them suitable mainly for forested water catchment and wildlife habitat.

St-Lucia's economy is that of a middle-income state, depending on tourism and agriculture as the two main engines of growth. Up until recent years, the economy had depended on banana exports; however the sub-sector has suffered from the loss of the British import preference regime and has led to considerable loss in revenue in the agriculture sector. This has resulted in a decline of land under agriculture (from 20,000 ha to 12,000 ha), as areas under banana cultivation have been abandoned. The hotels and restaurants real estate, renting and related businesses sectors accounted for 34.9% of the GDP in 2014, according to East Caribbean Central Bank estimates. However, the tourism industry, which contributes over 10% to the St-Lucian economy is only beginning to show signs of recovery following the slowdown of the US consumption trends.. Economic diversification, along with a strategy to consolidate and ensure the continued viability of the two main economic sectors, are therefore becoming more important to St. Lucia.

The current economic context indicates that economic development in the key sectors could take place at the expense of biodiversity and ecosystems, with potentially severe impacts on local peoples' livelihoods and on the stability of the agriculture and tourism sector. For example, rapid expansion in the tourism sector exerts pressure on renewable and non-renewable resources, including increased demand from fossil fuels, water, transport and land resources, as well as negative impacts from unsustainable construction and landscape alterations. Continued uncontrolled development of tourism and other natural resource-based sectors could lead to unforeseen impacts on the productive base. While the decline of land under banana cultivation has potentially created environmental benefits (return to secondary forest, decline in use of agro-chemicals), it is also potentially causing a more systemic threat to the environment as an increased number of people turn to tourism or construction for income. These factors, coupled with negative climate change impacts, and incomplete policy frameworks for land use planning, ecosystem and watershed management, could pose significant threats to sustainability in St. Lucia.

Economic development and tourism has also resulted in an increasing demand for energy. This demand is further exacerbated by rapid growth in the energy intensive tourism sector, which is replacing agriculture as the leading economic sector. St. Lucia relies almost exclusively on imported fossil fuels to meet its energy needs. The main consumption sectors are in electricity generation (28%), and transport (24%). Combustion of fossil fuels in the Energy Sector is the main source of CO₂ emissions in St. Lucia. Energy is produced through the combustion of secondary fuels for use in the power-generating utilities, transport, agriculture/fishing, manufacturing, commercial, residential, tourism and international bunkers sectors.⁴ According to St. Lucia's 2nd National Communication Report of 2011, the greatest proportions of CO₂ emissions result from the combustion of Gas/Diesel Oil (59.5 % in 2000) used almost exclusively for thermal electricity production, and from Gasoline (34.6 % in 2000) mainly for vehicular road transport, but also for agriculture and fishing. Smaller amounts of CO₂ emissions also result from LPG use (5.3 %) in the residential and industrial sectors and from the use of kerosene and lubricants.. There is no recent data on

³ For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving.

⁴ St Lucia National Communications

the continued use of charcoal in rural areas, however there is anecdotal evidence that rising fuel prices have led some communities to revert back to charcoal making for domestic purposes. The baseline for St. Lucia on GHG emissions is from 2010, as quoted in the INDC is: 643 GgCO₂-eq.

Saint Lucia's rich coast has attracted industry and economic activities. While this is more so the case on the Western coast of the island, developments have emerged on the South East. For the most part, such development has been characterized by haphazard and undirected planning evident by the growing threat to the sustainability of fragile coastal and marine ecosystems. With a growing population, the development of the island's narrow coastal strip continues to increase. The movement from agriculture to tourism has resulted in an increase in the scale of construction projects. These projects are sometimes constructed in areas of biodiversity significance and result in the loss of habitats and endemic species, and declining biological resources. Tourism is the main economic pillar and catalyst for economic development, and located primarily in coastal areas. Resource use in the sector is high (water, energy, waste). In addition prime real estate is under increased demand for tourism development by foreign owned companies and private buyers.

Most critical infrastructure such as roads, drains, bridges, airports, seaports, coastal protection works, schools, libraries, emergency shelters, health establishments, tourism, banks and administrative services are located on the near shore or waterfront, resulting in them being vulnerable and expensive to protect and maintain. Land management is a major sustainable development issue in Saint Lucia. This is not only because the land space is limited but also because improper land management can have deleterious effects e.g. soil erosion which can cause siltation of fresh water sources, a reduction in available water supplies and degradation of water quality. In addition a large proportion of the population depends on the land for their livelihoods so that it has far reaching social implications with respect to poverty and social justice.

In the South East coast there is an opportunity to intervene before irreversible environmental damage is incurred. The area houses two recognized Important Biodiversity Area (IBAs), namely the "Pointe Sable" and the "Mandele Dry Forest" areas⁵, both of which are home to a few endemic and endangered species and habitats, fragile ecosystems (mangroves, low-lying wetlands). The area also houses the Quillesse forest reserve and some remaining strands of coastal forest, but is also home to intensive agriculture, some growing industry (eg. factories, breweries, airport in Vieux Fort), and is gradually opening up to higher level development, particularly in the real estate and tourism sectors. This creates both a challenge and an opportunity, as large-scale infrastructure and investments are being planned without due regard to environmental sustainability.

The main problem to be addressed by the project

While known to be an area rich in biodiversity, and ripe for tourism development, the South East Coast has been largely overlooked, and its vulnerable and disadvantaged communities increasingly at risk both ecologically and economically. While some knowledge exists of important ecosystem services, and globally significant biodiversity, there is a paucity of data available for the proposed area of project intervention, making it critical to prioritize for GEF intervention. Proponents are confident in the zone's potential to generate benefits in several GEF priority areas.

The main problem that the project seeks to address is the lack of integrated protections and sustainable management of ecosystems (forests, mangroves, seagrass beds) in the South East coastal areas, which provide livelihoods, ecosystem services, buffers against climate change and extreme events, and sources of economic growth. Without sound management, the economic development of the region could lead to the irreversible degradation of ecological services, which in turn will undermine efforts to achieve growth and could lead to a gradual impoverishment of local communities.

The preferred solution proposed by the project

The project proposes a three-pronged solution to address the problem. The first aspect is to establish effective ecosystems management mechanisms. For this to occur, the project must facilitate information-generation on

⁵ <http://www.birdlife.org/datazone/sitefactsheet.php?id=20714> and <http://www.birdlife.org/datazone/sitefactsheet.php?id=20716>

ecosystems, species, and ecological services that exist in the region, so that economic decision-making is informed by a consideration of real environmental costs. Where willingness to protect ecosystems and species exist, protection systems should be developed based on sound scientific evidence and regular information flows. The project must also facilitate partnerships among key stakeholders for successful management of ecosystems, and to ensure that all interests are adequately represented in investment decisions. Given the proclivity towards private coastal development, it is necessary that the public and private sector work with civil society for sustainable planning.

Second, the project will seek to rehabilitate and further protect degraded landscapes, based on improved mechanisms for land use planning and collaborative investment decision-making. This will help in restoring ecological services in the area, such as food provision (through restored soil productivity and increased water conservation), fibre (through the sustainable management of indigenous species such as Latanye palm and Bamboo and support to sustainable use of local biodiversity), freshwater conservation (through reduced siltation and protection of headwaters), the maintenance of carbon stocks (in forests and soil cover, and through avoided land use change), storm and flood protection (through reduced erosion), as well as recreation and cultural services that form the basis of the tourism industry.

Third, the project design acknowledges that no intervention will be successful unless it creates economic opportunities, incentives and livelihoods for the primary natural resources users. The project will thus invest in working with communities to support sustainable natural-resource based livelihoods and will support communities to access resources, including the introduction of renewable energy technologies at the community level, capacity building, and inputs to successfully engage in such activities. Activities will be tailored to render tourism and agricultural activities, as the two major sectors contributing to the use of natural resources, more sustainable, and therefore contribute to the maintenance of ecological integrity of the area.

Root Causes, Threats and Barriers

The project seeks to respond to the following threats:

- Biodiversity Loss

St. Lucia is home to some 201 known species of amphibians, birds, mammals and reptiles according to figures from the World Conservation Monitoring Centre. Of these, 6.5% are endemic, meaning they exist in no other country, and 6.5% are threatened. St. Lucia is also home to at least 1028 species of vascular plants, of which 1.1% are endemic. Only 2.4% of St. Lucia is protected under IUCN categories I-V. Poor land-use planning, associated squatter developments, deforestation and development have all contributed to biodiversity loss. Immediate threats as a result of unregulated practices, such as the hunting of iguanas and turtles, sand mining, dumping in mangrove areas, and the clearing of trees; the cutting of coastal vegetation such as mangroves in the area has led to shoreline exposure. The introduction and spread of invasive or exotic species, as well as feral and domestic animals, such as pigs, goats and cows also destroy biodiversity and habitats in these. In order to safeguard long-term sustainability, “binding mechanisms in terms of legislation and regulatory framework” will be key to ensuring that developers do not pursue interests which may be lucrative in the short term, while compromising long-term benefits.

There are also threats from invasive species. Notable species present that are impacting on, or with the potential to severely impact biodiversity include: Orange winged parrot (*Amazona amazonica*), Cuban brown anole (*Anolis sagrei*) Cane toad (*Bufo marinus*); Rock pigeon (*Columba livia*), Feral cats (*Felis catus*), Feral dogs (*Canis lupus familiaris*), Alien iguana (*Iguana iguana*), Brown rat (*Rattus novogicus*); Black rat (*Rattus rattus*); Feral pigs (*Sus scrofa*), small Asian mongoose (*Herpestes javanicus*), lionfish (*Petrions Miles*), seagrass (*Halophila Stipulacea*).⁶

The South East coast houses two Important Biodiversity Areas (IBAs) and habitats for some rare endemic species of flora and fauna (e.g. the white breasted thrasher, St-Lucia whiptail, *Anolis Luciae*, St Lucia threadsnake and St Lucia

⁶ Please see 160 invasive species in St. Lucia and their status for more details: <http://www.ciasnet.org/wp-content/uploads/2010/08/IAS-present-in-SLU-May-2012-revision.pdf>

Racer, Latanye Palm), on which there is beginning to be encroachment from touristic and other development initiatives. These habitats, although identified, are not clearly demarcated and do not benefit from any legal conservation status, nor do the rare species that inhabit them. In addition, a number of fragile systems, such as marshes or wetlands, are currently being held by private land owners, with no mechanism for the sustainable management or conservation of biological resources. A public-private management system could be devised to ensure that biodiversity on private land remains well managed.

The South East Coast is also an area where the interface between land use and coastal environment is more apparent. There is a clear relationship between the management of the upper watershed and the health of reefs. Coastal development, with consequences such as inadequate sanitation and sewage/waste disposal, the destruction of mangroves, seagrass beds and beaches, can have significant impacts on reefs and, in turn, on fisheries. Despite some progress in establishing conservation areas, such as forest reserves, protected areas and national parks, biodiversity conservation legal frameworks are weak and should be strengthened, including through a strengthening of the links between environment and industrial development planning. It is becoming increasingly evident that some significant investment decisions are being made without due consideration of potential environmental trade-offs.

- Land degradation and Deforestation

Soil erosion which stems from inappropriate agricultural practices and development (inclusive of tourism and road construction) are significantly degrading agricultural lands. This is having negative consequences on the water system (both freshwater and coastal) due to the increased sedimentation load. In addition, indiscriminate land clearing, shifting cultivation, slash and burn practices and inappropriate soil and water conservation practices are further exacerbating the issue. According to the 2015 State of the Environment Report of Saint Lucia, 25% of the country is forested. Of this, 25.5% (12,000 ha) are classified as primary forest, the most biodiverse and carbon-dense form of forest. In 2009 it was estimated that approximately 18 million tons of carbon were stored within the Forest Reserve, and another 1.2 million outside the reserve area. These forests are home to a small number of rare and endemic bird species, who depend on the forest reserve for habitat. Between 1990 and 2010, Saint Lucia lost an average of 150 ha or 0.34% per year, but the deforestation rate was somewhat abated by the decrease of banana production, which saw the return of some lands to secondary forest. In the South East coast, forested areas are mixed with large areas of intensive farming (National Biophysical Resource Inventory). Most forest areas have been modified by grazing, planting of exotic species and cutting for charcoal. A small area of freshwater swamp forest remains in the east coast, around the Ger River near Micoud. Outside of the Pitons area, which is protected, all deciduous seasonal forests are under threat. Most of the forest remaining is secondary, disturbed, fragmented and under continuing threat. Mangroves are also under threat, especially in the east coast, from declining river flows, over harvesting of biomass for charcoal production and land conversions.

- Depletion of carbon stocks

Carbon dioxide Emissions and Removals from the Land Use, Land-Use Change and Forestry sector derive primarily from depletions in forest and other woody biomass stocks through logging and other activities such as charcoal, leading to emissions of CO₂; from carbon uptake due to regrowth through conversion of forests and grasslands; from emissions from forest and grassland conversion due to burning and decay of biomass; and from carbon release from forest soils. In recent decades some deforestation has occurred due to the production of fuel wood constituting emissions from off-site burning. Deforestation trends have been somewhat compensated by the return of land formerly under banana cultivation to secondary forest, however these are less diverse, provide less habitat for endangered species, and are also under threat of fragmentation and encroachment. Furthermore, some land formerly under banana cultivation has been converted to other forms of monocropping or is being sold for real estate, without the support of an adequate land use plan.⁷

In addition, these threats are exacerbated by the following root causes:

⁷ Ibid.

a) Lack of diversified economic opportunities

There are inadequate livelihood and income generation options for rural communities, which force people to unsustainably exploit natural resources for income. Poverty in Saint Lucia is considered mainly a rural phenomenon, with rural districts showing poverty prevalence rates in excess of 35%. Residents are dedicated to farming (short term crops and livestock), extractive use of natural resources (sand mining, charcoal- and timber production), and (largely illegal) hunting and poaching. There is also a growing pressure to sell land for touristic or other economic development, and real estate speculation is rapidly increasing. The maintenance of a productive and sustainable rural sector is vital to the growth of the region.

b) Climate Change

St. Lucia's vulnerability to climate change is very high, and increasing. St. Lucia's vulnerabilities are due to and exacerbated by the island's location, small land mass, topography, limited resources and economic dependence on primary production and the service/tourism industry. Increases in the frequency and intensity of extreme weather and climate events, such as heavy rainfall, strong winds, drought and high sea temperatures and levels have been experienced and documented⁸. These and other events have claimed lives, caused severe damage to infrastructure and other economic assets and adversely impacted livelihoods. These changes and their adverse consequences are projected to escalate in the near and longer terms, with negative impacts on the economy, health and safety, and food and water security.

Some of the greatest negative impacts being experienced along coastal areas are due to storms and hurricanes. Increased rainfall has led to massive soil erosion in inland upland areas, dislodging solid waste and the leaching of biological and chemical materials into streams and rivers. As a consequence, reefs and other coastal areas become inundated with sediment, plastics, bacterial, industrial and agro-chemical pollutants. As noted in St. Lucia's National Climate Change policy, a single extreme climate event can have huge economic costs, such as Hurricane Tomas which cost 43.4% of St. Lucia's GDP in 2010, or the extreme storm of Christmas 2013, which led to floods, landslides, and the loss of six lives.

c) Incomplete or inadequate land tenure regime and land use planning systems

Currently there is no National Land Use Plan, resulting in largely unplanned development, with little attempt to avoid or mitigate adverse impacts to critical ecosystem goods and services. Unregulated development has the potential for severe negative impacts on the environment. Deforestation, soil erosion, destruction and fragmentation of terrestrial and coastal habitats, pollution especially of the marine environment (IUCN, 2012) and depletion of biological diversity (including the extinction of rare and endangered species such as the endemic iguana and other important animal species such as the white breasted thrasher and rare plant species), are already occurring.

There are many agencies engaged in the administration of land policy and legislation. However there is weak institutional cooperation and coordination among them, and no clear framework for ensuring adequate participation by private land owners, civil society or non governmental organizations. Saint Lucia has also acceded to a number of international conventions that impact on land management, however the country's ability to meet its obligations under international conventions is limited by the absence of the requisite legislation and human and financial resources.

2) Baseline scenario and any associated baseline projects

Baseline Scenario

There are no current interventions promoting an ecosystem-based approach on the South-East coast. In the current baseline scenario the key issues are the following:

⁸ National Climate Adaptation Policy

Towards the center-east of the Island, a protected area (Pointe Sable Protected Area, consisting of 1038 ha), as well as two off-shore islands managed by the St Lucia National Trust, have already been created to protect important species. Progress is being made towards the protection of another habitat area, the Iyanola ecosystem, towards the center-west of the island. The other rare species habitats in the area are exhibiting signs of encroachment and, although they have been informally identified, they are not clearly demarcated and do not yet benefit from any legal conservation status, nor do the rare species that inhabit them. There is also no baseline inventory of the species (particularly the species at risk, e.g. white breasted thrasher, or St Lucia racer) in the area, and no monitoring of such biodiversity. Conservation efforts are ad hoc, and led by small NGOs who do not always have the technical means to fully deliver conservation objectives. In addition, a number of fragile ecosystems, such as marshes or wetlands, are held by private land owners, many of whom reside outside of the country.

There is no monitoring or tracking of the extraction of resources, the value of ecosystem services in the area, or baseline information on ecosystems on the SE coast. Despite some recent progress, such as the designation of protected areas, the biodiversity conservation legal framework remains weak. There is little to no assessment of the impacts of industrial planning on the environment due to the lack of enforceable EIA procedures. There is also no comprehensive land use planning framework for the area, and the plans that currently exist are not being enforced. Civil society is not actively engaged in land use planning in the area, and there are no real public-private partnerships with regards to touristic infrastructure.

Deforestation and land degradation are significant problems in the area. Causes of deforestation include the production of fuelwood and construction timber, as well as land clearing for agriculture and construction. Uncontrolled deforestation and subsequent accelerated rates of soil erosion results in high sediment loads in water courses during rainfall events. This high turbidity not only affects water quality but also river and marine organisms as well as coral reefs.

Mangrove systems in St Lucia, though comparatively small on an international scale, play a vital role in coastal stability, and serve as fish breeding and nursery ground, avifauna habitat, silt trap and nutrient exporter. They are predominantly found on the east coast, and the total area is 176.33 ha (in 2009). There are four (4) species of mangrove found in St Lucia: *Rhizophora mangale* (Red Mangrove), *Laguncularia racemosa* (White Mangrove), *Avicennia germinans* (Black Mangrove) and *Conocarpus erecta* (Buttonwood). Major threats to include coastal development and to a lesser degree, clear-cutting for agriculture or charcoal production. A cultural view remains that mangal systems are mosquito-infested swamps posing a health threat to nearby residents, which has contributed to mangrove deforestation. Solid waste build-up and excess siltation in mangroves also negatively impact these systems. To date, a number of efforts have been made to prevent destruction of these coastal habitats, and a number of mangroves on the island were declared Marine Reserves. However, monitoring and surveillance of activities within mangrove areas are difficult, since marine reserves have never been legally demarcated and ownership often lies in private hands.

Beaches along the West Coast of St Lucia face the relatively calm waters of the Caribbean Sea, while those of the East Coast face the much rougher waters of the Atlantic Ocean. Due to this, the topography of these two coasts differs significantly in addition to other climatic and geological factors. Many beaches, especially along the East Coast, are suffering from sand mining and waste (tar balls and garbage) accumulation. As some of these beaches are located in remote areas, surveillance activities by relevant enforcement agencies is difficult. A number of efforts have been made to curb sand mining practices, including focusing on alternate aggregate sources such as pumice, importation of sand, enactment of legislation, however this has not curbed all of these activities.

-Seagrass beds are common along St Lucia's coastline (although the species diversity is low) and comprise *Thalassia testudinum* (Turtle Grass), *Syringodium filiforme* (Manatee Grass) and to a lesser extent *Halodule wrightii* (Shoal Grass) species. Interspersed between seagrass are benthically-rooted algae such as *Avrainvillea*, *Udotea*, *Penicillus*, *Halimeda*, *Amphiroa*, *Caulerpa* species. Like coral reefs, these habitats have been subjected to stress resulting from silt laden waters due to poor management of human and natural resources, and development. Coral reefs in St Lucia are also particularly biodiverse, with 45 species counted on the west coast alone in 1998. Recent studies indicated that the concentration in nutrient levels in St Lucian coastal waters was too high to allow for reef regeneration.

Although protected areas do exist in St. Lucia, currently, many reserves remain without management plans and are under constant threat from activities such as sand mining, pollution, illegal fishing and infrastructural development. Further, although national management authorities recognize the ecological, social and economic benefits of coastal habitats such as mangrove wetlands; the attractiveness of large-scale tourism development makes major infrastructural developments, such as hotels, enticing to the political class. It has been estimated that the island has already lost more than 50% of its mangrove wetlands to development and the remainder are under constant threat.

The level of pollution in the area is unknown, however, it has been reported that there is significant potential contamination from agro-chemicals, particularly those used in the banana production. There are no existing standards and legislation in place to govern the quality of the discharged effluent from industries and as such in some cases where no treatment facilities exist, the untreated effluent is discharged directly into the neighboring environment. Most of the hotels have their own sewage treatment facilities, however in cases where these facilities are inadequate or non functional it has been known that the effluent is discharged untreated.

Rainfall is the primary source of fresh water with 60% of the annual rainfall occurring between August to November. The uneven distribution tends to be problematic in the drier periods of February to April in the absence of adequate collection and storage facilities. The majority of the rainfall flows to the sea with very little percolating and being stored as ground water due to the rugged topography and the absence of intermediate collection points such as ponds and lakes. In the dry season, the water available is due to river base flows as well as from limited dry season rainfall. The island tends to experience periods of drought especially in the southern region when the stream flows tend to fall below known historic base flows. As a result the entire residual flow of the sub catchment is used for water supply leaving the downstream segment completely dry. With climate change, the island is experiencing greater variation in rainfall making it difficult to plan agricultural activities and impacting tourism.

Unfettered tourism are encroaching on ecosystems and services. However the tourism industry is also highly dependent on the environment, as tourists come to St. Lucia seeking lush rainforests, white sandy beaches with clear clean water, healthy reef ecosystems and biologically diverse mangroves.

As reported in its Intended Nationally Determined Contribution (INDC) under UNFCCC, St. Lucia developed a Sustainable Energy Plan in 2001 and has committed to providing up to 35% of electricity generation from renewable sources by 2020. The country's commitment is further reflected in its Energy Policy (2010) and the ongoing review of the Electricity Supply Services Act to help to create an enabling environment to achieve this goal. Furthermore, in 2014 Saint Lucia joined the Ten Island Challenge, a program to accelerate the renewable energy transition in the Caribbean. St. Lucia has further adopted National Energy Policy (2010), introduced incentives for renewable energy, prepared draft of Revised Electricity Supply Act (2015), passed National Utility Regulatory Commission Bill (establishes an independent regulatory commission to oversee electricity production), prepared a draft Revised Building Code (includes energy efficiency measures) as well as National Energy Efficiency Labelling Standards (Air-Conditioning units, tubular and compact fluorescent lamps). St. Lucia is presently developing draft Geothermal Development Bill.

Baseline Project

The proposed GEF project will complement two key baseline initiatives:

The EU supported Banana Accompanying Measures (BAM) Program (2013-2018) with a budget of US \$37 million, of which US\$ 10 million will be cofinancing this GEF project. This program is intended to support transformation within the agricultural sector and to support the country in its efforts to diversify from the banana industry. The project seeks to increase competitiveness in the sector, and also implements activities that promote social, environmental, and economic benefits. The BAM program phase which is currently under way focuses on three key areas (1) technical assistance to corporate planning of Ministry of Agriculture; (2) Agri-enterprise facilitation; and (3) Research and Technology. The BAM program is implemented through the Ministry of Agriculture. The activities underway or under planning will contribute to creating a baseline of sound agricultural development upon which this project can build. For example, the BAM program is working to improve data collection systems for agriculture and fisheries as well as value chain analysis, which will provide information on land use and land use

change that can be used by this project. The BAM program also supports the development of training and standards for organic agriculture, something that this project can pick up when working with producers towards more sustainable agricultural practices. The program is also working to deploy targeted water harvesting technologies and equipment, farm and agri-business equipment and rural infrastructure, such as roads. The Ministry of Agriculture who implements the BAM program is also a member of the stakeholder group for this project, and will easily pursue coordination between BAM-financed activities and this project's activities.

While this baseline project seeks to strengthen other agricultural value chains and the technical capacity of the Ministry of Agriculture, it does not take an ecosystems based approach. The proposed GEF project can build upon this initiative and the baseline capacity it creates in the rural sector, and integrate ecosystems planning into development planning for the south east coast. Moreover, it can utilize some of the investments already made in the baseline - such as training facilities or the creation of marketing schemes - to support the promotion of environmentally sustainable livelihoods. This is particularly relevant for activities that seek to create markets for new artisanal activities and ecologically sustainable niche products (e.g. cultivation of sea moss by-products) that help sustain ecosystem services and the sustainable use of biodiversity. The BAM program does not consider the potential environmental impacts of its investments and the opportunity costs of moving towards various agricultural commodities. Additional work is required to ensure that this takes place within a framework of sound ecosystem-based planning, in which communities also can participate. The baseline project offers appropriate opportunities to address agricultural and environmental concerns of the South East Coast.

- The *World Bank funded Disaster Vulnerability Reduction Project (DVRP)* (2014-1019) with a budget of US \$68 million, of which US\$ 15 million constitutes co-financing for this GEF project. The DVRP aims to reduce immediate disaster vulnerability and increase resilience to risks posed by extreme climate events. The project consists of five components, namely: (i) prevention and adaptation investments (rehabilitation of existing infrastructure and construction of new disaster mitigation structures such as river defense walls); (ii) technical assistance for hazards and risk evaluation and application, and hazard data management for improved decision-making; (iii) emergency response investment contingency fund mechanism; (iv) adaptation financing facility; and (v) project management and implementation support. Under the broader umbrella of the DVRP, the most significant investments are occurring in the infrastructure sector. Activities that provide a baseline for this project include the rehabilitation of roads, bridges, drainage systems and river banks throughout the island and on the East Coast, as well as flood protection infrastructure around key point such as airports, ports and cities. This will provide increased development opportunities, but also create the risk of further encroachment into fragile ecosystem areas. The DVRP is also working to strengthen the hydro-meteorological observation network, which will provide useful information for land use planning and monitoring of environmental impacts. This will also include support towards an assessment of major rivers, slopes and landslide risks and subsequent stabilization works. The Climate Adaptation Facility which is planned under the DVRP is intended to provide loans to households and private sector to support adapted livelihoods. However, it does not include technical support for the identification or implementation of such livelihoods, and its feasibility and sustainability is currently being discussed in relation to the affordability of the financial products offered. The DVRP is implemented through various ministries, including Health, Education, Public Works and Infrastructure, Environment, Forestry, who are all stakeholders in this proposed initiative as well.

The DVRP provides the technical infrastructure to address disasters and provides the foundation to address environmental degradation in the south east coast but, much like the BAM program, it carries associated risks for the environment that are not entirely considered. For example, by creating new roads and transport infrastructure, these projects open up new land for deforestation or encroachment. In addition, the DVRP does not consider the role of healthy ecosystems as providers of sound protection services. While hard infrastructure may be useful to reduce the risk of floods and landslides, if the surrounding ecosystems are degraded and deforested, these investments will not be sustainable. That said, DVRP provides a basis for informing land use planning based on risks and hazards, on which this proposed project will build. The proposed project will complement the DVRP through an ecosystems based approach to disaster management, as well as an emphasis on mitigation for example, rehabilitation of mangroves, reforestation activities and promotion of sustainable livelihoods. The proposed GEF project will benefit from the initial investments made under the DVRP.

3) Proposed alternative scenario with a brief description of expected outcomes and components of the project

Proposed Project

The proposed project seeks to enable sustainable economic development of the South East Coast by maintaining healthy ecosystems, sustainable livelihoods, and securing global environmental benefits. In order to best achieve this objective, the proposed project will encourage the use of a more cohesive, ecosystem-based approach to development. This will include interrelated aspects related to development planning, as well as the restoration of ecosystem services, and the establishment of sustainable management and natural resource use practices without which the degradation of the South East coast will lead to further impoverishment of local populations and loss of global environmental goods. The project objective will be achieved through three connected outcomes, as follows:

Outcome 1 - Increased government, civil society, and private sector capacity for sustainable development and ecosystem management

Under this outcome, the project will seek to build on the baseline of institutional capacity to enable stronger planning and more consistent consideration of conservation priorities within the framework of development decisions in the region. The first step will be to conduct a baseline assessment of biological resources in the area which will help establishing a catalogue of high value species, ecosystem services and habitats. In parallel to this activity, the project will also support the GIS mapping of forests, land uses and biological resources in the South East Coast. This information will be integrated in a monitoring and information system which is being developed as part of the CCCD project also financed by the GEF. This outcome will also support the development of systems and practices to monitor and track global environmental goods, such as carbon stocks in forests and soils, and to assess and measure the global environment benefits arising from the project. This will also enable the government, in cooperation with local stakeholders, to set realistic conservation targets and strategies, and contribute to land use planning for the area, as well as to monitor impacts of development projects as well as impacts of restoration activities undertaken under outcome 2 (See below).

In addition, the project will seek to complete current conservation efforts by supporting the delineation and legal designation of two new protected areas and a set of connecting corridors to ensure adequate species habitat and movement. This will help transform the current patchwork of protected areas into a real inter-connected network. This work will also include the completion of scientific studies and the legal gazetting of rare and endangered species in the area, which are not currently subject to any management or protection requirements. This work will focus on rare endemic birds (e.g. White Breasted Thrasher), reptiles (e.g. racer), or fauna (including marine species), and will be conducted in close cooperation with conservation-minded NGOs, such as for example the St-Lucia National Trust or the Durrell Foundation, who have some significant expertise and are already conducting similar initiatives in other areas of the country.

In addition, this project will build on the results of the GEF-funded Sustainable Financing and Management of Eastern Caribbean Marine Ecosystems project, by seeking mechanisms to increase participation of private sector enterprises and land owners in conservation and conservation financing. The SFM-EC project supported the establishment of a National Conservation Trust Fund⁹ in St Lucia and conducted a thorough assessment of the financial, legal and political feasibility of various financial mechanisms to build revenue for the Fund. This proposed initiative will identify the most feasible private sector oriented tools for further integration into the NCTF. This could include private incentivization tool such as conservation easements, which are already being explored in the previously funded UNEP/GEF Project: “Iyanola – Natural Resource Management of the NE Coast”. The Nature Conservancy has funded a feasibility report entitled “Sustainable Finance Tools the Fund the NCTF in St. Lucia” which presents an array of potential financial tools in the national context. These will be reviewed in a consultative manner during the project preparation phase with a view towards deepening development of at least 2-3 for piloting in the South East Coast. Furthermore advanced an “Implementation Plan for the Blue Waters Conservation Program” which explores PES option in detail, and may have possible uptake for the South East

⁹ The National Conservation Trust has submitted required legal documents to the Attorney General’s Office for formal establishment, has established a functional board, and has submitted a request to the Caribbean Biodiversity Fund (CBF) for operationalization of initial funding.

Coastal areas. Project proponents are cognizant of the important advisory document authored by the GEF’s Scientific and Technical Advisory Panel (STAP), “Payments for Environmental Services and the Global Environment Facility (2010) and consider its recommendations in the context of the feasibility study which has been carried out. Lessons learned from similar experiences in other countries, previous GEF projects, as well as from Payment for Ecosystem Services schemes, will be used to support these proposed activities.

The project will also support the development of stronger consultative mechanisms around sustainable development planning, focusing on linking with the private sector. While institutional mechanisms and capacity are in place for policy planning at central levels, participation of local civil society and private sector in decision-making needs to be strengthened. Key stakeholders such as private land holders, community based associations, user-associations, tourism and real estate developers, NGOs and governments, should have opportunities to collaborate to design realistic development objectives and investment priorities for the region, taking into consideration the fragility of the environmental resources upon which the coastal economy depends. In order to achieve this, the project will support, through a range of engagement approaches to be elaborated during the project preparation phase, the design of an integrated watershed and coastal area management (IWCAM) framework for the south east coast, in line with the national Land Use Plan which is under development. This approach will provide the overarching ecosystem-based development planning framework as well as institutional and dispute prevention mechanisms for the region. The IWCAM approach has been designated by the St Lucian government as a preferred approach for integrated planning, and experiences have already been made using this method in other regions of the country.

Finally, the project will seek to strengthen government-private sector linkages by developing and promoting a set of voluntary guidelines for private sector partners and private land owners on how to sustainably manage their lands, biological resources and key ecosystem features. This will be accompanied by the implementation of an awareness raising campaign focused on the economic and health benefits of sound ecosystems, community action and land use planning.

Outcome	Output
1. Increased government, civil society, and private sector capacity for sustainable development and ecosystem management.	1.1 A Monitoring and information system is in place to support sustainable ecosystem management and scientific capacity of stakeholders
	1.2 Management effectiveness increased and two new protected areas are designated along with relevant connecting corridors, and protected species are officially recognized in legal documents (est. 4,000 hectares)
	1.3 At least 1 Public-private partnership or financing mechanism promoting both economic development and ecosystem protection will be established.

Outcome 2 – Restored/rehabilitated productive landscapes

The second outcome the project will seek to achieve is the restoration of degraded or dysfunctional ecosystem services in the area, in order to reduce risks, ensure continued productivity and the maintenance of global environment benefits. The project will work on the basis of available land use maps and information to identify the most critically damaged (yet recoverable) areas in the South East Coast. The project will focus equally on land and marine resources. The project will first seek to engage in reforestation activities in degraded public lands and around critical watershed areas, including for example river banks and headwaters, or areas prone to rapid erosion, thus rehabilitating ecosystem services and improving restoration at scale. This will also be accompanied by measures to engage smallholder agricultural producers in reforestation using multi-purpose productive tree species, in order to increase vegetative cover of agricultural lands, reduce erosion, and maintain soil fertility while supporting agricultural diversification. Communities and municipalities will be engaged in the design of collective forest management systems and practices, supporting conservation, restoration and alternative livelihood opportunities. An estimated 2,500 will be reforested using indigenous species in public and agricultural lands, thus integrating sustainable forest management at the landscape level.

The project will complement the efforts of the DVRP to reduce risks by supporting the rehabilitation and protection of marine buffer areas, such as for example sea grass beds and mangroves, which have seen some significant degradation over recent years. Based on consultations with local communities and NGOs, targeted areas of sea grass beds will be rehabilitated and placed under special management regimes, in order to assist natural regeneration. The Nature Conservancy, a strong prospective partner has rich experience in restoration of seagrass beds as does NOAA. Methodologies will be considered once the areas to be restored will only be identified during the project preparation phase. On the basis of a diagnostic study, specific areas of degraded mangroves to be identified during the project preparation phase will also be rehabilitated and placed under special management status, if possible linked to activities under Outcome 1 to support the designation of new PAs. In addition, the project will undertake targeted revegetation using grass and trees along degraded coastlines and beaches that are showing signs of accelerated erosion. An estimated 500 ha of marine ecosystems will be rehabilitated and placed under special management status. The carbon benefits from seagrass beds restoration will be calculated at project inception, when methodologies from the GEF financed Blue Forests project are expected to be ready for use.

Finally, the project will complement the efforts of the BAM program by working with the Ministry of Agriculture to support the deployment of anti-erosion land use practices within agricultural landscapes, such as for example the use of stone terraces or conservation agriculture in areas where the gradient is high and where siltation has become a problem for low-lying and marine zones.

Outcome	Output
2. Restored/rehabilitated productive landscapes	2.1 2500 ha have been reforested in degraded areas, agricultural areas and headwaters resulting in (682,850 tons of CO2-eq would be mitigated over 20 years, or 34,143 tons of CO2-eq per year from reforestation of 2,500 ha of degraded land)
	2.2- Sea grass beds, reefs, mangroves and productive coastal systems have been protected and rehabilitated (500 ha), carbon benefits to be calculated at project inception.
	2.3- Erosion controlled in areas exhibiting significant soil degradation and siltation

Outcome 3 - Sustainable socio-economic development pathways pursued in targeted communities

This last outcome is based on a recognition that much of the ongoing and forthcoming environment is due to the lack of sustainable economic growth opportunities for communities of the South East areas. Lack of access to reliable sources of energy have led to deforestation, and the lack of a comprehensive and consensus-based land use plan has also facilitated ad hoc land speculation that has led to encroachment onto key biodiversity areas. Therefore, the project will work with local communities to identify and pilot sustainable natural resource use practices, to reduce negative impacts of human activities on the environment, and to pilot innovative development pathways that help conserve healthy ecosystems. The project will focus on existing economic sectors (agriculture, tourism) and drivers of environmental degradation (lack of access to energy, inadequate technologies).

First, in order to support efforts towards reforestation and the maintenance of carbons stocks in forests, the project will work with municipalities to strengthen access to renewable energy sources. To achieve this, the project will take a value-chain approach to increase installed capacity of a reliable and commercially viable supply of small solar, wind and hydro based renewable energy systems in pilot communities. The following indicative activities will be carried out: 1) Identification and prioritization of feasible community-based RE energy systems for productive uses and community energy needs; 2) Design, engineering and financing of feasible RE technologies for piloting purposes; and 3) replication plan for the demonstrated renewable energy projects. Based on the selection of solar, with solar projects operating at about 15% capacity factor, the pilots could reduce GHG emissions by 9,000 tons of CO2 over 10 years, which is the technology estimated lifetime and emissions factor of 0.7 as per GEF tracking tool. Should wind or hydro be selected, far greater emission reductions would be estimated. This estimate is for substitute grid power if this is for substitute generators project will achieve additional emission reductions. This will create economic opportunities while also sustaining efforts to restore forests and soil cover.

Second, the project will support the St Lucian government in engaging with tourism sector operators and promoters in order to develop opportunities for eco-tourism in the area. This will include for example the conduct of south-south exchanges with countries in the region who have experience in developing eco-tourism facilities, infrastructures, norms and standards. The project will also help the Government to develop environment and social management guidelines for all touristic facilities (existing and foreseen) in the region.

The project will also engage with local agricultural producers and at the community level, to conduct technical training on sustainable agro-forestry practices, exploring climate smart agriculture, as well as proper solid and liquid waste disposal practices in crop and livestock production activities in order to adopt sustainable agro-forestry practices on 5,000 ha of land presently under conventional agriculture. The project will also conduct training on agro-ecology and demonstrate the benefits of ecological and biological pest management options through the establishment of a demonstration plot in the area. This will help further support the restoration of land use cover, as well as ensure reduced erosion, maintenance of soil fertility, and reduced land and water contamination from agricultural chemicals.

Finally, the project will build on the previous successes of the small grants program and other development initiatives to support local communities, private sector and producer groups in the identification and implementation of innovative and sustainable natural-resource based economic activities. Activities supported will be selected during the project preparation phase based on feasibility studies that will include environmental impacts and economic viability. The project will provide technical support towards the identification and planning, as well as training on production, transformation and commercialization and market analysis for improved access to commercial buyers. These activities will support the identification of sustainable local economic development pathways that maintain ecological value and that support diversified sources of income.

Outcome	Output
3. Sustainable socio-economic development pathways pursued in targeted communities;	3.1- Vulnerable communities have access to renewable energies to improve livelihoods, 9,000 tons of CO2 over 10 years based on selection of solar for pilots.
	3.2- Guidelines for eco-touristic development adopted
	3.3- 5,000 ha are under sustainable agro-forestry practices (177,146 tons of CO2-eq would be mitigated over 20 years, or 8,857 tons of CO2-eq per year from the operated land use change, from conventional agriculture to agroforestry; and 589,875 tons of CO2-eq would be mitigated over 20 years, or 29,494 tons of CO2-eq per year from practicing agroforestry)
	3.4- Additional income generated from sustainable alternative livelihoods

Through this multi sectoral and cross cutting approach, this project will support GEF Focal Area Strategies for Climate Change, Biodiversity, Land Degradation and the multi-focal Sustainable Forest Program objectives. The project will also move towards fulfillment of St. Lucia’s commitment to the Aichi Targets adopted at the 10th Conference of the Parties of the CBD primarily: the Aichi reduction in loss of natural habitats and decreasing degradation and fragmentation specifically of forests ecosystems (Target 5), to the restoration of biodiversity hotspots (Target 15) and contributing to the national protected areas system for management and conservation of biodiversity (Target 11).

4) incremental/additional cost reasoning

Proposed Alternative Scenario & Global Environmental Benefits

The proposed project seeks GEF financing to improve the baseline scenario and address the challenges that exist in the current business-as-usual approach. The following table demonstrates the anticipated benefits of GEF investments and highlights the anticipated alternative scenarios.

Outcome	Baseline	Alternative Scenario	Increment (I=A-B)	Global Environmental Benefits
1. Increased government, civil society, and private sector capacity for sustainable development and ecosystem management.	Without a finalized land-use planning framework, government, civil society and private sector parties are operating ad hoc without a coordinated approach to ecosystems management. Important biodiversity areas and endangered species are under threat from ongoing development and an ecosystems based approach has not been mainstreamed or promoted. There is a lack of knowledge on the species, and species at risk inhabiting the SE coast, and a lack of baseline information about biodiversity at large. Formal delimitations of these IBAs do not exist and no guides or codes of conduct exist to support the management of vulnerable ecosystems. Civil society parties are unable to intervene or consult on land use or construction.	<p>With the proposed GEF project important biodiversity and habitats, ecosystems, and ecosystem services will be monitored and tracked. Baseline assessments will be conducted to establish a catalogue of species of high value ecosystem services. GIS mapping of forests, land uses and biological resources on the South East Coast will take place and data gathered will be integrated into the Environmental Information System developed through the CCCD project; thus promoting synergies and enhancing available data.</p> <p>Two IBAs will be delineated and connecting corridors will be established to promote a sustainable network of ecosystems in the country. Key stakeholders such as governments, private sector and stakeholders will be sensitized and engaged in protecting national resources. Public-private partnerships will emerge promoting both economic development and ecosystem protection. Guidelines will be developed for private sector partners on how to sustainably manage their lands. Awareness raising campaigns on the benefits of sustainable ecosystems, biodiversity, community action and land use planning</p>	\$1,400,000	- Conservation of globally significant biodiversity

		will be carried out and an Integrated Watershed and Coastal Area Management Framework (IWCAM) for the South East will be developed and implemented.		
2. Restored/rehabilitated productive landscapes	<p>St. Lucia suffers from deforestation due to the production of fuelwood and construction timber, as well as land clearing for agriculture and construction. Soil erosion, the largest contributor to land degradation, is the single most important environmental problem facing the island both with respect to current economic losses (losses of topsoil, nutrients, concentration of run off and resulting flash flooding, damage to infrastructure) as well as future threats to other sectors (directly to tourism, indirectly through declining agricultural productivity and rural incomes, to the stability of the whole country). Mangroves and sea grasses are under threat, and watersheds are eroded due to uncontrolled agricultural intensification, poor agricultural practices, inappropriate land use, (such as cultivation or construction on steep slopes and along river banks), and direct and or indirect discharge of untreated effluent into waterways.</p> <p>Wetlands, which provide important habitats for a very diverse group of flora and fauna are important as regulators of coastal water quality, are at times located on private property--</p>	<p>With GEF financing, the project will engage reforestation activities in degraded public lands and critical watershed areas.</p> <p>The project will also engage smallholder agricultural producers in reforestation using multi-purpose productive tree species to reforest degraded lands. Forest management practices will be established at the municipal and community levels.</p> <p>Anti-erosion land use practices, including within agricultural landscapes, such as stone terraces, conservation agriculture, will be applied. Communities will be sensitized and will pilot these practices.</p> <p>Sea grass beds, reefs, mangroves and productive coastal systems will be replanted and rehabilitated to strengthen marine ecosystems and build resilience against climate change.</p>	\$1,700,000	<ul style="list-style-type: none"> - Reduction of forest loss and degradation of forests - improved provision of agro-ecosystem and forest ecosystem goods and services - conservation and sustainable use of biodiversity in protected landscapes - maintenance of the range of environmental services and products derived from forests - conservation and enhanced carbon stocks in agriculture, forest, and other land use

	owners of whom may not be adequately aware of the importance and how to manage this important ecosystem.			
3. Sustainable socio-economic development pathways pursued in key targeted communities	<p>There is a desire and need expressed to diversify St. Lucia's economy beyond banana, but currently there is a lack of economic opportunity.</p> <p>The tourism industry, a main staple of the economy, is under threat from potential climate change impacts (extreme weather events, unpredictable weather). The tourism sector is also poised to disrupt ecosystems and their services which in turn support biodiversity and livelihoods. However the tourism industry is also highly dependent on the environment, as tourists come to St. Lucia seeking rainforests, white sandy beaches with clear clean water, healthy reef ecosystems and biologically diverse mangroves, which are all vulnerable to climate and human activity.</p>	<p>Investments from the project will support nature based tourism industry, as unsustainable tourism can lead to negative economic and social impacts. With the project St. Lucia will benefit from other Southern countries' expertise and best practices in establishing eco-tourism. Environment and social guidelines will exist to govern tourist facilities.</p> <p>Non-tourism producer groups (agriculture, non-forest timber producers) will receive equipment and training for production, transformation, and commercialization and value addition of innovative and promising, sustainable livelihoods (e.g. sea moss, seaweed, palm leaves). Appropriate community-based renewable energies (e.g. solar, wind, hydro) with a value chains approach, will be established to support communities in accessing a reliable supply.</p> <p>Based on the selection of solar, with solar projects operating at about 15% capacity factor, the pilots could reduce GHG emissions by 9,000 tons of CO2 over 10 years, which is the technology estimated lifetime and emissions factor of 0.7 as per GEF tracking tool. Should wind or hydro be selected, far greater emission reductions would be estimated.</p>	\$1,117,281	<p>- enhanced sustainable livelihoods for local communities and forest-dependent peoples</p> <p>- conservation and enhanced carbon stocks in agriculture, forest, and other land use</p>

6) Innovation, sustainability and potential for scaling up

The project will be promoting an ecosystems-based approach in an area where this is not being carried out. Through project interventions, new research, tracking, and inventories will be developed on species and high value ecosystem services. GIS mapping of the area will be carried out, thereby allowing new data to come to the policy fore.

While tourism is central to the economy of the St. Lucia, the project will support eco-tourism which will promote sustainability not just of ecosystems, but of the industry itself which relies on these ecosystems. The project will promote novel models of public-private partnerships that can be scaled up to other parts of the country. Establishing funding mechanisms for these types of initiatives (Component 1), for example, provides opportunities for scaling up. This emphasis on market-based solutions, linked to sustainable use has the potential to yield concrete and significant financial benefits, increasing the probability that the resource management practices will be continued by the project beneficiaries into the long term, following the withdrawal of support by the project and its partner institutions. In addition, the project will innovate by seeking to work more actively with the private sector, private land owners and business interests in the region.

Addressing livelihoods is central to the sustainability of the project. Without creating long-term economic and growth opportunities for local communities, the project will not be successful. For that reason, the project has an entire component dedicated to sustainable livelihoods which will both promote economic opportunities and maintain ecosystem services. The project will promote sustainability at both the institutional and community level by working with, and strengthening, the technical capacities of existing governmental and civil society organization in order that they are able to continue the provision of technical and other support in the long term.

The project will also assist in identifying and demarcating new biodiversity hotspots and their relevant corridors. This has the potential to contribute to a broader network of protected areas. The project will also develop an Integrated Watershed and Coastal Area Management plan (IWCAM). While this has been carried out in other areas of St. Lucia, one has not been developed for the South East Coast.

2. Stakeholders. Will project design include the participation of relevant stakeholders from [civil society organizations](#) (yes /no) and [indigenous peoples](#) (yes /no)? If yes, identify key stakeholders and briefly describe how they will be engaged in project preparation.

A number of stakeholders will be engaged in this project with a strong emphasis on multi-sectoral consultation. Their level of engagement will vary according to expertise and activity; this will be further mapped out during the PPG.

Stakeholder Type	Area of Intervention
Government	
Ministry of Sustainable Development, Energy, Science, and Technology	Overview of entire project, exploring synergies with different project/government institutions, promoting ecosystems approach, gathering data on biodiversity, ecosystem services and species. Applying data gleaned and sharing cross-sectorally and feeding into land use planning mechanisms; watershed management, overseeing rehabilitation of landscapes, mangroves and sea grass.
Ministry of Agriculture	Extension and Fisheries, inputs, training, links on agroforestry, piloting of fruit trees
Department of Forestry	Reforestation, rehabilitation, management codes
Ministry of Social Transformation	for information on community groups, community dynamics, information on stakeholders
Ministry of Tourism	Engaging on ecotourism issues, integrating ecosystems approach to tourism
Heritage and Creative Industries	Ecotourism opportunities, establishing artisanal industries
St. Lucia National Trust	Conservation issues and demarcation of protected areas and spaces

National Conservation Authority	Conservation best practices, experiences, sharing of knowledge, sensitization and public awareness
Municipal governments ¹⁰	Carrying out local tasks, activities, ensuring participation of local stakeholders
- St Lucia Development Control Authority - Ministry of Physical Development, Housing and Urban Renewal - National Investment Authority (Invest St-Lucia)	Consultations for developing IWCAM, public-private partnerships, guidelines on development, inputs into land-use frameworks, sensitization on ecosystems approach
Private Sector	
Hotel/Tourism Industry	Public-Private partnerships, establishing guidelines for economic activity while promoting ecosystems protection. Sensitization, and emphasis on economic value of ecosystems.
Restaurant and agro-food Industry	
Association of eco-tourism operators	
Charcoal/timber Producers	
Civil Society, NGOs and Local Partners	
Producer groups (agroforestry, sea moss, broom makers)	Sustainable production, increasing access to markets, promoting artisanal production
Durrell Wildlife Conservation Trust	Sensitizing public, sharing data, monitoring vulnerable ecosystems
The Nature Conservancy	Data, research, and lessons learned from projects will be sought on conservation issues.
Conservation Groups	Sensitizing public, sharing data, monitoring vulnerable ecosystems
Women's organizations (see next Section)	Bolstering women's participation in sustainable livelihood activities
Multilateral Organizations	
World Bank	Co-financing, linkages with work done in the area of climate resilience
European Union	Co-financing, linkages with work done in the area of strengthening agricultural infrastructure and livelihoods
Inter-American Development Bank	Investments in economy and infrastructure
Food and Agriculture Organisation	Linkages will be sought on sustainable agricultural development and food security.

3. *Gender Equality and Women's Empowerment.* Are issues on [gender equality](#) and women's empowerment taken into account? (yes /no). If yes, briefly describe how it will be mainstreamed into project preparation (e.g. gender analysis), taking into account the differences, needs, roles and priorities of women and men.

St. Lucia has demonstrated some major improvements on gender issues in the last few decades: occupational differentiation in St. Lucia continues to decline. Women are able to join both professional and agricultural employment. In terms of traditional jobs, the jobs that remain gender specific are fishing, which is mostly carried out by men and domestic work, which mostly employs women. In terms of activity in the labour force, 79% of males over 15 are active in the labour force, while 52% of women over 15 are active in the labour force (United Nations Statistical Commission, 2010). With regards to access education, it is apparent that access among genders is fairly comparable. However, despite women and men having near equal levels of education, unemployment is higher for women. Disparities also exist, with regards to political leadership and formalized national policies¹¹. The appointment of the Minister for Commerce, Business Development, Investment and Consumer Affairs, the Honourable Emma Hippolyte, to the post of Acting Prime Minister from 25–28 February 2015 marked the first time a woman had, very briefly, held the country's highest political position.

The project will build upon this upward momentum and ensure that it maintains an emphasis on gender equality and women's empowerment. Specifically, the project will include gender disaggregated indicators to measure and report

¹⁰ St. Lucia suspended municipal elections back in 1979. Most of the municipal representatives are an extension of the central government.

¹¹ <http://caribbean.unwomen.org/en/caribbean-gender-portal/saint-lucia>

on the active participation of women with project activities. The project preparation phase (PPG) will also seek to ensure the participation of women’s organizations and particularly the role that they can play in disseminating information, increasing sensitization and feeding back on gender-related considerations with regards to specific activities. Women’s perspectives will be incorporated in the final project document and the PPG will ensure that it has key female stakeholders providing input on the project design. As female leadership is an area that requires further development, the PPG will identify specific areas where women can exercise leadership roles in the implementation process. The key women’s areas/organizations that this project will be engaging include:

- The Aupicon Charcoal Producers: composed of women promoting sustainable charcoal production
- Sustainable Seamoss Production: an enterprise with majority women participants aiming to improve of the production and marketing of Seamoss.
- Belle Vue Women Farmers Group: currently involved with the implementation of a project entitled “Introduction of Organic Farming in the production of Vegetables in Belle Vue, Vieux Fort Saint Lucia”. The project focusses using local resources in a sustainable manner while creating employment and encouraging healthy living practices.
- Superior Brooms, Patience Mon Repos: a group that includes women involved in using the Latanyé palm in local (traditional) broom making.

4 Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable).

Risk	Risk Level	Mitigation Strategy
Private sector does not support project interventions and design, leading to further ecosystem loss	M-H	Given that most of the land in the area targeted by the project is owned by private parties (many of them living abroad), it is necessary that the private sector buys in and promotes project interventions. The project will seek to facilitate public-private partnerships which will go beyond the project duration. It will also be essential for the project to identify and sensitize private parties as to the economic benefits of maintaining ecosystems, promoting sustainable tourism practices, and describing the social benefits (security, social cohesion) of carrying out sustainable practices. These interventions will be carried out under Outcome 1 by the following activities: “Analyse the legal framework and financial requirements for establishing public-private partnerships for conservation, including the possibility of establishing a fund” and “Develop and promote guidelines for private sector partners on how to sustainably manage their lands” and Implement an awareness raising campaign on the benefits of sustainable ecosystems, biodiversity, community action and land use planning”; and under Outcome 3: “Develop Environment and Social management guidelines for touristic facilities”
Slow political process hampers delimitation of biodiversity hotspots	M-H	Vulnerable biodiversity habitats in the South East region are in need of protection, but establishing protected areas or legal delimitations may be slow and politicized. The project will manage this in several ways; first, it will seek to intervene at the community level. By sensitizing, training, and helping strengthen sustainable livelihoods at the local level, it is anticipated that unsustainable behaviours will change regardless of legal decrees. Second, the project will engage the private sector by promoting economic incentives for protecting ecosystems. Finally, the project will hold ongoing consultations from project preparation stages onwards to

		obtain broader governmental support and establish effective plans.
Environment and regulations are in place but monitoring and enforcement remain weak	M	Project will include capacity building for environmental management and monitoring at the local and national levels, including CBOs and NGOs – and specifically at sites/areas of GEF interventions. Co-management /participatory approaches will be undertaken in implementing activities between communities and government. Development of standards and guidelines to support the production and marketing of biodiversity-friendly livelihoods will also be carried out.
Biodiversity destruction and ecosystem services disruption due to impacts of climate change such as intensified storms and drought.	M	The project will manage this risk through activities planned under Outcome 2 which include: rehabilitation, reforestation and replanting with native species, and integrating resiliency into forest and mangrove rehabilitation.
New land use frameworks are under development and may clash with project plans and activities	L	The project will ensure that it builds on the national processes underway, and feeds into consultative processes. As such, the project will be developed to complement or supplement legislation underway, rather than disrupt.

5. *Coordination.* Outline the coordination with other relevant GEF-financed and other initiatives.

GEF- Interventions

Increase St. Lucia’s Capacity to monitor MEA implementation and sustainable development- This cross-cutting capacity development (CCCD) project seeks to strengthen institutional capacity for the implementation and monitoring of international conventions as a follow-up to the National Capacity Self Assessment (NCSA) of St. Lucia. It also seeks to better integrate environmental concerns, and the value of ecosystems, into its broader development frameworks. The proposed project will feed into the CCCD project directly, by providing data on species, vulnerable ecosystems, GIS mapping, which will then be inputted into the Environmental Information System launched under the CCCD project.

The Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States (GEF-IWEco Regional Project) is a five-year multi-focal area regional project with four components; (1) Development and Implementation of Integrated Targeted Innovative, climate-change resilient approaches in sustainable land management (SLM), integrated water resources management (IWRM) and maintenance of ecosystem services; (2) Strengthening of the SLM, IWRM and ecosystems Monitoring, and Indicators framework; (3) Strengthening of the Policy, legislative and institutional reforms and capacity building for SLM, IWRM and ecosystem 35 services management taking into consideration climate change resilience building and (4) Enhancing knowledge exchange, best practices, replication and stakeholder involvement. The project will be implemented through a network of international, regional and national partners in accordance with their comparative advantage. The St. Lucian intervention of IWEco will address problems of land degradation and ecosystem degradation in the upper reaches of the Soufriere Watershed to restore agricultural land productivity, reduce risk to life and property from landslide occurrence and reduction of sedimentation into an adjacent marine protected area (for ecosystem restoration and improved ecosystem management). Lessons will be drawn and resources shared to apply lessons learned to the South Eastern watersheds and degraded areas.

Sustainable Financing and Management of Eastern Caribbean Marine Ecosystems. This regional project which includes Saint Lucia is funded by the GEF and implemented by the World Bank through The Nature Conservancy. Its purpose is to improve the management of existing and expanded marine protected area networks through the

establishment of sustainable financing mechanisms. Linkages will be sought on best practices and lessons learned of protecting biodiversity hotspots.

Non-GEF Interventions

Saint Lucia Forest Restoration and Rehabilitation Project. This \$1M project funded by the Government of Australia and intended to restore forest reserves damaged by Hurricane Tomas in October 2010 has ended recently but provides many lessons learned and best practices on reforestation activities.

USAID/OECS Climate Variability, Change and Mitigation Project: The USAID regional climate change support for the countries in the Eastern Caribbean will complement overlapping initiatives it previously supported under its biodiversity support to the region. Based on analysis gathered from two broad stakeholder workshops held in St. Lucia and Barbados, two critical areas were identified as requiring special attention. These are coastal zone management and resilience and freshwater resources management.

Global Climate Change Alliance (GCCA) project on Climate Change Adaptation and Sustainable Land Management in the Eastern Caribbean: This 3-phase project is to be funded by the European Commission During phase one, a comprehensive gap analysis will be carried out to assess the institutional preparedness and the technical and human capacity level in the land management domain of the OECS Secretariat and each member state. During phase two, which will run concurrent with this project, the gaps and the weaknesses identified in phase one will be addressed and dealt with. During phase three, the project will support the implementation of those segments of National Land Management Policies dealing with climate change adaptation measures. Within this phase, the project also intends to identify a set of SLM physical investment best practices in relevant sectors and replicate them through pilot or demonstration projects possibly in each Member State. There are important links to be sought here both on building resilience and SLM.

Environmental Protection under the Eastern Caribbean Marine Managed Areas Network (ECMMAN) Project funded by the International Climate Initiative (ICI) via The German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) grant to The Nature Conservancy (TNC), 2013 – 2017, will invest over EC\$14.7 million, to improve fisheries and conserve and restore marine resources, while providing for sustainable job opportunities in coastal communities in 6 OECS countries including Saint Lucia. The project will focus on: (i) Establishing new and strengthening existing marine management areas; (ii) Supporting fisher organizations and providing support for new livelihood opportunities; (iii) Improving access to data and information regarding management of marine resources; and (iv) Instituting sustainable funding mechanisms to support marine management as part of the Caribbean Challenge Initiative.

6. *Consistency with National Priorities.* Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes /no). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.

National strategies and plans or reports and assessments under relevant conventions, that are applicable to the Project include: NBSAP, NAP, NAPA, 2nd National Communication (SNC), NIP, PRSP, NPFD, among others.

UN Convention on Biological Diversity (CBD): The project will contribute to achievement of the key objectives of biodiversity conservation of the Saint Lucia's Draft 5th National Report and Revised 2nd National Biodiversity Strategy and Action Plan (2nd NBSAP) including: mainstreaming of biodiversity conservation and sustainable use issues into development planning (including land use, sustainable livelihoods). The project will prioritize promotion of innovative, fit-to-purpose (e.g. co-management) approaches to biodiversity conservation and sustainable use, enhance capacity for data collection and monitoring and build public awareness.

UN Convention to Combat Land Degradation (UNCCD). The Country Report on National Action Programme for Saint Lucia priorities of rehabilitation and restoration; increasing public awareness; development of successful model interventions; and promotion of environmental conservation in development and enterprise will be supported through targeted project activities, in particular those under Component 2 focused on reforestation and rehabilitation of landscapes and watersheds.

UN Framework Convention for Climate Change (UNFCCC). The project will reforest and restore degraded lands with native species, and sustain the existing forest, including coastal dry forest habitats and mangroves, as outlined in Saint Lucia's Second National Communication for the UNFCCC (2012). The project is consistent with the Policy directives outlined in Saint Lucia's National Climate Change Adaptation Policy and Strategy particularly those relating to coastal and marine resources and Terrestrial Resources, Terrestrial Biodiversity & Agriculture. The project also promotes building climate resilience, and rehabilitating natural buffers to mitigate the impacts of storms and other climate phenomenon.

Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region – Cartagena Convention. Of particular relevance to the proposed project is the Protocol Concerning Specially Protected Areas and Wildlife (SPA) in the Wider Caribbean Region, committing to protect, preserve and manage in a sustainable way: 1) areas and ecosystems that require protection to safeguard their special value, 2) threatened or endangered species of flora and fauna and their habitats, and 3) species, with the objective of preventing them from becoming endangered or threatened.

Ramsar Convention. The Ramsar Convention's mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world". The project will support this by increasing awareness and management of wetlands particularly those located on private lands.

The proposed project is consistent with UNEP's Ecosystem Management sub-Programme of Work for 2014-2017. This project specifically addresses UNEP's expected accomplishment of "use of the ecosystem approach in countries to maintain ecosystem services and sustainable productivity of terrestrial and aquatic systems is increased" and "services and benefits derived from ecosystems are integrated with development planning and accounting, and the implementation of biodiversity and ecosystem related multilateral agreements" and will specifically contribute to output (a) (1) Methodologies, partnerships and tools to maintain or restore ecosystem services and integrate the ecosystem management approach with the conservation and management of ecosystems .

The project will also benefit from the recognized expertise of the Caribbean Environment Programme Regional Coordinating Unit/Secretariat to the Cartagena Convention in matters related to the marine and coastal environment and in working in a multi-lingual environment, as well as its expertise in implementing the Cartagena Convention and particularly its SPAW Protocols. CAR RCU's specialized Regional Activity Centre for the Implementation of the Protocols on Specially Protected Areas and Wildlife is located in Guadeloupe and supported by the Government of France. The project will include this specialized technical RAC and the newly established UNEP sub-regional office, also in Jamaica, in its networking and coordination activities, in any stakeholder and partnership arrangements.


PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):
 (Please attach the [Operational Focal Point endorsement letter](#)(s) with this template. For SGP, use this [SGP OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Caroline Eugene	GEF Operational Focal Point, Chief Technical Officer	Ministry of Sustainable Development, Energy, Science and Technology	02/17/2016

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies¹² and procedures and meets the GEF criteria for project identification and preparation under GEF-6.
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Agency Coordinator, Agency name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email
Brennan Van Dyke, Director, GEF Coordination Office, UNEP		March 11, 2016	Kristin Mclaughlin Task Manager	+1-202-974-1312	Kristin.mclaughlin@unep.org

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the required [GEF Project Agency Certification of Ceiling Information Template](#) to be attached as an annex to the PIF.

¹² GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF

Attachment 1: Carbon Calculations:

Deforestation in Saint Lucia is due to a number of factors including clearing for agriculture, tourism development, conversion of mangroves for charcoal, fisheries and aquaculture and other uses. The FAO EX-ACT tool was used to estimate the carbon benefits associated with the project. The forest type selected for afforestation calculations was Tropical Dry Forest, as per the target area. The project is expected to lead to an increase in carbon sequestration for the time period of the project. The sequestration was calculated based on a 20-year period. The total carbon sequestration over 20 years would be 1,449,871 tons of CO₂-eq, or 9.7 tons of CO₂-eq per year, including: - 682,850 tons of CO₂-eq would be mitigated over 20 years thanks to afforestation (Component 2), or 34,143 tons of CO₂-eq per year. - a further 177,146 tons of CO₂-eq would be mitigated over 20 years from the operated land use change (from conventional agriculture to agroforestry) or 8,857 tons of CO₂-eq per year and 589,875 tons of CO₂-eq from practicing agroforestry (Component 3) or 29,494 tons of CO₂-eq per year. Please note that the tool will be reapplied during the project preparatory phase when more data become available, and also additional carbon benefits from seagrass restoration calculated when Blue Forest methodologies available. Please see the Results tab from the EX-ACT FAO tool copied below:

