



Improving Environmental Management through Sustainable Land Management in St. Kitts and Nevis

Part I: Project Information

GEF ID

9785

Project Type

FSP

Type of Trust Fund

GET

Project Title

Improving Environmental Management through Sustainable Land Management in St. Kitts and Nevis

Countries

St. Kitts and Nevis

Agency(ies)

UNEP

Other Executing Partner(s):

International Union for Conservation of Nature (IUCN)

Executing Partner Type

GEF Agency

GEF Focal Area

Multi Focal Area

Taxonomy

Biodiversity, Protected Areas and Landscapes, Focal Areas, Productive Landscapes, Species, Threatened Species, Biomes, Mangroves, Mainstreaming, Agriculture and agrobiodiversity, Land Degradation, Sustainable Land Management, Improved Soil and Water Management Techniques, Restoration and Rehabilitation of Degraded Lands, Sustainable Agriculture, Climate Change, Climate Change Adaptation, Small Island Developing States, Livelihoods, Climate Change Mitigation, Agriculture, Forestry, and Other Land Use, Strengthen institutional capacity and decision-making, Influencing models, Demonstrate innovative approaches, Transform policy and regulatory environments, Civil Society, Stakeholders, Non-Governmental Organization, Community Based Organization, Local Communities, Private Sector, Individuals/Entrepreneurs, Beneficiaries, Gender results areas, Gender Equality, Access to benefits and services, Participation and leadership, Knowledge Generation and Exchange, Awareness Raising, Capacity Development, Gender Mainstreaming, Sex-disaggregated indicators, Gender-sensitive indicators, Food Systems, Land Use and Restoration, Integrated Programs, Landscape Restoration, Comprehensive Land Use Planning, Smallholder Farming, Knowledge Exchange, Capacity, Knowledge and Research, Knowledge Generation, Learning, Adaptive management

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 2

Duration

60In Months

Agency Fee(\$)

286,518

A. Focal Area Strategy Framework and Program

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
BD-1_P1	Outcome 1.2: Improved management effectiveness of protected areas	GET	512,717	3,766,024
CCM-2_P4	Outcome B: Policy, planning and regulatory frameworks foster accelerated low GHG development and emissions mitigation	GET	350,000	2,604,477
LD-1_P2	Outcome 1.1: Improved agricultural, rangeland and pastoral management; Outcome 1.2: Functionality and cover of agro-ecosystems maintained; Outcome 1.3: Increased investments in SLM	GET	1,603,265	12,300,641
LD-2_P3	Outcome 2.2: Improved forest management and/or restoration; Outcome 2.3: Increased investments in SFM and restoration	GET	550,000	4,024,146
Total Project Cost(\$)			3,015,982	22,695,288

B. Project description summary

Project Objective

To transform degraded forest landscapes into biodiversity and climate-friendly areas of sustainable agricultural / agroforestry production

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
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Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
1: Integrated and strengthened environmental planning and management on the islands of St. Kitts and Nevis to support island sustainability	Technical Assistance	<p>1.1: Reduced pressure on natural resources from competing land uses on the islands of St. Kitts and Nevis</p> <p>1.2: Improved systemic capacity for promoting sustainable development in the islands of St. Kitts and Nevis through INRM</p> <p>1.3: Reduced pressure on three indicator species at two Key Biodiversity Area (KBA) sites</p>	<p>1.1.1 Updated/ revised National Physical Development Plan (NPDP)</p> <p>1.1.2 Revised legal and regulatory framework to support NPDP implementation</p> <p>1.1.3 Baseline digital land use maps of areas of high priority environmental concern</p> <p>1.2.1 Relevant Institutions, CSO and Communities capacitated for coordinated and effective action on SLM, BD conservation and climate smart agriculture</p> <p>1.2.2 National capacities improved through post-graduate technical training for at least 6 students engaged with the local authorities.</p>	GET	862,921	4,760,466

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
2: Mainstreaming BD conservation, SLM and CCM into key development and resource management sectors	Technical Assistance	2.1: Conservation of BD habitat and ecosystem services, and increased carbon sequestration in soil and woody vegetation, achieved through restoration and management of critical forest sites.	2.1.1 Decreased soil erosion, increased carbon sequestration and agroforestry production through reforestation and Assisted Natural Regeneration (ANR) (265ha)	GET	1,356,476	15,177,280
		2.2: Local communities adopt tested SLM practices to reduce land degradation	2.1.2 Increased ecosystem integrity through 20ha of mangrove ecosystems rehabilitated and protected (Cayon to Key)			
		2.3: Improved infrastructure conditions support climate resilience in agriculture	2.2.1 Decreased soil erosion, increased carbon sequestration and agricultural crop production obtained through restored areas of degraded land (215 ha)			
			2.3.1 Water storage tanks and accompanying distribution lines in place to support sustainable and climate- friendly agricultural production for at least 100 participating farmers			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
3: Knowledge management and dissemination for SLM, BD and CC	Technical Assistance	3.1: Public servants from key institutions have increased planning and environmental management capacity	3.1.1 A plan for knowledge management and information exchange on environmental issues is developed and under implementation	GET	458,892	1,607,778
		3.2: Increased understanding and awareness of relevant environmental issues among the general public, land use managers, the tourism industry and international visitors to SKN	3.2.1 Increased awareness and understanding of issues related to SLM, BD Conservation and CSA			
M&E	Technical Assistance			GET	194,077	15,000
Sub Total (\$)					2,872,366	21,560,524
Project Management Cost (PMC)						
				GET	143,616	1,134,764
Sub Total(\$)					143,616	1,134,764
Total Project Cost(\$)					3,015,982	22,695,288

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount(\$)
Government	Ministry of Sustainable Development	Grant	6,180,000
Government	Ministry of Sustainable Development	In-kind	161,922
Government	Ministry of Public Infrastructure, Post, Urban Development and Transport	Grant	9,500,000
Government	Ministry of Public Infrastructure, Post, Urban Development and Transport	In-kind	38,388
Government	Ministry of Finance/National Authorizing Office of the European Union	Grant	6,377,778
CSO	International Union for Conservation of Nature	In-kind	437,200
Total Co-Financing(\$)			22,695,288

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	NGI	Amount(\$)	Fee(\$)
UNEP	GET	St. Kitts and Nevis	Biodiversity		No	512,717	48,708
UNEP	GET	St. Kitts and Nevis	Land Degradation		No	2,153,265	204,560
UNEP	GET	St. Kitts and Nevis	Climate Change		No	350,000	33,250
Total Grant Resources(\$)						3,015,982	286,518

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required

PPG Amount (\$)

99,999

PPG Agency Fee (\$)

9,500

Agency	Trust Fund	Country	Focal Area	Programming of Funds	NGI	Amount(\$)	Fee(\$)
UNEP	GET	St. Kitts and Nevis	Biodiversity		No	16,999	1,615
UNEP	GET	St. Kitts and Nevis	Land Degradation		No	71,395	6,783
UNEP	GET	St. Kitts and Nevis	Climate Change		No	11,605	1,102
Total Project Costs(\$)						99,999	9,500

Core Indicators**Indicator 3 Area of land restored**

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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0.00	285.00	0.00	0.00
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Indicator 3.1 Area of degraded agricultural land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Indicator 3.2 Area of Forest and Forest Land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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	265.00		
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Indicator 3.3 Area of natural grass and shrublands restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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	20.00		
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Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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0.00	215.00	0.00	0.00
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Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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215.00

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted
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Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
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Expected metric tons of CO ₂ e (direct)	0	79342	0	0
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Expected metric tons of CO ₂ e (indirect)	0	0	0	0
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Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
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Expected metric tons of CO ₂ e (direct)	0			
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Expected metric tons of CO ₂ e (indirect)				
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Anticipated start year of accounting		2019		
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Duration of accounting		1		
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Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
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Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)		79,342		
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting		2019		
Duration of accounting		10		

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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Indicator 9 Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (metric tons of toxic chemicals reduced)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
0.00	0.00	0.00	0.00

Indicator 9.1 Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type)

POPs type	Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
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Indicator 9.2 Quantity of mercury reduced (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 9.3 Hydrochlorofluorocarbons (HCFC) Reduced/Phased out (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 9.4 Number of countries with legislation and policy implemented to control chemicals and waste (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
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Indicator 9.5 Number of low-chemical/non-chemical systems implemented, particularly in food production, manufacturing and cities (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
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Indicator 9.6 Quantity of POPs/Mercury containing materials and products directly avoided

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
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Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		30		
Male		70		
Total	0	100	0	0

PART II: Project JUSTIFICATION

1. Project Description

Changes to Project Goals, Outcomes, Outputs, Global Environmental Benefits, or Co-financing

Table 1. Changes from the Original PIF

PIF Text	CEO ER Text	Explanation for changes
The primary goals of the project are to help St. Kitts and Nevis to transition away from sugar and monocrop agriculture and to reorient all sectors of the economy towards sustainable resource use policies and practices, which together can provide economic opportunities for the country’s population while also sustaining ecosystem services and globally significant biodiversity.	The Project Goals are to help St. Kitts and Nevis to continue the transformation process which started in the aftermath of the closure of the sugar industry and to reorient all sectors of the economy towards sustainable resource use policies and practices, which together can provide economic opportunities for the country’s population while also sustaining ecosystem services and globally significant biodiversity.	Change made at request of Government of St. Kitts and Nevis to ensure the project’s overall goal is articulated to reflect that the project builds on the government’s efforts and progress to date in the national reorientation process towards sustainable development.
Outcome 2.2 Tested SLM practices supported by productive assets have reduced Land Degradation, increased soil carbon sequestration, and enabled sustainable agricultural production on degraded/abandoned lands.	Outcome 2.2 Local communities adopt tested SLM practices to reduce land degradation	Change made to improve understanding of the outcome's impact and to shift focus to capacities built and embraced by local communities and their ability to replicate them.
Outcome 2.3 Improved infrastructure conditions support SLM measures.	Outcome 2.3 Improved infrastructure conditions support climate resilience in agriculture	Change made at request of the Ministry of Agriculture, expressing preferences for storage tanks to improve climate resilience and infrastructure adaption practices or agriculture.
Outcome 3.1 Increased national capacity to plan for and manage environmental issues through knowledge exchanges	Outcome 3.1 Public servants from key institutions have increased planning and environmental management	Change made in order to improve the understanding of the main target group (public servants).

PIF Text	CEO ER Text	Explanation for changes
<p>Output 2.1.1: Decreased soil erosion, increased carbon sequestration and agroforestry production through reforestation and Assisted Natural Regeneration (ANR) (350ha)</p>	<p>Output 2.1.1: Decreased soil erosion, increased carbon sequestration and agroforestry production through reforestation and Assisted Natural Regeneration (ANR) (265ha)</p>	<p>Cost estimates developed through the PPG phase to determine costs of reforestation and restoration revealed that direct on the ground expenses (exclusive of co-financing) are quite elevated. Reforestation cost using native fruit trees is estimated at US\$ 5,807/ha and ANR cost is estimated at US\$938/ha/. Also, as part of the Government of St. Kitts and Nevis (GSKN) sustainable growth, development and debt management agenda, lands have been vested in a Special Purpose Vehicle (SPV) which places the land beyond the remit of the central government for immediate intervention by the project. In addition, as land is a limited resource it is imperative that the project interventions not encroach on private property. However, the Government expresses its willingness to work with the project team once the project starts, to identify other potential hectares which could be subject to reforestation and Assisted Natural Regeneration beyond the 265 hectares already identified by government.</p>
<p>Output 2.2.1: Decreased soil erosion, increased carbon sequestration and agricultural crop production obtained through restored areas of degraded land (300 ha)</p>	<p>Output 2.2.1: Decreased soil erosion, increased carbon sequestration and agricultural crop production obtained through restored areas of degraded land (215 ha)</p>	<p>For the 215 ha of SLM and CSA IUCN used some cost estimates to get a general idea of what potential techniques can cost, this resulted in a decrease of number of has to be intervened. There is a broad range of SLM and CSA techniques and practices that can be implemented and as part of the project a detailed cost-benefit analysis as well as a crop climate suitability analysis and a participatory approach will be used to select the most suited techniques.</p>

PIF Text	CEO ER Text	Explanation for changes
<p>2.2.2 ponds/dams in place to support sustainable and climate- friendly agricultural production for at least 100 participating farmers.</p> <p>2.3.1 Improved water infrastructure (supply and quality) for agricultural production</p>	<p>Output 2.2.2 has been restructured and integrated with Output 2.3.1, thus eliminating the need for Output 2.2.2 and resulting in new wording for Output 2.3.1 as follows:</p> <p>2.3.1: Water storage tanks and accompanying distribution lines in place to support sustainable and climate- friendly agricultural production for at least 100 participating farmers</p>	<p>A preference for storage tanks as opposed to ponds/dams was expressed initially by Nevis in one-on-one consultations, then by St. Kitts in workshop. Ponds and dams exist on both islands, but they are dry most of the time due to drought (limited rain and evaporation from ponds exposed to the sun) and have thus been abandoned; so constructing more will not solve the water availability problems, thus the specific request for storage tanks/reservoir. Because there is no interest in ponds/dams, this essentially eliminates Output 2.2.</p> <p>Tanks, reservoirs, and distribution lines are all better defined as ‘infrastructure’, and have thus been considered within Outcome 2.3. and corresponding Output 2.3.1. This change does not affect Outcome 2, and the intended objective of providing support to farmers for enhanced sustainable agricultural production is covered by both Outputs 2.2.1 and 2.3.1.</p>
<p>Corporate Results: 2. Sustainable land management in production systems</p> <p>Project Targets: 650 Hectares</p>	<p>Corporate Results: 2. Sustainable land management in production systems</p> <p>Project Targets: 500 Hectares</p>	<p>Project Target adjusted in accordance with confirmed hectares identified by the government, with the possibility to increase the number of hectares during project implementation.</p>
<p>5) Global environmental benefits</p> <p><i>Climate Change Mitigation Focal Area:</i> The expected direct global environmental benefits from the climate-smart agriculture and land degradation practices that will be adopted under the project are in the range of 88,523 tCO₂eq over a 10 year period</p>	<p>5) Global environmental benefits</p> <p><i>Climate Change Mitigation Focal Area:</i> The expected direct global environmental benefits from the climate-smart agriculture and land degradation practices that will be adopted under the project are in the range of 79,342 tCO₂eq over a 10 year period</p>	<p>The expected direct global environmental benefits from the climate-smart agriculture and land degradation practices that will be adopted under the project has been adjusted as per the calculations using the Ex-Ante Carbon Balance Tool, and in accordance with the new number of hectares confirmed for project interventions.</p>

PIF Text	CEO ER Text	Explanation for changes
<p>C. Indicative Sources of <u>Co-financing</u></p> <p>Sugar Industry Diversification Foundation (Grant) (4,500,000)</p> <p>EU- St. Kitts and Nevis 11th EDF National Indicative Programme and Water Conservation and Drought Management Project (Grant) (5,000,000)</p> <p>Government - Agriculture Diversification Project and Agriculture Resource Management Project (ARMP) (Grant) (4,500,000)</p> <p>Government of St-Kitts and Nevis – Ministry of Sustainable Development (In-Kind) (500,000)</p> <p>Total: \$14,500,000</p>	<p>C. confirmed sources of <u>Co-financing</u></p> <p>Ministry of Sustainable Development (Cash) (6,180,000)</p> <p>Ministry of Sustainable Development (In-kind) (161,922)</p> <p>Ministry of Public Infrastructure, Post, Urban Development and Transport (Cash) (9,500,000)</p> <p>Ministry of Public Infrastructure, Post, Urban Development and Transport (In-kind) (38,388)</p> <p>Ministry of Finance/National Authorizing Office of the European Union (Cash) (5,629,833)</p> <p>International Union for Conservation of Nature (In-kind) (437,200)</p> <p>Total: 21,947,343</p>	<p>The sources of co-financing originally indicated are no longer relevant, since they are either no longer active or will not materialize in time for project implementation, and as such, cannot be used as verifiable sources of co-financing. The new sources identified have been vetted to be relevant and in alignment with the proposed project objectives and timeline, and produce a total amount that is approximately 50% more than the total co-financing proposed in the PIF. Co-financing commitments are in Appendix 11</p>

The global environmental and/or adaptation problems, root causes and barriers that need to be addressed

Overview & Environmental Context

The Federation of St. Kitts and Nevis consists of two islands located in the Eastern Caribbean with a total land area of 269 sq. km. (St. Kitts is 176 sq. km, and Nevis is 93 sq. km.). The total population of the two islands is 47,195 people. The climate of St. Kitts and Nevis is tropical marine, influenced by steady northeast trade winds and tropical oceanic cyclonic movements. Mean annual rainfall ranges from about 40 inches in the coastal areas to about 150 inches in the central mountain ranges, although the South East Point of St. Kitts is drier, with mean annual precipitation varying from 39 inches on the peaks to 34 inches at Cockleshell Bay. Rainfall is unevenly distributed during the year, with a reliable wet period from August to September and driest months January – April. The hurricane season extends from June to November, and there is a high annual frequency of tropical disturbances that generate squalls and high wind velocities.

Notwithstanding the rainfall patterns described above, SKN has been subject to a prolonged drought since 2015, leading to high pressure on the main aquifers, such as the Basseterre Valley Aquifer that provides 40% of the country's needs, which has resulted in the rationing of municipal water supplies over the course of 2015-2016. Official government figures revealed rainfall of 24 inches in 2015, 35 inches in 2016, and 60.5 inches in 2017. The rationing was temporarily suspended in 2017, but was reintroduced in specific areas in February 2018 following reduced levels of rainfall. As of June 30, 2018, the level stood at 9.4 inches of rainfall so far for 2018. Areas affected by water rationing include sections of Basseterre, Bird Rock, Frigate Bay, St. Peters, New Road, Shadwell, Pine Gardens and Cayon to Keys[1]¹. As stated in the report 'Planning for the Integration of Climate Resilience in the Water Sector in the Caribbean'[2]² (2018), based on analysis recently carried out, climate change will result in additional pressure to the water sector in St. Kitts and Nevis, as it relates to the long term availability of water resources, where it has been estimated that a 10% reduction in rainfall, coupled with increasing temperatures could result in a 30% reduction in recharge to aquifers.

SKN is home to rich terrestrial biological diversity. Vegetation types vary across the two islands, from small sections of Elfin Woodland at high elevations in St Kitts to rainforest in the upper watershed of the Wingfield River to dry scrubland in the South-east Peninsula. On Nevis, the vegetation varies from Elfin Woodland on Nevis Peak to dry scrubland and riparian forest along dry river channels. St Kitts has only a few small patches of mangrove remaining, estimated at 79 ha. Fifteen mangrove sites have been identified in St Kitts and Nevis, eight in S. Kitts and seven in Nevis. Except for some sites, such as Friar's Bay Pond and Greatheeds Pond in St. Kitts and Nisbett Settlement in Nevis, the majority of sites contain few mangroves species. The most common species are: *Avicennia germinans*, *Laguncularia racemosa*, *Rhizophora mangle* and *Avicennia schaueriana*, which is listed on the IUCN Red List of Threatened Species. The series of white mangrove stands (*Laguncularia racemosa*) are located around fresh or brackish water lagoons. At Greatheeds Pond stands of *A. germinans* reach a maximum of 10 m in height; in other sites mangroves rarely reach above 5 m high. In Nevis, *Laguncularia racemosa* and *Conocarpus erectus* are the most common species[3]³. Beard (1949) estimated that of 2,000 species of flowering plants found in the Eastern Caribbean, 243 species were trees and 121 species were found in SKN, but there has not been a more recent census. SKN is home to several endangered, resident and migrant bird species, including the threatened Brown Pelican (*Pelecanus occidentalis*) and the Roseate Tern (*Sterna dougalliidougallii*).

Wetlands (salt ponds) are numerous on the island of St. Kitts and constitute important ecosystems; these salt ponds and their surrounding vegetation (e.g. mangroves) serve as important habitats for wildlife, and even during dry spells the mud flats are important to shore birds and wading birds. These salt ponds have an average depth of one meter or less and some virtually dry up during dry spells. The ponds are replenished when they receive runoff from neighboring hillsides; in addition, the low profile and fragile nature of the seaward berms allows seawater to breach the ponds during storms, periodically replenishing them with seawater. Otherwise, there are no natural surface water connections to the open sea, which makes St. Kitts' ponds unique within the Caribbean, and the "Ponds of the Southeast Peninsula" is one of three terrestrial Key Biodiversity Areas (KBAs) identified in St. Kitts and Nevis. Two additional terrestrial KBAs exist on St. Kitts, namely the Central Forest Reserve and Cayon to Key sites. St. Kitts Central Forest Reserve KBA is a declared National Park covering

5,060 ha. Cayon to Key KBA remains unprotected and is a very important nesting site for the Leatherback sea turtle (*Dermochelys coriacea*). There are three more terrestrial protected areas established or in the process of establishment, namely Brimstone Hill Fortress (15 ha), Royal Basseterre Valley (200 ha) and Nevis Peak National Park (2,250 ha).

Socio-Economic Context

The economy in St. Kitts and Nevis has undergone radical transformation during the last decade, which has changed the islands' land use patterns and pressures on its ecosystems. Sugarcane long dominated the landscape, particularly on the island of St. Kitts, but faced with declining production, the Government closed the state-run sugar industry in 2005. As a result, approximately 3,750 hectares of sugar cane fields (of a total of 5,050 hectares of agricultural land) were suddenly no longer under active management. The shift out of sugar cultivation, which employed a large part of the population along the value chain from planting and harvesting to processing, packaging and exporting, produced significant unemployment and a challenge to farmers to adopt new crops/practices. At present, the agriculture sector is composed primarily of part-time smallholder farmers working on small plots (1 ha. or less) where they cultivate various vegetable, fruit and root crops for local markets, as well as a small livestock sector producing pigs, poultry, cows, sheep and goats; these smallholders face significant challenges from pests and diseases, water shortages and low productivity resulting from unsustainable production practices. In addition, the passage of Hurricanes Irma and Maria in 2017 destroyed vegetation, farm structures, livestock, roads and other infrastructure at a value of over EC\$ 4 million. Despite the adverse weather, in 2017 the country saw a promising rebound with increased production in seven crops, the most significant four being pineapples with a 247% growth, sweet pepper with 167%, cucumber 128%, and squash with 83% growth[4].

Although the soils in SKN are rich and can contribute to meeting domestic needs, production of food is insufficient and the country continues to import large quantities of food at a greater economic and environmental cost (e.g. land degradation through abandonment of arable productive land, carbon emissions).

Agricultural cooperatives have not been part of the farming landscape in SKN, but these are now beginning to emerge and offer the opportunity to improve agricultural production and to engage on issues related to conservation agriculture and sustainable land management. The Fahies Agricultural Women's Cooperative and the New River Farmers Association are primary examples of emerging agriculture-based associations in the country. Furthermore, in an effort to diversify the economy, land use planning has been modified to allow for non-agricultural uses of former sugarcane lands, such as construction of homes, tourism facilities, schools, commercial & industrial sites, etc. More broadly, SKN is transitioning rapidly towards a more service-oriented economy; in 2017, Travel & Tourism revenue contributed 6.6% to total GDP, and is forecast to rise by 3.3% in 2018, by 5.8% per annum from 2018-2028, to 8.9% of total GDP in 2028[5]⁴ (however, ecotourism remains a very small part of the tourism sector in the country). This rapid growth comes with sustainable development challenges, in particular the construction of hotels and other infrastructure in potentially fragile areas or areas of important biological diversity, as well as an increase in uses of energy and water, increased pollution, and the potential degradation of coastal areas from unsustainable tourism practices.

Policy / Legal Context

Saint Kitts and Nevis is party to key international conventions and agreements that provide a policy context at the highest level for the development of the project. International conventions relevant for this project include the United Nations Convention on Biological Diversity, ratified by SKN in 1993; United Nations Framework Convention on Climate Change, ratified by SKN in 1993; and the United Nations Convention to Combat Desertification, ratified by SKN in 1997. Saint Kitts and Nevis has also shown its commitment to sustainable development through a series of regional and national policies, as well as legislation, including the St. George's Declaration of Principles of Environmental Sustainability in the Organization of Eastern Caribbean States (OECS); the National Environment Policy (NEP); the National Environmental Management Strategy (NEMS); the National Conservation and Environment Protection Act (NCEPA); the Solid Waste Management Corporation Act; the National Physical Development Plan; and the Nevis Physical Development Plan.

Notwithstanding the above, there are several key national policies that best define the institutional, sectoral and policy context for the design and implementation of this project. These include the National Adaption Strategy (NAS) of 2006, which outlined the fiscal, economic, social, physical and environmental transformation of the Federation in the aftermath of the closure of the sugar industry; the Medium Term Economic Strategy Paper: 2003–2005 which spoke to the enactment of legislation to address land degradation issues; and the development of a Draft Land Management Unit Framework in 2010, which sought to undertake activities to address the causes and manifestations of land degradation, and to provide the greatest sustainable benefits that assist in promoting the transition to a sustainable and integrated management of land resources. Another key national policy is the Agriculture Development Strategy 2013 – 2016, which provides a framework and guide for actions to improve the production and marketing of crop and animal food and non-food products, including a clear goal of achieving sustainable and resilient farming systems, while reducing vulnerability to production risk & climate change impacts, and engendering a culture of sustainable farming & resource use.

The most relevant national policy document for this project is the St. Kitts National Physical Development Plan of 2006 (NPDP), developed to guide physical development in reference to land. The NPDP specifically sought to coordinate public and private sector investment decisions; provide a framework for the orderly and progressive development of land; develop “low impact” tourism strategies that minimize the environmental and socio-cultural impacts and takes advantage of the unique qualities of the island; maintain and enhance a strong sense of community; preserve and maintain St. Kitts' attractive visual appearance; manage St. Kitts' growth and development so as to maintain and enhance the island's high quality of life; provide adequate, high quality, and well-maintained public utilities, services, amenities, and facilities; provide a comprehensive transportation system for the island of St. Kitts; support balanced, appropriate economic development; promote and sustain a progressive and positive planning process for St. Kitts; and proactively address St. Kitts' housing issues. It is important to note that this NPDP was developed for St. Kitts only, and a draft Physical Development Plan is being developed for Nevis.

Institutional Context

The institutional framework for the implementation of the project consists primarily of the Ministry of Sustainable Development providing policy direction and overall institutional support for project execution and a leading role in the review and revision of environmental policies and plans. This Ministry also is the Office of the GEF Operational Focal Point and the National Designated Authority of the Green Climate Fund, and leads all coordination efforts for GEF funded projects with the other relevant focal points at the national level in

project-relevant topics including biodiversity, Climate Change and Land Degradation. The Department of Physical Planning and the Department of Lands and Surveys will lead in the revision of the National Physical Development Plan (NPDP) and related maps, while the Department of Agriculture and the Forestry Department will be instrumental in the delivery of project objectives related to Assisted Natural Regeneration (ANR), reforestation, Climate Smart Agriculture, and the improvement of water infrastructure programmes to farmers. The Department of Environment will coordinate with local civil society groups in the development and implementation of mangrove reforestation on the island of St. Kitts.

All project interventions on the island of Nevis shall be coordinated by the Nevis Island Administration (NIA), and specifically the Physical Planning Department, the Agriculture Department, and the Forestry Department. Unlike the island of Saint Kitts, mangrove restoration will not take place in Nevis, and as such, all project interventions in this regard will be restricted to Saint Kitts, even though Nevis may benefit from the establishment of additional nursery support for its reforestation programme.

There are several non-governmental organizations that will be instrumental in the delivery of project activities. This is especially so in the cases of Climate-Smart Agriculture, agro-forestry, reforestation, mangrove restoration, water infrastructure for farmers, the dissemination of public awareness messages, and as data sources and users of the project's knowledge management network. Among these organizations in St. Kitts are the St. Christopher National Trust (SCNT) and Fahies Agricultural Women's Co-operative Society, with the latter having a key role in consolidating the participation of women in project interventions. In Nevis the project will engage the Nevis Historical and Conservation Society, REACH Hamilton Community Group, and the New River Farmers Association. These organizations in Nevis will work closely with the project, the Agriculture Department and the Forestry Department on Nevis in activities related to Climate-Smart Agriculture, agro-forestry, reforestation, water infrastructure for farmers, the dissemination of public awareness messages, and as part of the project's knowledge management. As stated above, the project will not engage in mangrove restoration in Nevis, only on St. Kitts.

Project Sites

Sites for Biodiversity Management

The Biodiversity Assessments to be conducted by the project (Output 1.3.1) will focus on two Key Biodiversity Areas (KBAs): Cayon to Key and Ponds of the Southeast Peninsula. The Cayon to Key KBA consists of an area of 6,000 ha, and is located in the Saint Mary Cayon Parish on the northeast coast of St Kitts. The parish is approximately 6 square miles and consists of forest-draped and scrub covered mountains, black-sand beaches and cliffs. The town of Cayon dominates the central portion of the parish, with the smaller villages of Lodge and Ottley's to the North. All the lands surrounding these villages are covered in farms and abandoned sugar cane estates, up to 1,000 ft above sea level, after which forests become more dominant. Most coastal lands are in private hands, while sugar cane lands are either leased from the government or privately owned. Other national lands have been placed in a Special Purpose Vehicle which limits the central government making unilateral decisions on land use. A Draft Land Use Policy recently developed will help to clarify the access and management of land. It should be noted that the upgraded NPDP will also be informed by the recently prepared Draft Land Use Policy of 26th February 2018. The beaches of Saint Mary Cayon hold important biodiversity and ecological importance due to their use for the laying of eggs by Leatherback Turtles. Figure 1 illustrates the location of the parishes of St. Kitts and Nevis, highlighting Cayon to Key.

The Southeast Peninsula is composed of low hills, eight salt ponds, coastal cliffs, and beaches. It is approximately 15 kilometers long and a road runs its length. The peninsula widens towards the southeastern tip to approximately 4 kilometers wide, although the narrowest northern section is less than one kilometer wide. Tourism is concentrated in the northern section of the peninsula, which is dominated by resorts, a golf course, and restaurants. Similar developments are expected to expand southward. Ponds of importance to birds on the peninsula include Greatheeds Pond and beach, Half Moon, Friar's Bay, Great Salt, Major's Bay, Mosquito Bay, Little Salt, and Frigate Bay Ponds. The boundaries of the Southeast Peninsula are limited by an area thirty meters from the high water line of each pond. Least Terns nest at three sites on the Southeast Peninsula. A survey in 2004 revealed that Mosquito Bay Pond has 20 Least Tern pairs, Great Salt Pond has 27 pairs, and Greatheeds Beach (which is just north of the peninsula) has 18 pairs. Although St. Kitts' population of 65 pairs meets the Important Bird Area requirements, there is no one site where concentrations are sufficient to classify as an IBA. Because Least Tern colonies have previously been recorded at other nearby sites, indicating possible movement between breeding sites, the entire Southeast Peninsula is proposed as an IBA.

Figure 1: Illustration of Parishes of St. Kitts and Nevis, highlighting Cayon to Key KBA[6]



Figure 2: Illustration of Ponds of the Southeast Peninsula KBA



Sites for Agroforestry/Assisted Natural Regeneration

The project will support reforestation and Assisted Natural Regeneration (ANR) on at least 257 hectares of degraded or denuded land (Output 2.1.1), of which 200 hectares will be in the upper/mid-level watershed areas located adjacent to the Central Forest Reserve and National Park (CFRNP) on St. Kitts and 57 hectares on the island of Nevis. The St. Kitts Central Forest Reserve is comprised of all areas on the island of St. Kitts over 300 meters elevation. The dominant feature of the reserve is Mt. Liamuiga (1,156 m), the highest point on St. Kitts. It is part of the mountain range which runs north to south and forms the northern part of the island. Human settlement is limited to the lower elevations, where sugarcane fields were farmed and villages dot the coastal area. Canyons, or ghauts, radiate from the peak. Agroforestry/assisted natural regeneration interventions will be undertaken within the upper/mid-level watershed areas that are under degraded conditions immediately adjacent to the CFRNP that is defined by the 300-metre (1,000 foot) contour. These are areas upland

from the adjacent communities of Fahies, Belmont and Newton Ground in the western part of the island, upland areas adjacent to the communities of Sadlers, Tabernacle, Philips and Cayon along the northern part of the island, and in the south in the Wingfield area (Figure 3).

Based on studies conducted by OAS/USAID, the areas on Nevis with the highest risk of erosion New River in the east to south-east of the island and in the coastal areas of Pinney’s Beach, Gallows Bay, Pinney’s Jessup, and Pinney Cotton, on the western coast of Nevis in the St. Thomas Lowland Parish, and extending for just over 3 miles north of Charlestown, the capital. In this regard, the project will specifically prioritize and target these areas for reforestation interventions on Nevis (Figure 4).

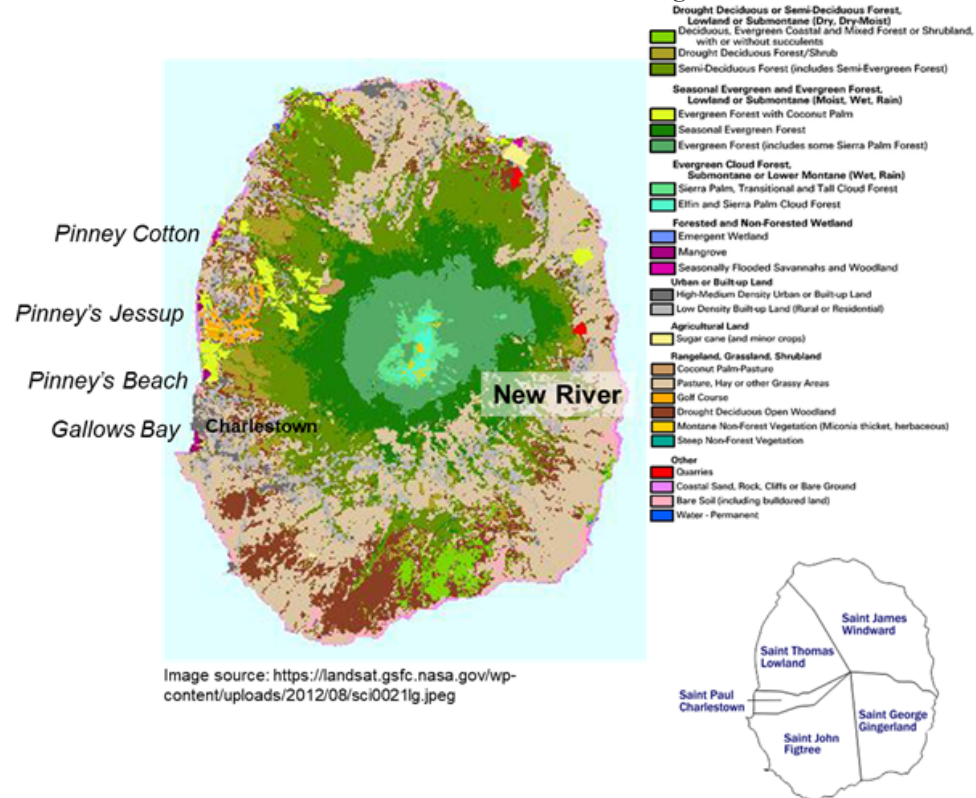
Figure 3. Prioritized SLM intervention areas along the Central Forest Reserve and National Park and within key agricultural production areas[1]



Locations of main project target areas in black bold text (associated parishes in red italic).

[1] The OECS Protected Areas and Associated Livelihoods (OPAAL) Project. 2011. ENVIRONMENTAL AND SOCIOECONOMIC BASELINE STUDIES. St. Kitts and Nevis Site Report - Central Forest Reserve, St. Kitts

Figure 4. Prioritized SLM Intervention Areas on Nevis[2]



Locations of main project target area in black bold text; coastal target areas in italic

[2] <http://villasofnevis.com>

Sites for Land Restoration

To complement the biodiversity assessment / management activities mentioned above, the project will work to restore at least 20 hectares of mangroves in the Cayon to Key KBA (Output 2.1.2), which will help to protect coastal areas on the eastern coast of St. Kitts that are critical nesting habitat for the Leatherback turtle (*Dermodochelys coriacea*) as well as other sea turtle species. In addition, farmers who lost their livelihoods following the decline of the sugar industry will be supported in re-establishing agricultural production on lands that are

now dominated by invasive vegetation with low carbon sequestration capacity and high rates of soil erosion. The communities of Wingfield in the Old Road area, as well as Belmont and Green Hill in particular, will be targeted for project interventions covering an area of 215 hectares, to achieve increased carbon sequestration and agricultural crop production through restored areas of degraded land (Output 2.2.1).

Threats / Root Causes

Due to its geographical location, topography and recent economic developments, in particular the closing of the sugar production sector and parallel growth of the tourism and construction sectors, St. Kitts and Nevis is facing increasing environmental pressures, which are limiting the country's ability to achieve its sustainability objectives.

- Ecosystem Degradation: In the lowland coastal areas of St. Kitts and Nevis, intensive land use has removed all vestiges of the natural vegetation. Although the mountain peaks are still covered by forest, they do not have virgin forest characteristics. The lower slope areas of both islands are dominated by secondary growth on abandoned sugarcane farms. Most of the country's major watersheds are concentrated in the central area of the islands, and the area's forest resources provide a reliable rainwater storage service. However, growing deforestation mainly due to land clearing for agricultural production in the middle and lower slopes is causing increased runoff and decreasing water availability and quality downstream, and slowing the process of aquifer recharge. Despite this decline in water availability, cropping continues to be rainfed, whereas urban and tourism water needs are being met from increasingly pressured groundwater sources. The country is also marked by clefts or ravines (ghauts), through which water runs down to the sea. The most important one on St. Kitts is College Street Ghaut, which is subject to severe erosion, causing threats to agricultural land and human life, but many other ghauts on the island exhibit severe erosion problems of similar intensity. Degradation along these ghauts undermines arable farmland, and excessive silt from erosion in the ghauts is deposited into the sea, contributing to negative effects on the sea grass beds, mangroves, coral reefs and other spawning grounds in the marine environment. Coastal areas are also subject to negative impacts from improper shoreline development mainly for the constantly growing tourism industry, sand mining, land-based pollution, and the destruction of reefs and mangroves. Residential and tourism development, including squatting and unregulated settlements, are the most important factors driving land degradation today in SKN; other important factors include deforestation, overgrazing and hoof damage, discharge of grey water and fires; and on Nevis, the operation of privately owned quarries, which are a major contributor to siltation in terrestrial and coastal waters. Land is subject to competing demands from various sectors such as agriculture, tourism and housing. Also, in Nevis substantial shoreline erosion from constant battering of the waves has been observed, and has triggered an initial response by the authorities in the form of reforestation with native species known to be resilient on the coast, especially seagrapes and coconut.

As stated in the report 'Planning for the Integration of Climate Resilience in the Water Sector in the Caribbean' (2018), pollution is also contributing to ecosystem degradation on St. Kitts, as urban areas lack adequate treatment facilities for domestic sewage and waste water, and enforcement of maintenance of domestic soak ways. Rapid urban growth in the upper watershed of the Basseterre Valley Aquifer is a risk to water quality (22% population increase in St Peters Parish over the period 2001 to 2011, and although the Basseterre wellfield is protected as a national park the upper catchment is not afforded this protection. Package sewage treatment plants are also utilized in the residential and tourist areas of Frigate Bay, but there has been a noted increase in illegal solid waste disposal on St. Kitts; with the current situation land based sources of pollution enters streams and seeps underground, creating a

threat for public safety. Pollution from litter and dumping is also a major issue on both St. Kitts and Nevis which is further contaminating water resources and exacerbating ecosystem degradation, while expanded distribution of human settlements and shelters has resulted in more pollution and solid waste generation.

Biodiversity loss and invasive species: The significant area of abandoned sugarcane farms in the lower mountain slopes of both islands is now dominated by secondary growth, including large areas of invasive guinea grass, which has led to increased frequency of wildfires and the consequent release of soil carbon stocks. In addition, these abandoned farms have provided habitat for a number of other invasive species and pests, such as yellow mite, white flies, and the African Green or Vervet monkey (*Chlorocebus sabaues*), as well, other non-native species have also been introduced, including the Black Rat (*Rattus rattus*), the Norway or Brown Rat (*R. norvegicus*), the House Mouse (*Mus musculus*), the Indian Mongoose (*Herpestes javanicus*), and feral populations of the Domestic Pig (*Sus scrofa domestica*). The spread of human settlements into highland areas are also having a significant negative impact on biodiversity. In the past, settlement was primarily limited to coastal, but with the closure of the sugar industry in 2005, 'new' lands became available for settlement, including informal settlements (squatting) in vulnerable and ecological sensitive areas that have resulted in deforestation and soil erosion, as well as tourism development in ecologically sensitive areas that also poses a threat to biodiversity.

Climate Variability and Climate Change: Climate change is projected to increase the severity and negative impacts of hurricanes and other natural disasters in SKN, resulting in more widespread flooding (exacerbated by poor drainage systems and maintenance); landslides; coastal damage; water contamination; and loss of arable land. Sea level rise is expected to have a significant adverse effect on coastal low-lying areas where much of the development in St. Kitts and Nevis is concentrated.

Vulnerability to climate events can be demonstrated by the fact that agroforestry in SKN never fully recovered after Hurricane Hugo in 1989; the large stands of coconut trees destroyed in that event have not returned, in part because of pests that became better established in the degraded landscape. The impact of climate change on supplies of freshwater is a critical issue in SKN. Already, climate change has caused shifts in rainfall patterns (shorter and more intense rainfall and longer and more severe droughts) which have negatively affected agricultural productivity and water availability in the country., and put the country into a water-insecure situation, and for the first time in the country's history, the Government has had to ration water. Although agriculture only uses 10% of available water and historically relies on rain-fed sources, it is now at greater risk due to less rainfall and the possibility that water supplies in the dry season will be rationed. Water shortages are not only a threat to agricultural production, but also to the important tourism industry; in the last two years, SKN has been forced to refuse water to cruise ships docking in the country. Commercial hotels have taken to establishing their own water sources but this water is not shared with local communities or populations and depletes groundwater resources. Tourism uses 25-30% of water sources and currently pays no fees or abstraction costs. Due to over-extraction and sea level rise, some groundwater has been subject to salt- water intrusion.

Climate Resilience & Vulnerability Assessments conducted in 2018 (*Planning for the Integration of Climate Resilience in the Water Sector in the Caribbean*) reported the highest climate related risks (**extreme**) for St. Kitts and Nevis were drought and sea level rise risks to the Basseterre and other shallow aquifers and sea level rise risk to surface water sources. The next highest climate related risks (**major**) were drought, heavy rainfall and heatwave risks to surface water sources, intense rainfall risk to wells, intakes and water treatment plants, wind risk to fiberglass tanks and drought increasing water demands from domestic and agriculture users.

The rapid ecosystem change and degradation patterns highlighted above lead to a loss in carbon stocks in agricultural lands, forests and mangroves. Associated with the growth of energy-intensive sectors such as construction, housing and tourism, these issues are placing the country in a position to gradually become a contributor to climate change, despite having declared its intention to becoming “the first Sustainable Island State” in the region. Finally, the growing land degradation and erosion and the low agricultural productivity are accelerating rural-urban migration patterns and the dependency on food imports, which leads to diminished livelihoods, higher energy consumption, lower economic growth from potentially sustainable sectors, and an over-reliance on unsustainable practices of natural resources management.

Long-term Solution and Barriers

The preferred and most effective solution to the threats identified above is to actively engage stakeholders in the agriculture, private, fisheries and tourism sectors, the main economic sectors in sustainable resource use pathways that will restore the degraded environment and generate global environmental benefits. However, a number of important barriers exist that are preventing St. Kitts and Nevis from achieving the preferred solution, as described below:

Barrier 1: Inadequate policy, regulatory and planning frameworks: On one hand, there is a need to update the NPDP as well as to formulate a National Land Use Policy, which must address issues including, but not limited to land tenure, value, use, development, administration and management, land information, management system, environmental consideration, among others. On the other hand, existing legislation encounters enforcement challenges due to lack of capacities and evidence-based decision-making processes. Presently, responsibility is spread among six different agencies, of which the Development Control and Planning Board has the most responsibility at the policy planning level. Coordination between the various agencies with responsibility for environmental management is generally weak, and there is very little private sector participation in the implementation of best practices.

Although a number of previous MEA project-driven initiatives for sustainable development have been undertaken in SKN, continued efforts are required to build and strengthen learning and knowledge management, systematic transfer of technology and or human capacity building, particularly on SLM, CSA, and CCM matters, and thus capacity building and institutional strengthening within state and non-state institutions and other stakeholders remains a priority from a human resource development perspective. While SKN has a well-functioning governmental system, the skills required for addressing environmental challenges among existing staff and potential new recruits are insufficient. There are no local training programs for emerging scientists, and no local research into biodiversity issues, sustainable land management or climate smart agriculture.

Land use planners and policy makers are not fully aware of the implications of zoning and physical planning decisions, and environmental concerns are not mainstreamed into the land use planning process. There is an urgent need to map and assess critical sites such as erosion hotspots (quarries, ghauts, ravines) and important biodiversity areas so that physical planning development, national planning processes, investment decisions and budgets can take these into consideration.

Knowledge of local species, indigenous biodiversity and pests/invasive is scarce and dispersed (the country has not had a biodiversity census since (1949) and as a result the understanding of the importance and role that biodiversity conservation plays in sustaining the SKN economy is limited and there is lack of understanding at all levels of the value and contribution of biodiversity to the national development agenda and human wellbeing. Enforcement of existing rules and guidelines has proven to be insufficient and the reliance on voluntary standards for investment planning, particularly in the tourism and construction industry, has proven inefficient. Institutional arrangements for the implementation of Building Codes both for public and privately funded developments are insufficient, and the implementation of the existing National Physical Development Plan (NPDP) is constrained by insufficient information and data on land uses and ecosystem services. Additionally, guidelines for Sustainable Land Management have been developed, but there is little evidence that they have been institutionalized. All this means that sustainability is compromised, thus the growth of the housing, tourism and other sectors could lead to rapidly increasing land degradation. For example, while tourism development is guided by high-level policy documents, challenges remain to ensure that sustainable tourism policy priorities are translated into local initiatives, and that regulatory frameworks are adequate and enforced. Thus, although environmental guidelines have been produced by the Ministry of Tourism regarding the construction of large-scale hotels and tourism facilities, these guidelines are merely shared with private tourism companies and are not enforced.

Consistent with the above, and overall, the institutional, regulatory and policy barriers are significant, and there is a general lack of regulations that accompany legislation in SKN (apart from the Guidelines for Mainstreaming Sustainable Land Management). Specifically, and in terms of water resources, coastal resources and protected areas, there is a need for Integrated Coastal Zone Management Plans to be developed and implemented as part of overall national development plans; policies and actions to promote and enhance integrated water resources management are lacking; there is a clear lack of community support for the conservation of biological diversity (except sea Turtles) and the designation of Protected Areas, and effective partnership for biodiversity and conservation; and the GSKN does not have adequate legislation, management policies, and institutional capability to support the management of a national protected areas conservation system, or a protected areas conservation service or agency.

The National Biodiversity Strategy and Action Plan (NBSAP) of 2014, as an officially approved national policy document, outlined several key barriers that are still relevant today within the context of the barriers identified for this proposed project. In this sense, the project will address mainly the need to develop national regulatory mechanisms; and to implement a national reforestation programme as a matter of national policy.

Barrier 2: Limited technical capacities, experience and models for implementing ecologically sustainable pathways for natural resource use and economic development: Technical capacity for enforcing current regulations and practices in St. Kitts and Nevis is low, and voluntary standards are proving insufficient to support sustainable development. Among farmers, there is limited technical capacity to adopt sustainable and efficient agricultural practices; most farmers practice cropping on a part-time basis, with limited technical means, and the sector has not yet become professionalized to a stage where small producers can operate at a viable level. As a result, significant amounts of potentially productive agricultural lands have been abandoned even as the country is becoming increasingly dependent on expensive imported food. Farmers who remain report significant challenges, for example production losses up to 60% in Nevis due to lack of proper storage and pests (particularly Vervet Monkeys), as well as low productivity due to a lack of adequate equipment and inputs (irrigation, fertilizer) and soil erosion and exhaustion.

There is an urgent need to work with farmers and farmer groups to identify suitable areas for crop production and diversification, and to provide training for agricultural producers to address unsustainable agricultural practices. In terms of the protection of priority areas (carbon-rich and biodiverse) such as mangroves, forests and upper watersheds, St. Kitts and Nevis has one Marine Management Area (MMA) and two National Parks, the Central Forest Reserve and National Park (CFRNP) and the Royal Basseterre Valley National Park. However, conservation activities and capacities to protect important habitats and species within these sites have been restricted to support provided by the project “Conserving Biodiversity and reducing habitat degradation in Protected Areas and their Buffer Zones” and additional capacity building in this area is clearly needed; additionally, efforts and mechanisms to protect priority habitats from impacts arising in upstream or adjoining lands are extremely limited. Despite on-going efforts to manage biodiversity, the islands are faced with rapid growth in invasive species in degraded or abandoned agricultural lands, and the destruction of potentially important habitats from unplanned urbanization.

Barrier 3: Lack of knowledge, information and awareness: SKN has aspirations to become the region’s first Sustainable Island State, but the lack of updated and comprehensive data and knowledge on environmental and sustainable development conditions and challenges is a significant barrier to this goal. While opportunities for engaging in sustainable tourism or eco-tourism exist, lack of awareness and information on investment options and on proposed products mean that this potential remains untapped. There is also a need to ensure that locals and visitors are aware of practices for the sustainable use of nature and protection of biodiversity, including for example in and around mangroves, reefs, and sea grass beds, and with regard to threatened species of flora and fauna.

To generate the knowledge and the capacities needed to address the barriers described above, there has to be structured data collection and analysis conducted on an on-going basis to inform policy and management. In SKN, there is poor, limited, or no systematic monitoring, collection of data, data bases, inventories of existing flora, fauna and ecosystems, as well as land cover mapping and mapping of climate change impacts and environmental degradation. Since the first NBSAP, and with the exception of the Lower Coastal Section of the Basseterre Valley, there is no evidence of any significant conservation assessments conducted of the former sugar cane lands. There is a lack of land use capacities assessment and analysis which consider past and new economic scenarios such as the closure of sugar cane industries and increase of tourist visitation. Additionally, data management systems for sustainable development are inadequate, no formal information system for waste management data and pollution control has been developed and implemented; and insufficient research capacity affects the availability and quality of data that is relevant to sustainable development.

Coupled to the above is the need for appropriate human capacity. There is apparently limited human capacity in SKN to analyze the effectiveness of existing strategies and similar national plans, to conduct spatial and demographic trends analysis. There is also very limited GIS capacity and there is lack of a national repository and clearing house on environmental data and other relevant information. There is no standing committee of key government departments to develop or supervise the development of a National Spatial Data Infrastructure (NSDI) and a NLIS.

2) The baseline scenario or any associated baseline projects

The baseline scenario for the project consists of a series of initiatives in support of the country's continued economic transition towards increased sustainability. SKN, while pursuing economic growth through tourism, is dedicated to doing so sustainably and aims to become the first fully sustainable island in the world. In order to achieve this objective, it has undertaken key policy reforms as well as a series of initiatives and projects, inclusive of those that are government-sponsored as well as those conducted with the support of international partners.

Baseline Scenario and Government Baseline Spending

Key baseline spending by the GSKN includes the **Agriculture Diversification Project** (USD 2.58 million), as well as various diversification initiatives supported by the SIDF on an on-going basis. The objective of this initiative was to facilitate the expansion of sustainable practices in agriculture to facilitate the expansion of non-sugar agriculture. Investments by the GEF can contribute to this objective by ensuring that it deploys in a low-carbon, climate smart way and that it promotes conservation and sustainable land management for the maintenance of carbon stocks in agricultural lands, reduced land degradation, conservation of forests and biodiversity of key economic significance.

The **Agriculture Resource Management Project** (ARMP) was implemented during the period 2008-2016, to foster agricultural development and sustainability by building infrastructure, improving soil, water and land management and providing farmers with technical support and training. The ARMP was funded by the SIDF and executed by the Ministry of Agriculture; the budget of EC\$ 10 million (approximately USD 3.3 million) is expected to be renewed. Work carried out to date under the ARMP has done much to create a baseline on which this proposed GEF intervention can build. For example, main access farm roads have been maintained in areas where there was considerable road erosion; new roads were cut or reshaped and earth storm drains constructed to direct drainage flows off the road and into sluices. Debris in ghauts has been cleared and in some locations the project installed gabion baskets and planted vetiver grass to protect the exposed soil. The project also built dams, reservoirs and ponds allowing for the harvesting of over 13 million gallons of water during the dry season, benefiting over 50 producer groups. The proposed GEF intervention will build on experience gained during the ARMP to replicate and upscale water harvesting, irrigation and other sustainable agricultural practices.

The GSKN provides assistance on an on-going basis to both farmers and agro-processors through the provision of inputs (seeds, materials, small supplies etc.) as well as training in bookkeeping, improved business practices, and cultivation of new crops and/or processing of new value added products. These programmes will continue as the GSKN continues to advance the development of the agriculture sector and to diversify products to meet the requirements of the population and ensure food security.

Donor-Funded Baseline

The OECS/EU supported **St. Kitts Water Conservation and Drought Management Project** (CDMP) and the New River Estate Stabilization of Degraded Lands for Nevis project (10.6 million Euros through 2018). The CDMP project seeks to address recent drought and water shortage issues by improving water conservation practices and by promoting investments for the rehabilitation and retrofit of key buildings and utilities in order to reduce water demand and wastage. The project will support audits and conservation plans of public institutions (which are traditionally not metered); undertake pressure management of water distribution mains; conduct an evaluation of potential surface water sources in abandoned

sugar plantations for potential use in agriculture; and retrofit six institutions, including three schools and one hospital. The GEF intervention will build on the assessments conducted by the CDMP for the construction of earth dams, ponds and other irrigation infrastructure.

The UNDP implemented “**Conserving Biodiversity and reducing habitat degradation in Protected Areas and their Buffer Zones**” project (US\$3,371,630). The project seeks to expand and strengthen the terrestrial and marine protected area system, and reduce habitat destruction in PA buffer zones in protected areas in both islands of St. Kitts and Nevis. This will be achieved through strengthened protected areas regulations and the institutional framework for PA system management; development of a financial sustainability framework for the Protected Areas System; expansion of Protected Areas system; and the institutionalization of the Management of Protected Area. This GEF intervention will build on protected area data and management framework in processes to conduct biodiversity assessments, and will capitalize on experiences and lessons learnt in terms of successful strategies used in engaging communities in buffer zones of protected areas.

The IICA project “**Retrofitting greenhouses in St. Kitts and Nevis to improve water and resource use efficiency, save seeds, upcycle plastics and develop the capacity of youth to design next-generation climate-smart agricultural systems**” (US\$1.2 million). This project is in an advanced stage of preparation and is expected to have a duration of 28 months, once implementation starts in 2019. This project proposes to increase capacity of youth in agriculture and agriculture technicians in using 3D technology, virtual reality and gaming as tools for designing, prototyping and up-scaling climate resilient agricultural production systems and equipment; develop technical capacity, value chain and process for upcycling discarded plastic to produce filament to 3D print specialized parts and fittings for climate-smart greenhouse designs and vegetable cloning systems; increase the capacity of greenhouse farmers to clone high-yielding adaptable varieties and shorten time to market of produce using farm-scale cost-effective and appropriate technologies; and improve productivity, profitability and sustainability of greenhouse and related activities by retrofitting structures with climate-smart and water and resource-efficient designs, systems and technologies. This GEF intervention will seek to partner with this project for joint implementation in Climate-Smart Agriculture demonstrations, the development of training materials, training to farmers, and in the involvement of farmers in public awareness campaigns.

The OECS implemented “**Climate change adaptation and sustainable land management in the Eastern Caribbean**” project (10.6 million Euros). The project seeks to improve the region’s natural resource base resilience to the impacts of climate change, through effective and sustainable land management frameworks and practices and through specific adaptation pilot projects focused on physical infrastructure and ecosystems. Activities of relevance for the baseline of this proposed GEF intervention includes undertaking policy dialogue; developing and adopting harmonized sustainable land management legislation and regulations; putting into operation the institutional mechanisms established to support national and regional land policies and strategies; and providing training on sustainable land management. New institutional and regulatory frameworks are expected to include aspects such as regulations to protect and/or restore ecological buffers, regulations to phase out development in high-hazard areas, strict building codes, and the establishment of coastal construction baselines. The project also includes activities focused at acquiring and building human and technical capacities to effectively operate a number of technical tools (e.g. cartographic tools, geographical information systems, GPS tools, computer-assisted design software) required for the collection, storage, analysis and display of geospatial data necessary to support decision making in relation to sustainable land management. Training on land use planning will also be delivered. This GEF intervention will make good use of the materials and tools developed by this project, as well as the experiences and lessons learned in the process to strengthen SLM.

The GSKN, in partnership with bilateral and multilateral development partners, has provided substantial assistance to both farmers and agro-processors. For example, the Government of the Republic of China (Taiwan) has supported agro-processing to create more opportunities to sell to the local market and to expand exports to other islands. The Development Bank of St. Kitts and Nevis (DBSKN) has developed a number of financial mechanisms to provide funds for on-lending from the locally founded Sugar Industry Diversification Foundation (SIDF) to micro, small and medium agro-businesses, as well as opportunities provided through a partnership with the Government of the Bolivarian Republic of Venezuela.

3) The proposed alternative scenario, GEF focal area[9]⁵ strategies, with a brief description of expected outcomes and components of the project

Project Overview:

Sustainable Land Management issues in St. Kitts and Nevis are faced with a number challenges linked to legislative, regulatory, institutional, and capacity barriers. The shift from sugar cane to tourism development as the primary economic driver has resulted in a series of use changes, not only on lands once used for sugar cane production, but also on the coastline to accommodate tourism development infrastructure. Deforestation on slopes has resulted in surface soil erosion and sedimentation, destroying suitable farm land, negatively impacting water supply and quality, and ultimately ending up on the coast with devastating consequences for mangroves, seagrass beds and coral reefs. Land degradation is also exacerbated by residential and tourism developments, by unplanned and unsustainable agricultural practices, and by land-based sources of pollution and waste disposal.

While the Government of St. Kitts and Nevis has made steps to address these challenges through national policy attempts such as the Medium Term Economic Strategy Paper: 2003–2005 which spoke to the enactment of legislation to address land degradation issues; the National Physical Development Plan of 2006 to guide physical development in reference to land and the Draft SKN Land Use Code; the development of a Draft Land Management Unit Framework in 2010, and the Agriculture Development Strategy 2013 – 2016, there has not been much evidence that land degradation and environmental degradation are being effectively addressed. The limited progress achieved to date is as a consequence of several deficiencies at the systemic level as described in detail above under ‘Barriers’: inadequate policy, regulatory and planning frameworks; limited technical capacities, experience and models for implementing ecologically sustainable pathways for natural resource use and economic development; and lack of knowledge, information and awareness.

The interventions of this proposed project are consistent with a multi-pronged approach that targets the three primary barriers identified. The project will assist SKN to strengthen its policy, regulatory and planning frameworks through the up-dating/revision of the National Physical Development Plan, revise the legal and regulatory framework to support NPDP implementation, and the production of baseline digital land use maps of areas of high priority environmental concern. Technical capacity for land use planning, natural resource management, and economic development will be supported through training and capacity building for coordinated and effective action on SLM, BD conservation and climate smart agriculture, as well as support to a post-graduate technical training for at least 6 students engaged with the local authorities.

The project will also support SKN in the mainstreaming of BD conservation, SLM and CCM into key development and resource management sectors through the restoration and management of key forest sites, and support for SLM and sustainable agriculture practices. Knowledge, information and awareness will be addressed through the implementation of a Public Education and Awareness Strategy and a Knowledge Management Strategy, both of which will have SLM, BD and CC as central themes, and targeted to all stakeholders across the length and breadth of the country.

The project will directly contribute towards the following GEF Strategic Focal Areas:

Biodiversity Focal Area

BD-4: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sectors;

Program 9: Managing the Human-Biodiversity Interface;

Outcome 9.1: Increase area of production landscapes and seascapes that integrate conservation and sustainable use of biodiversity into management.

Climate Change Mitigation Focal Area

CCM-2: Demonstrate Systemic Impacts of Mitigation Options

Program 4: Promote conservation and enhancement of carbon stocks in forest, and other land-use, and support climate smart agriculture

Outcome B: Policy, planning and regulatory frameworks foster accelerated low GHG development and emissions mitigation

The expected direct global environmental benefits from the climate-smart agriculture and land degradation practices that will be adopted under the project are in the range of *79,342tCO₂eq over a 10 year period.*

Land Degradation Focal Area

LD-1: Maintain or improve flow of agro-ecosystem services to sustain food production and livelihoods

Program 2: SLM for Climate-Smart Agriculture

Outcome 1.1: Improved agricultural, rangeland and pastoral management

Outcome 1.2: Functionality and cover of agro-ecosystems maintained

Outcome 1.3: Increased investments in SLM

LD-2: Generate sustainable flows of ecosystem services from forests, including in drylands

Program 3: Landscape Management and Restoration

Outcome 2.2: Improved forest management and/or restoration

Outcome 2.3: Increased investments in SFM and restoration

The project will specifically achieve:

- Sustainable management of land and natural resources on at least 500 hectares of land consisting of agricultural land and forest land that results in reduced soil erosion, halting/reversal of land degradation processes, and continued and improved provision of ecosystem services
- Improved productivity as measured by increases in Primary Production and reduced erosion rates
- Improved socio-economic returns from improved land productivity
- Improved water availability through the improvement of streamflow and quality

Project Goal and Objective:

The Project Goals are to help St. Kitts and Nevis to continue the transformation process which started in the aftermath of the closure of the sugar industry and to reorient all sectors of the economy towards sustainable resource use policies and practices, which together can provide economic opportunities for the country's population while also sustaining ecosystem services and globally significant biodiversity. These sustainable resource use pathways will consist of: 1) rehabilitation and protection of carbon-rich and biodiverse forest and mangrove ecosystems; and 2) restoration/maintenance of soil ecosystem services, water supply, and carbon stocks through sustainable and climate smart agriculture and agroforestry (which will also reduce energy-intensive food imports).

The Project Objective is: To transform degraded forest landscapes into biodiversity and climate-friendly areas of sustainable agricultural production.

Components – Outcomes - Outputs

Component 1: Integrated and strengthened environmental planning and management on the islands of St. Kitts and Nevis to support island sustainability

Component 1 seeks to address critical planning and management needs in order for SKN to better embrace its sustainable development challenges. In this regard, the project will strengthen the institutional and regulatory framework for land use planning to facilitate enhanced inter-agency coordination as well as build the necessary technical capacity required for successful implementation at the levels of national institutions and stakeholders alike, with due consideration for competing land uses and the need to reduce stress on ecosystems

and indicator species in Key Biodiversity Areas. While attempts were made to address land use planning under the last National Physical Development Plan (NPDP), its implementation faced difficulties with the required legal and regulatory support, the necessary institutional arrangements and implementation tools and equipment, valid land use baselines, and required human and technical capacity among key players at multiple levels of responsibility. Additionally, the lack of baseline data on critical biodiversity assets including indicator species, made it difficult to integrate land use policy planning with the need to ensure that land uses gave due consideration to the protection of biodiversity and ecosystems integrity.

Outcome 1.1 - Reduced pressure on natural resources from competing land uses on the islands of St. Kitts and Nevis:

Output 1.1.1: Updated/ revised National Physical Development Plan (NPDP). The project will support the updating of SKN's National Physical Development Plan (NPDP) and the National Building Code to ensure an optimal allocation of land resources in order to generate development benefits and critical environmental benefits in tandem. The NPDP will be revised to better incorporate assessments of land degradation and erosion conditions and risks, links between conservation in productive and protected landscapes, and accounting for the environmental impacts of construction and urbanization. The NPDP is an integral part of the on-going policy decision-making process that guides all development and management of land and natural resources in the country, and will guide zoning and the locations of developments, as well as the program priorities of relevant ministries/departments, over the 15 years following the adoption of the updated NPDP. It should be noted that the upgraded plan will also be informed by the recently prepared Draft Land Use Policy of 26th February 2018. The existing Geographical Information System (GIS) managed by the Ministry of Sustainable Development to guide both public and private development decisions (e.g. when land is requested for a specific purpose, to indicate whether land is available for that purpose and where it is located) will be used as a critical tool to assess land use changes over the past decade and to inform and guide the updating of the NPDP.

The primary activities to be implemented in the delivery of this output will include the procurement of field data equipment and gear for land use baseline confirmations (and in support of Output 1.1.3) by both the Department of Physical Planning and the Department of Lands and Surveys; GIS and mapping equipment (computers, plotters, printers, software); the hiring of a Physical Planning Consultant to lead the process and develop the Revised/Updated NPDP; and the required public consultation process with all sectors of government, the private sector and civil society, before the updated NPDP may be submitted to Cabinet for consideration, deliberation and approval. It is anticipated that the NPDP in Nevis may not require support from this project, since an updated draft NPDP is already being developed for Nevis, and there are still resources available to support that process in the project "Conserving Biodiversity and Reducing Habitat Degradation in Protected Areas and their Buffer Zones" which has been extended until January 2020.

Output 1.1.2: Revised legal and regulatory framework to support NPDP implementation. In order to actualize the implementation of the NPDP, a package of modifications in environmental legislation and related regulations, policies, standards, and Building Codes will be proposed. The project will support updating of the 1904 Forestry Ordinance and/or the 1973 Agricultural Development Act to ensure that they are in line with the country's current sustainable development priorities. In addition, the project will propose policy changes to maintain and enhance carbon stocks or reduce emissions from agriculture and agroforestry (which will help to support project activities under Outcomes 2.1 and 2.2). The development of these multi-sectoral proposals for modifications to policies and legal instruments will require the services of a legal firm, with varying legal specializations, to ensure

that the planning, environmental, and climate change aspects of the proposals are well articulated and balanced, and inclusive of recommended required institutional arrangements, to facilitate the understanding and approval by the decision makers. Such proposals will require extensive public consultations, and would not ideally start before at least a Draft Updated NPDP is available.

Output 1.1.3: Baseline digital land use maps of areas of high priority environmental concern. In order to ensure the NPDP is based on accurate and up-to-date information, a digital land use mapping and prioritization exercise will be undertaken to identify and detail areas of high priority environmental concern, including areas subject to current or expected development pressures; areas that are at risk due to possible climate change impacts and natural risk hazards such as flooding; areas of significant land degradation (e.g. quarries, ghauts); areas of high biodiversity value (e.g. KBAs, IBAs); and areas providing critical ecosystem services. This digital land use mapping and prioritization exercise will also entail the creation of a land use map based on the Restoration Opportunity Assessment Methodology (ROAM) and other tools, as InVEST, ROOT, among others, which allow for identifying the impact of the actions proposed on the provision and conservation of ecosystems services and the way to optimize them. To improve capacities in GIS, the ROAM and the other tools will be implemented within the GIS technicians unit, for this purpose, the project will provide equipment, training, capacity building, and practical applications of approaches on the use of the tools and the methodology and in integrating existing platforms (Arc Map and ERDAS Imagine remote sensing), which are the base for ROAM implementation. Besides the technical component, the ROAM methodology is based on a strong consultations process, which will be carried out among the revision process involving all sectors and main stakeholders related to the NPDP application.

The GSKN is in the final stage of the receipt of electronic maps that have been done for the country. This initiative will provide updated information on the state of play of the current land use and will aid to inform the land use maps specific to environmental pressures that will be developed under this project. This activity will be undertaken in close coordination with the GEF-supported regional project Integrating Water, Land and Ecosystem Management in Caribbean Small Island Developing States (IWEco), which includes a sub-project for SKN titled “Addressing Impacts of Acute Land Degradation in the College Street Ghaut in St Kitts and Quarries and Sand Mining Hotspots on Nevis”.

Outcome 1.2 - Improved systemic capacity for promoting sustainable development in the islands of St. Kitts and Nevis through INRM:

Output 1.2.1: Relevant Institutions, CSO and Communities capacitated for coordinated and effective action on SLM, BD conservation and climate smart agriculture. The project will provide capacity building to partners who play a leading role in implementing the NPDP, in particular institutions with sectoral responsibilities for the development and conservation of the islands of SKN, together with relevant CSOs and community partners. These stakeholders will benefit from training and practical application of approaches to land use planning and policy development, reducing pressure on critical habitats and species, coordination and information management and sharing (including participatory planning methodologies and strategies for outreach to communities), and identifying and addressing existing and potential drivers of land degradation. Capacity building will focus on the prioritized areas of training identified in the capacity assessment conducted during project preparation and include the following: Land Use Planning, Urban and Community Planning, Geomatics, Policy Development, Sustainable Land Management, Biodiversity Conservation, Ecosystems/Environmental Management, Agroforestry, Sustainable/Climate Smart Agriculture, Mangrove Reforestation, Management of Coastal Resources, Public Awareness Strategies, NGO/CBO Management, Participatory Planning Methodologies,

Project Management, and Grant Writing. The institutions to be targeted for training were also identified and include both government and non-government organizations, namely Department of Physical Planning, Department of Economic Affairs and PSIP, Department of Agriculture, Department of Lands & Surveys, the Department of Water Services, the Nevis Housing and Land Development Corporation, Fahies Agricultural Women's Co-operative Society, New River Farmers Association in Nevis, REACH Hamilton Community Group, Nevis Turtle Monitoring Network, Department of Fisheries, St. Christopher National Trust (SCNT), Nevis Historical and Conservation Society, the Department of Marine Resources, the Forestry Department, and the National Housing Corporation on St. Kitts.

Output 1.2.2: National capacities improved through post-graduate technical training for at least 6 students engaged with the local authorities. Complementing these training activities, the project will also establish a Project Scholarship Initiative (PSI), creating a cadre of experts to fill critical national capacity gaps. The PSI will consider applications for post-graduate study in any of the following five (5) prioritized thematic areas: Geographic Information Systems (GIS); Land Use Planning; Sustainable Land Management; Climate Change and/or Climate Smart Agriculture; and Environmental Management/Ecosystem Restoration. The GSKN has existing arrangements with institutions and administers new scholarships offered by other Governments as part of their bilateral agreements. The scholarship initiative will target existing staff in relevant government ministries; the candidates will be evaluated by the Government's Scholarship Review Committee and selected on an established eligibility criterion. The Government's Human Resource Management Department (HRMD) will oversee the process including any request by Government officers for study leave with or without payment. The initiative will support the post-graduate technical training with appropriate gender balance, including young professionals and women of at least six students, who will be required to provide co-financing through the provision of service to the Government of St. Kitts and Nevis through bonded agreements of service, thus ensuring that knowledge and expertise acquired benefits the Government for a minimum number of years. The complete details of the PSP are provided in Appendix 17, and includes descriptions of Eligibility Criteria, Application, Selection Process, and Thresholds; Notification of Award; Management & Administration; Monitoring, Reporting, Evaluation and Communication; and Financial Strategies to be considered for sustaining the scholarship initiative.

Outcome 1.3 - Reduced pressure on three indicator species at two Key Biodiversity Area (KBA) sites

Output 1.3.1: BD Management Strategy based on biodiversity baseline assessments for 2 KBAs. Rapid biodiversity assessments will be conducted to map the presence of threatened and IBA trigger species in the two coastal KBAs – Ponds of Southeast Peninsula and Cayon to Key. These assessments will be used to confirm the selection of indicator species for the project, i.e. Leatherback turtle (*Dermochelys coriacea*), Brown Pelican (*Pelicanus occidentalis*) and Least Tern (*Sternula antillarum*), and/or to identify other priority species for monitoring. Target species will be selected as per the IUCN-recommended Conservation Action Planning (CAP) methodology, for the selection of Conservation Objects, which also is the basis for management planning of the protected area. The application of this methodology is also recommended to assess the effectiveness and conservation impact of protected area planning (and may be modified to assess reduced pressure based on a simple abundance index measured annually), determining strategies and guiding actions. CAP is The Nature Conservancy (TNC)'s version of the Open Standards for the Practice of Conservation established by the Conservation Measures Partnership. This method includes the adaptive management approach and the 12 Ecosystem Approach Principles (CBD, 2004; Andrade et al. 2011). For selecting target conservation objects (including species) the main criteria considered are a) Viability and ecological assessment; b) Threats and pressures. The selection of conservation objects is a positive step to achieve this standard in the conservation areas included in this proposal. Recommendations for ensuring the conservation of these species will be made, with a focus on ensuring viable populations are maintained. Based on the assessment, the project will recommend or implement management strategies and regulations to ensure the conservation and sustainable management of selected priority species. For example, the project will implement mangrove restoration activities within KBAs in order to enable conditions for the nesting of several birds, particularly the brown pelican. Mangroves are one of the preferred habitats for the brown pelican, among other ecosystems such as salt bays, beaches, and oceans.

Component 2: Mainstreaming BD conservation, SLM and CCM into key development and resource management sectors

Component 2 complements the planning, regulatory and institutional interventions of Component 1, and focuses on mainstreaming biodiversity, SLM and CCM as a means to address deforestation, land degradation, surface soil erosion, and threats to biodiversity and ecosystem services, resulting from current production models in key sectors in St. Kitts and Nevis, including agriculture, tourism, coastal development, pollution, and residential housing construction. The impacts of climate change, which may be aggravated by the particular topographical characteristics of the country, are also considered in the interventions proposed under this component. The project will support reforestation through agro-forestry and targeted planting of native species, and by Assisted Natural Regeneration on degraded landscapes, and in particular on lands once used for sugar cane production. Globally important ecosystems, in this case mangroves, will also receive restoration investments from the project, and farmers will be provided with new skills in Climate-Smart Agriculture, coupled to direct assistance in ensuring a constant and efficient water supply to enhance productivity and reduce wastage, consistent with sustainable agricultural practices.

Outcome 2.1 - Conservation of BD habitat and ecosystem services, and increased carbon sequestration in soil and woody vegetation, achieved through restoration and management of critical forest sites:

The project will target a total of 500 hectares, instead of the 650 hectares initially proposed at PIF stage. The reduction of hectareage is mainly due, to labour and materials costs which are relatively high in a small island states and when applied over the initial 650 hectareage was determined to be prohibitive in consideration of the other project elements that need to be funded. In light of this, and the need to balance resources to adequately cover the other project components, the project strategy is to ensure that the practices, methods and tools that are implemented under this component are extended to farmers, land users, and other stakeholders at the broadest level so that as much in influence from the project is exerted over management of landscapes in the country. This will be done through the agricultural, reforestation activities, extension services to farmers and other stakeholders in order to enhance and improve the understanding and application of ANR and reforestation concepts and activities for sustainable management of crops. Of the 500 hectares, 205 ha will be rehabilitated through Assisted Natural Regeneration (ANR) methods while 60 ha will be reforested through installation of agroforestry systems. Some 215 ha will be rehabilitated through Sustainable Land Management (SLM) and Climate Smart Agriculture (CSA) approaches, and 20 ha of mangrove will be rehabilitated. These restoration methods will employ a range of techniques and actions tailored to site conditions and use values of the land under treatment. Site plans that detail the nature of the investment will be defined on project inception under the advisory support of the extension and consultancy services to be engaged. This will also include capacity building actions to elicit behavioural changes among the beneficiary farmers and entities.

A spatial and cost-benefit analysis will determine the optimal pilot sites to demonstrate the economic and environmental benefits of the implementation of the SLM as well as agroforestry practices.

The pilot sites will also provide the opportunity for the project's uptake/ replication outside the pilot areas by working at three levels: 1. At field level with farmers and beneficiaries through capacity building, trainings and mainstreaming of good agriculture practices and methodologies implemented in a "learning by doing" manner. Additionally, the basic inputs (seedling and plants) will be provided to farmers and beneficiaries. 2. At government level, through influencing policies and designing of incentives to promote SLM practices

nationally, 3. At regional/international level by promoting the positioning of the restoration model implemented in SKN by encouraging GSKN to commit a national pledge above the Bonn Challenge [1] to open funding opportunity to accede international funding for restoration activities at national level.

Output 2.1.1: Decreased soil erosion, increased carbon sequestration and agroforestry production through reforestation and Assisted Natural Regeneration (ANR) (265ha).

As part of the Government of St. Kitts and Nevis (GSKN) sustainable growth, development and debt management agenda, state lands have been vested in a Special Purpose Vehicle (SPV) which places such areas beyond the remit of the central government for immediate intervention, and as such, the government is only able to commit lands that are under its direct and total control to project interventions. In addition, as land is a limited resource it is imperative that the interventions of the project not encroach on private property. The project's Agricultural Specialist, along with the expertise to be secured under consultancies to update the National Physical Development Plan (NPDP), will be used early in project implementation to make the final determinations based on lands to be targeted for ANR and reforestation.

Estimates on costs for land restoration through ANR and reforestation methods developed during the PPG phase revealed that the per-hectare cost of intensive on-ground investment is quite high; mainly related to the cost of inputs and labour - a factor that is typical for St. Kitts and Nevis (with varying similarities to other Caribbean SIDS). Hence, the available project budget for these activities is insufficient to cover the number of hectares initially proposed at PIF approval (350 ha). In light of this, and the need to balance resources to adequately cover the other project components, the project will be implementing a total of 265 hectares for ANR and reforestation actions and will also be providing extension services to farmers and other stakeholders in order to enhance and improve the understanding and application of ANR and reforestation concepts and activities for sustainable management of crops.

Out of the 265 ha, some 205 ha will be allocated for Assisted Natural Regeneration (ANR) and will be undertaken within the upper/mid-level watershed areas located adjacent to the Central Forest Reserve and National Park (CFRNP) on St. Kitts and on the island of Nevis in the mid to upper slopes of the island. Within the 205 ha, approximately 70 ha will be subject to more intensive land treatment to include land preparation, soil conservation modifications, planting and seedling maintenance. The other 135 hectares of ANR will be supported through the provision of seedling and plants, and trainings to farmers or other stakeholders involved.

Some 60 ha (out of the overall 265 ha) will be allocated to agroforestry systems, and will include an area of 20 ha for pilot orchards containing native fruit trees that will include land preparation, soil condition and fertility amelioration, planting and maintenance and pest and disease control. The project will also establish nurseries to supply all seedlings required for the reforestation process, farmers will enter into co-management arrangements with the Department of Agriculture in the establishment and operation of these nurseries; it is anticipated that these co-management agreements will result in long-term investment by the farmers and supported via associated farmer cooperatives. Another 40 ha will receive support in the form of provision of seedlings, training and extension support services to farmers and land owners. The selection of the most suited native species, valuable agroforestry tree species, such as Soursop, Sugar Apple, Plum, Golden Apple, Mango, Guinep and Sea Grape, along with other species with relatively high resilience to climate change stressors (drought and hurricanes) will be done based on site suitability, use value and cost-benefit.

Through the planned ANR and reforestation efforts, the project will increase the area of forest and improve connectivity between the upper slopes of the CFRNP, which contain Elfin and Sierra Palm Cloud Forest and Evergreen Cloud Forests on the upper slopes as well as tropical moist forest that harbours at least six Neotropical migrant bird species on the mid-level slopes, with numerous forest patches extending from the mid slopes to the coast. Reforestation will also reduce the negative impacts (increased sedimentation and reduced water infiltration) of degraded areas on downstream aquatic and coastal/marine ecosystems and biodiversity (including within the Cayon to Key KBA), improve water flow and retention to the benefit of local communities, and provide communities adjacent to the CFRNP with economic alternatives to harvesting resources within the park. These areas will be managed in partnership between local farmers, the Ministry of Sustainable Development, and the Ministry of Agriculture and the project will assist these stakeholders in undertaking reforestation and ANR.

In the delivery of this output, the participation of the Department of Agriculture will be key in the process of identifying the farmers who may be best suited to participate in this endeavour based on the history of farming in areas adjacent to the parks, and especially those engaged in farming at elevated slopes in the project target areas; however, there may have been recent changes in the assignment of lands in the area outside of the parks, and as such, the participation of the Department of Lands and Surveys and the Department of Physical Planning will be crucial in determining the land tenure arrangements, to guide the project's ANR and reforestation efforts. The project will embrace the Farmer Field School (FFS) approach for the provision of training and capacity development in reforestation, ANR, agroforestry practices, mangrove restoration, and the integration of carbon considerations into agroforestry and mangroves management to all interested farmers. In addition to farmers, training will also target agencies that will provide different types of extension services, including the St. Christopher National Trust, the Nevis Historical and Conservation Society, the Department of Agriculture, the Department of Environment, and the departments under the Ministry of Sustainable Development. The areas selected for project intervention have been selected based on (1) those located on the steepest slopes in the watersheds adjacent to the CFRNP; (2) slopes adjacent to the CFRNP that were subject to sugar cane plantations; (3) slopes adjacent to the CFRNP with the highest visible surface soil erosion and (3) areas in Nevis subject to intensive shoreline erosion. In the case of Nevis, the areas subject to intense battering of the waves and with visible aggressive erosion of the shoreline, based on studies conducted by OAS/USAID, include Pinney's Beach, Gallows Bay, Pinney's Jessup, and Pinney Cotton.

Output 2.1.2: Increased ecosystem integrity through 20ha of mangrove ecosystems rehabilitated and protected (Cayon to key). The project will work to conserve and rehabilitate critically endangered mangrove ecosystems and ensure that they are adequately protected, which will ensure the maintenance and increase of carbon stocks in mangroves, the conservation of biodiverse areas that play a key role in the future economy of the country, and the increased protection of SKN's coastal areas, including from climate change related impacts such as storm surges and salt water intrusion. The project will work with the Department of Marine Resources, local NGOs and CBOs to restore at least 20 hectares of mangroves in the Cayon to Key KBA, which will help to protect coastal areas on the eastern coast of St. Kitts (downstream of the CFRNP) that are critical nesting habitat for the Leatherback turtle (*Dermochelys coriacea*) as well as other sea turtle species. In addition, the project will carry out a rapid assessment of mangrove ecosystems in the country in order to identify the most threatened sites. Based on this assessment, the project will develop a mangrove conservation action plan to conserve remaining mangrove areas, including the coastal mangroves in the Ponds of the Southeast Peninsula KBA, which are important for preventing coastal erosion and storm surges in that area. The action plan will consider the

piloting of eco-tourism concessions in mangrove areas to establish incentives for their protection. Policy makers and resource managers will have access to the action plan and the information and recommendations generated so that conservation efforts can be better targeted.

The project will also carry out a cost benefit analysis to have up-dated data and specific knowledge of restoration costs in the different type of forests (including the mangroves) and the ecosystem and financial benefits of restoration. This kind of information will permit the Ministry of Sustainable Development to take informed decisions and share information for understanding and awareness raising among the general public.

Outcome 2.2 - Local communities adopt tested SLM practices to reduce land degradation

Output 2.2.1: Decreased soil erosion, increased carbon sequestration and agricultural crop production obtained through restored areas of degraded land (215 ha). The project will support intensive investment for the implementation of SLM and CSA activities in at least 215 hectares of degraded and/or abandoned lands located in the upper/mid-level watershed areas adjacent to the Central Forest Reserve and National Park (CFRNP) to productive agricultural uses (this is in addition to the 265 hectares that will be restored under Component 2.1.1). The project will directly support farmers who lost their livelihoods following the decline of the sugar industry in re-establishing agricultural production on lands that are now dominated by invasive vegetation with low carbon sequestration capacity and high rates of soil erosion. Farmers in the communities of Wingfield, Belmont and Green Hill in particular, will be targeted for this intervention to improve their livelihoods and receive capacity building and trainings to implement best agricultural practices.

The project will build on the initial scoping in the PPG phase with stakeholder consultation in final selection of the priority 215 ha for land rehabilitation that will have the largest impact on moderation of seasonal water flow and sediment retention. This will be based on the land use map, InVEST and ROOT tools and GIS multi-criteria decision analysis, and will also consider the following criteria: (1) areas located adjacent to the CFRNP that were subject to sugar cane plantations based on documented records at the Department of Agriculture, i.e., there must be evidence that the area was in fact subject to sugar cane production; (2) those that were the subject of sugar cane plantations by the largest density of farmers who relied on sugar cane as their primary source of income, i.e., the number of hectares located in an area that resulted in the largest number of displaced farmers after sugar cane was discontinued. The project will also assist farmers in these areas in selecting resilient crop varieties by carrying out a climate-related suitability analysis of potential crops as well as a market analysis of which crops are commercially viable. The results of these analyses will be the base to define in coordination with the farmers the best practices to be carried out.

Restoration activities will include the removal of invasive underbrush/ regrowth (at the site level), site preparation for planting, bunding and contouring, terracing and other appropriate landscaping methods, and adoption of SLM and climate smart agricultural practices, including reduced tillage, soil improvement and conservation techniques, low GHG emissions practices, etc. The cost benefit analysis will take all these factors into account, to understand the real costs of implementation of the practices and the benefits (environmental and financial) that farmers and Kittitian society will receive. Also a financing programme will be developed by working with existing programmes (as described in the baseline). The financing programme will be a protocol of compliance to SLM best practices that will be linked to access to markets and micro-loans, among others. In this sense, the

project will contribute to the review of existing credit facility and access mechanisms, including relevant existing incentive (subsidy support) schemes by government and make recommendations for SLM practice adoption within credit access schemes. This will be closely coordinated and directed by the Department of Agriculture with technical guidance and support from IICA and the FAO, based on needs articulated mainly by the agricultural cooperative societies whose members are the target farmers. The development process will be defined on project inception in which a target on number of farmers associated with a validation/test will be determined. Development of the programme will include engagement of the private sector in terms of market access, with focus on main retail outlets and hotels to build on corporate service responsibility in encouraging that produce supplied is from SLM compliant practice.

For better adoption of these practices, it is expected that at least 100 farmers will participate and receive training in the various land restoration and agricultural practices and will also have a better knowledge of environmental and financial aspects of restoration practices. Farmers to be targeted for training will include farmers whose livelihood comes exclusively from farming; youth farmers entering the sector for the first time; women farmers; and farmers with economic displacement after sugar production was discontinued.

In cooperation with the ARMP baseline project, producers will benefit from project support for the acquisition or rehabilitation of productive assets, including water efficient irrigation equipment, climate resilient storage facilities, greenhouses, fencing, and improved plant material. This will ensure that new agricultural operations use the latest available technologies for reducing land degradation and producing foods without generating added emissions.

Outcome 2.3 - Improved infrastructure conditions support climate resilience in agriculture.

Output 2.3.1: Water storage tanks and accompanying distribution lines in place to support sustainable and climate- friendly agricultural production for at least 100 participating farmers. The project will support the installation of 5 water storage tanks with an estimated storage capacity between 76 m³ and 114 m³ (20,000 and 30,000 gallons) that will provide additional water for irrigation during the dry season. Combined with adequate water use efficiency technologies, the water storage tanks will contribute to creating resilience in the agriculture sector, and by increasing land productivity, reduce the trend of agricultural expansion into forested areas. The water storage tanks will be located, in as far as practical, in close proximity to the newly rehabilitated agricultural and agroforestry production sites (under Outcomes 2.1), closely coordinated with the IICA project ‘Retrofitting greenhouses in St. Kitts and Nevis’, also drawing on experiences and lessons learned from the implementation of the ARMP. The aim is to improve water and resource use efficiency and develop the capacity of youth to design next-generation climate-smart agricultural systems”, for which the specific parishes of St. Pauls and St. Marys in St. Kitts have been prioritized by the Department of Agriculture. These parishes offer the farmer density needed to ensure the storage tanks can in fact realistically serve the farming production needs of at least 100 farmers, without accessibility and distance being prohibitive considerations. A further validation activity at inception will be undertaken by the consultants to determine installation configurations. The installations and associated ancillary works will be subject to systematic monitoring during extension service visits to ensure proper oversight, maintenance and purposeful functionality are sustained over time, and will be incorporated under the extension service program of the Department of Agriculture.

The project will provide storage capacity of between 76 m³ and 114 m³ (20,000 and 30,000 gallons) and accompanying distribution lines to assist farmers in the New River area in Nevis. During the project inception phase, further validation work will be undertaken by the consultants and the Nevis Ministry of Agriculture to define specific dimensions for the storage infrastructure and extent of distribution lines, based on a cost-benefit analysis.

Component 3: Knowledge management and dissemination for SLM, BD and CC

Component 3 seeks to create a SLM, BD and CC information and Knowledge Management (KM) framework, within the context of the proposed outputs and outcomes of the project in St. Kitts & Nevis. It is envisioned that the successful implementation of the KM framework within the life span of the project will result in a solid foundation for the extended dissemination and exchange of SLM, BD and CC knowledge in St. Kitts & Nevis, contributing directly to SLM, BD conservation and CC mitigation in the country. This component also provides support through public education and awareness interventions to communicate the objectives and actions of the project, in order to increase awareness among specific target groups, national and local authorities and CBOs, taking into account that each target group has an invaluable potential to contribute to SLM, BD and CCM. The project also specifically identifies the need to ensure that locals and visitors are aware of practices for the sustainable use of nature and protection of biodiversity, especially in and around forests, mangroves, reefs, and sea grass beds, and with regard to threatened species of flora and fauna.

Outcome 3.1 - Public servants from key institutions have increased planning and environmental management capacity.

Output 3.1.1: Increased national capacity on environmental issues. The project will support the implementation of select sections of a Knowledge Management Strategy developed specifically for the project during the preparation phase, and presented in Appendix 19. Activities will include the development of standardized data collection and reporting formats to be used in support of project management, including Progress Reports, M&E reports, work plans, etc. Activities specific to the knowledge management objectives of the project will include standardized definitions of common terminologies to be used with respect to SLM, BD and CC; KM Guidelines and Communication Guidelines including training key personnel in their use; Systematization of Experiences and Lessons Learned as a result of project interventions; implement national and regional institutional partnerships through technical exchange programs, internships, and collaborative research agreements and Memoranda of Understanding; and establish a National KM Partnership Network across key institutions of the country. The project also will support regional and south-south cooperation by assisting the GSKN in participating in national, regional and global knowledge exchanges on SLM, BD and CC issues. This will include, for example, OECS regional meetings and projects, conferences of the parties to the relevant MEAs, technology fairs and conferences, with a particular focus on low-carbon resilient agriculture and biodiversity conservation. UN Environment as the project executing agency will facilitate information sharing with the project “Sustainable Land Management in the Commonwealth of Dominica”, which has been recently approved and will address many similar issues.

An integrated monitoring platform will be developed to generate reports with relevant technical information on SLM, BD Conservation and CSA to be submitted by the government in order to fulfil international commitments above conventions such as CBD, NBSAPS, and other national commitments. Information for this platform will be supplied by technicians, farmers and local communities that will be trained in the use of monitoring protocols and field information gathering.

Outcome 3.2 - Increased understanding and awareness of relevant environmental issues among the general public, land use managers, the tourism industry and international visitors to SKN.

Output 3.2.1: Increased awareness and understanding of issues related to SLM, BD Conservation and CSA. The project also will implement a Public Education and Awareness Strategy developed during project preparation, presented in Appendix 18. The strategy will target awareness on relevant environmental issues, particularly sustainable land management, biodiversity conservation and climate smart agriculture. General awareness raising, through radio, television and print media, will target the general public and schools to ensure that they are aware of the impacts of key economic activities on natural resources such as water, biodiversity, coastal zones, Key Biodiversity Areas (KBA), among other conservation matters. This strategy will support efforts to strengthen enforcement of rules and regulations concerning zoning, sand mining, extractive industries, tourism, and construction. The project also will target agricultural sector stakeholders, starting with producers and buyers, with a view to increasing the availability of technical information on sustainable and climate smart production. Outreach to these stakeholders will be carried out primarily through learning-by-doing approaches such as farmer field schools (see Component 2), as well as through the publication of relevant guidance materials.

In addition, a program will be implemented to develop SLM and climate smart agriculture manuals and tools for the curricula of educational institutions, in particular agricultural training programs/institutes. A public relations campaign will support on-going efforts to promote St. Kitts and Nevis as an eco-friendly holiday destination, and to raise awareness among tourists and industry stakeholders about the tourism sector's ecological footprint, as well as options to reduce the footprint; a local consultant will be hired to evaluate the impact of this public relations campaign. As part of this effort, the project will carry out assessments to demonstrate to policy makers the economic benefits and market value of positioning SKN as an eco-friendly destination, in order to encourage long-term support for this approach. Policy-relevant data and information collected using GIS and remote sensing technologies as primary tools, including the maps and assessments of critical sites and biodiversity carried out under outcomes 1.1 and 1.3, will be consolidated in an environmental information system, which will be used to document progress across key indicators on the basis of existing systems and data. This information will be disseminated to relevant ministries and decision-makers, with the goal of informing future land use planning and zoning decisions in a way that supports the realization of sustainability policies.

Public awareness messages will be relevant to the objectives of the project and will focus on gaps in policy to address SLM, BD and CC; opportunities for strengthening the institutional framework in the agriculture and forest sectors to better address SLM, BD and CC; Climate-Smart Agriculture; sustainable agricultural practices; opportunities and benefits of Agroforestry; Sustainable Land Management practices; CCM practices; practices for the sustainable use of nature and protection of biodiversity, especially in and around forests, mangroves, reefs, and sea grass beds, and with regard to threatened species of flora and fauna; illustrated examples of sustainable use of nature; specific protection of forests, mangroves, reefs and seagrass beds; protection of native species of flora and fauna; avoiding the introduction of exotic species; advocacy for policies to protect the environment and biodiversity; impacts of climate change; and advocacy for CCM policies and actions.

The medium chosen to communicate key messages will be audience-specific as defined in the project's Public Education and Awareness Strategy, but will be selected from among face-to-Face Meetings, Town Hall Meetings, E-mail, website, newsletters, Field Visits, Press Conferences, Press Releases, publications, Annual Reports, broadcast media, brochures, Case Studies, workshops, Special Events/Open Days, informative video DVD, articles in magazines, posters and t-shirts.

4) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

Scenario without GEF Funding: Without the GEF's intervention, there would continue to be poor, limited, or no systematic monitoring, collecting of data, databases, inventories of existing flora, fauna and ecosystems, land cover mapping and mapping of climate change impacts and environmental degradation. Conservation activities and capacities to protect important habitats and three (3) indicator species will continue to be minimal, and efforts and mechanisms to protect priority habitats from impacts arising in upstream or adjoining lands will continue to be extremely limited, resulting in continued rapid growth in invasive species in degraded or abandoned agricultural lands, and the destruction of potentially important habitats from unplanned urbanization.

Similarly, in the absence of GEF support, mangroves, which play a key provisioning and protecting function, will continue to be degraded (less than 70 ha remain, and they are under threat from unsustainable use and unsustainable tourism). Limited technical capacity to adopt sustainable and efficient agricultural practices will continue to affect farmers without timely GEF support. Farmers would continue to face significant challenges and low productivity due to a lack of adequate equipment and inputs (irrigation, fertilizer) and soil erosion and exhaustion; while the need to work with farmers and farmer groups to identify suitable areas for crop production and diversification, and to provide training for agricultural producers to address unsustainable agricultural practices, would remain unaddressed. Without the GEF's intervention there would not be an overall Biodiversity Management Strategy which focuses on agroforestry, reforestation, and Assisted Natural Regeneration, resulting in lost opportunities for improvement in the conservation and sustainable management of Key Biodiversity Areas and indicator species, and no possibility of extended benefits in SLM, CCM, reduced soil erosion, increased carbon sequestration, and increased ecosystem integrity.

In the absence of the proposed project, agricultural operations will not have implemented climate smart practices or the operation of integrated food systems such as agro-forestry, and in the absence of sufficient guidelines and infrastructure, agricultural enterprises will be unable to convert to new and more sustainable systems. Water supplies will remain insufficient to guarantee year-round water supply for agriculture, in particular since information provided by the Water Services Department indicates that other options to ensure adequate supply of water in the future (desalination or deeper boreholes) are onerous and risky and will be focused on providing potable water. Forest cover will continue to be at risk of being degraded and land degradation will accelerate.

GEF support will be indispensable to generate the knowledge and the capacities needed for proper dissemination of SLM, BC and CC, and to allow for structured data collection and analysis to be introduced to inform policy and management. Without GEF investments, the lack of updated and comprehensive data and knowledge on environmental and sustainable development conditions and challenges will continue to be a significant barrier to SKN achieving its aspirations in becoming the region's first Sustainable Island State. While opportunities for engaging in sustainable tourism or eco-tourism exist, in the absence of GEF funding there will continue to be a lack of awareness and information on investment options and on proposed sustainable tourism products SKN may offer, and locals and visitors will continue to be unaware of practices for the sustainable use of nature and protection of biodiversity, including in and around mangroves, reefs, and sea grass beds, and with regard to threatened species of flora and fauna. In the absence of this proposed project, land use planners and policy makers will continue to be unaware of the implications of zoning and physical planning decisions on biodiversity and the subsequent impact on national development and human wellbeing.

Scenario with GEF Funding: In the alternative scenario, the project will enable St. Kitts and Nevis to update the National Physical Development Plan (NPDP) and Building Codes in St. Kitts to ensure an optimal allocation of land resources in order to generate development benefits and critical environmental benefits in tandem. The GEF incremental investment will ensure that critical information on land use planning and trends, land degradation processes and ecological carrying capacities, and priority sites for erosion control and habitat conservation are consolidated and integrated into national planning processes. Project activities will provide capacity building to partners who play a leading role in implementing the NPDP, in particular institutions with sectoral responsibilities for the development and conservation of the islands of SKN, together with relevant CSOs and community partners. This support will allow for NPDP implementing partners to benefit from training and practical application of approaches to land use planning and policy development, reducing pressure on critical habitats and species, coordination and information management and sharing, and identifying and addressing existing and potential drivers of land degradation. GEF resources will fund rapid biodiversity assessments to map the presence of threatened and IBA trigger species in the two coastal KBAs – Ponds of Southeast Peninsula and Cayon to Key, and will develop and recommend management strategies and regulations to ensure the conservation and sustainable management of three (3) selected priority species, while mainstreaming biodiversity conservation into SLM and CCM strategies, resulting in enhanced protection to Key Biodiversity Areas, key indicator species, increased carbon sequestration in soils and forest, and reduced land degradation.

With the GEF investment, sustainable agricultural production will be implemented on 100 hectares of restored lands. These agroforestry-based systems provide food resources and livelihoods opportunities while also maintaining ecosystem services, including water conservation, carbon sequestration, and flood and erosion control. In addition, by the end of the project water retention ponds will be helping to compensate for increasing water scarcity and competition for water on the islands, as well as reducing energy demands for water mobilization. Through the project, a total of 265 hectares of forests will have been restored, primarily in upper watershed areas, which play a key protective and provisioning role. In so doing, the project will increase the area of forest and improve connectivity between the upper slopes of the CFRNP, and will reduce the negative impacts of degraded areas on downstream aquatic and coastal/marine ecosystems and biodiversity, improve water flow and retention to the benefit of local communities, and provide communities adjacent to the CFRNP with economic alternatives to harvesting resources within the park. Project activities will support the conservation and rehabilitation of 20 hectares of critically endangered mangrove ecosystems and ensure that they are adequately protected, which will ensure the maintenance and increase of carbon stocks in mangroves, the conservation of biodiverse areas that play a key role in the future economy of the country, and the increased protection of SKN's coastal areas, including from climate change related impacts such as storm surges and salt water intrusion. The project will support the restoration of at least 215 hectares of degraded and/or abandoned lands located in the upper/mid-level watershed areas adjacent to the Central Forest Reserve and National Park (CFRNP) to productive agricultural uses, and will assist farmers in these areas in selecting resilient crop varieties by carrying out a climate-related suitability analysis of potential crops as well as a market analysis of which crops are commercially viable. Project activities will provide for at least 100 farmers to participate and receive training in the various land restoration and agricultural practices; and producers will benefit from project support for the acquisition or rehabilitation of productive assets, including water efficient irrigation equipment, machinery, climate resilient storage facilities, greenhouses, fencing, and improved plant material.

GEF funds will support the implementation of a Knowledge Management Strategy, including the development of standardized data collection and reporting formats for use by the project, standardized definitions of common terminologies to be used with respect to SLM, BD and CC; KM Guidelines and Communication Guidelines and train key personnel in their use; Systematization of Experiences and Lessons Learned as a result of project interventions; implement national and regional institutional partnerships through technical exchange programs, internships, and collaborative research agreements; and establish a National KM Partnership Network across key institutions of the country. Project activities will support regional and south-south cooperation by assisting the GSKN to participate in national, regional and global knowledge exchanges on SLM, BD and CC issues. Also, an integrated monitoring platform will be developed to generate cross data reports for SLM, BD Conservation and CSA in accordance with international or national commitments.

The GEF alternative will support the implementation of a Public Education and Awareness Strategy, focusing on general awareness raising, through a variety of media, targeting the general public and schools to ensure that they are aware of the impacts of key economic activities on natural resources such as water, biodiversity, coastal zones, energy, etc. The project will strengthen enforcement of rules and regulations concerning zoning, sand mining, extractive industries, tourism, and construction; and will target agricultural sector stakeholders, starting with producers and buyers, with a view to increasing the availability of technical information on sustainable and climate smart production. SLM and climate smart agriculture manuals and tools for the curricula of educational institutions will also be supported by GEF resources, and a public relations campaign will support on-going efforts to promote St. Kitts

and Nevis as an eco-friendly holiday destination, and to raise awareness among tourists and industry stakeholders about the tourism sector’s ecological footprint, as well as options to reduce the footprint.

Co-financing: The project’s outcomes and objectives will be achieved through the GEF TF support of USD\$3,015,982 and co-financing in the amount of USD\$21,947,343. The project co-financing (US\$21,947,343 or 87.92% of the total project cost) is distributed between three Government sources: the Ministry of Sustainable Development; the Ministry of Finance through the National Authorizing Office for the European Union; and the Ministry of Public Infrastructure, Post, Urban Development and Transport. Of the total co-financing amount, 85.36.10% is cash and 2,55% is in-kind, with the Government of St. Kitts & Nevis providing in-kind contributions in the form of staff time, salaries of government staff attending to project activities, transportation, and indirect administrative support and follow-up to project processes. Cash co-financing will support complementary activities geared at informed and proper siting for human settlements, the layout of roads and drainage, complementary equipment and training for NPDP and Building Code development, informed land management to allow for proper overall allocation of land in the transformation of the energy sector, and in water management and infrastructure. Co-finance commitment letters are included in Appendix 11.

5) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCE/SCCF)

The project will contribute to global environmental benefits through the strengthening of the institutional and regulatory framework for land use planning and the technical capacity required for successful implementation, with due consideration for competing land uses and the need to reduce stress on ecosystems and indicator species in Key Biodiversity Areas, thus providing protection for species of regional and global importance.

The project will mainstream biodiversity, SLM and CCM as a means to address deforestation, land degradation, surface soil erosion, and threats to biodiversity and ecosystem services. Reforestation will be supported through agro-forestry and targeted planting of native species, and by Assisted Natural Regeneration on degraded landscapes, contributing to carbon sequestration in both forests and soils. Globally important ecosystems, in this case 20 hectares of mangroves, will also receive restoration investments from the project, and farmers will be provided with new skills in Climate-Smart Agriculture and consistent with sustainable agricultural practices, within the broader context of SLM. The project will specifically achieve sustainable management of land and natural resources on at least 500 hectares of land consisting of agricultural land and forest land that results in reduced soil erosion, halting/reversal of land degradation processes, and continued and improved provision of ecosystem services; improved productivity as measured by increases in Primary Production and reduced erosion rates; improved socio-economic returns from improved land productivity; and improved water availability through the improvement of streamflow and quality. The expected direct global environmental benefits from the climate-smart agriculture and land degradation practices that will be adopted under the project are in the range of **79,342 tCO₂eq** over a 10 year period.

The project also will contribute to the achievement of the following global Aichi Biodiversity Targets listed in Table 2.

Table 2. Applicable Aichi Targets

AICHI TARGETS	RELEVANT PROJECT ACTIVITIES
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Target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably	Environmental awareness campaigns (3.2)
Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	Baseline mapping (1.1.3) and BD assessments (1.3.1) integrated into National land use planning (1.1.1)
Target 7: By 2020, areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	Agroforestry / forest conservation (2.1.1), mangrove conservation (2.1.2), sustainable agriculture (2.2.1)
Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	Agroforestry / forest conservation (2.1.1), mangrove conservation (2.1.2), sustainable agriculture (2.2.1), and agricultural water infrastructure (2.3.1)
Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	Forest rehabilitation (2.1.1), mangrove rehabilitation (2.1.2), and degraded land rehabilitation (2.2.1) lead to increased carbon sequestration

The anticipated global environmental benefits of the proposed project may be summarized as follows:

- 3 Indicator Species of global biodiversity significance subject to reduced pressure in 2 Key Biodiversity Areas
- 265 hectares of landscapes and 20 ha of mangroves under improved management to benefit biodiversity; i.e., land that is restored and under improved management.
- 215 hectares of landscapes under sustainable land management in production systems
- 26,900 hectares subject to reduced negative impacts (reduced pressure on natural resources from competing land uses on the islands of St. Kitts and Nevis through the development and implementation of a National Physical Development Plan)
- The expected direct global environmental benefits from sustainable land management practices that will be adopted under the project are estimated at 79,342 tCO₂e over a 10 year period.

6) Innovation, sustainability and potential for scaling up

Innovation: The approaches to be implemented by the project are new to St. Kitts and Nevis. An integrated approach to the mainstreaming of biodiversity into land use planning, rehabilitation and protection of carbon-rich and biodiverse forest and mangrove ecosystems, the restoration of soil ecosystem services, water supply, and carbon stocks through sustainable and climate smart agriculture and agroforestry have not been attempted before. Since the shift from sugar cane production as the primary pillar of the economy, there has been no structured attempt to transform degraded forest landscapes into biodiversity and climate-friendly areas of sustainable agricultural production, while restoring and strengthening livelihoods of displaced farmers. Another innovation offered by this proposed project is the systematic and structured approach to Knowledge Management, with the project having a specific Knowledge Management Strategy for the Systematization of Experiences and Lessons Learned, national and regional institutional partnerships, technical exchange programs, internships, collaborative research agreements, the establishment of a National KM Partnership Network across key institutions of the country, and for the support of regional and south-south cooperation.

Sustainability: The sustainability of the project will be built from the outset in all interventions. In terms of policies and regulations, sustainability will be supported by incorporating land / forest restoration and SLM practices into the revised NPDP, which will be the guiding document for development planning and permitting in the country for at least fifteen years. Sustainability also will be increased by establishing the baseline data and information management systems necessary for monitoring of land degradation processes and trends over the long term. The project will also strengthen institutional capacities and expertise, including removing critical gaps in the country's technical capacity regarding climate-related agricultural issues and land use planning, which will enable the Government to make more cost effective and sustainable policy decisions in the future.

Project activities are also designed to establish new incentives for conservation and sustainable management of natural resources, such as assessments to demonstrate to policy makers the economic benefits and market value of positioning SKN as an eco-friendly destination. The project will also create visible economic incentives for the establishment of integrated agricultural systems, such as the establishment of tangible infrastructure and assets, as well as enhanced market opportunities, to incentivize farmers to undertake SLM agriculture and agroforestry activities, which will not only help combat land degradation and curb biodiversity loss, but will also lead to a gradual increase in income for producers. It is expected that, in the long term, restoration of abandoned land to agricultural production will help the country become less dependent on imports of food. The project's investment in the implementation of a Knowledge Management Strategy and a Public Education and Awareness Strategy, will be a key contributor in the establishment of a cadre of stakeholders championing biodiversity conservation, SLM and CCM in St. Kitts and Nevis, way beyond the life of the project.

Scaling-up:

The implementation of the proposed project provides numerous opportunities for the upscaling of SLM, Biodiversity Conservation and CSA to encompass an area way beyond the 500 hectares identified to date. Because SKN is a very small country, project results will be visible to a large number of people, and therefore replication and upscaling will occur naturally provided that mechanisms and financial support are identified. Technologies and approaches promoted by the project, in particular those targeting the agricultural and forestry sectors, will be immediately adaptable to the entire country, and will be integrated into key policy documents such as the National Physical Development Plan, Building Codes, and the Nevis Physical Development Plan, as well as important norms and standards. Farmer Field Schools, the targeted inclusion of youth farmers, and other farmer-based extension systems will play a key role in ensuring the replicability of results from one farm to the next, and from one generation to another, by promoting a learning-by-doing approach in which results are usually immediately visible and transferable, and are easily handed down between generations of farmers. Through Component 3, the project will disseminate its key achievements so that a larger group of stakeholders can become inspired to take up the proposed technologies and approaches. The successful demonstration of Climate Smart Agriculture will incentivize other farmers and other projects to expand and upscale the scale and magnitude of small scale rural agriculture through-out the country, as an important means of livelihood for rural families.

Furthermore, through the project's Knowledge Management strategy, numerous opportunities for upscaling at both the national and regional level will be made available through the Systematization of Experiences and Lessons Learned as a result of project interventions; the implementation of national and regional institutional partnerships through technical exchange programs, internships, and collaborative research agreements and Memoranda of Understanding; the establishment of a National KM Partnership Network across key institutions of the country; support to regional and south-south cooperation by assisting the GSKN in participating in national, regional and global knowledge exchanges on SLM, BD

and CC issues, for example, OECS regional meetings and projects, conferences of the parties to the relevant MEAs, technology fairs and conferences, with a particular focus on low-carbon resilient agriculture and biodiversity conservation.

[1] St. Kitts & Nevis Information Service (2018).

[2] Planning for the Integration of Climate Resilience in the Water Sector in the Caribbean, Task 1 – St. Kitts & Nevis Climate Risk & Vulnerability Assessment Report (2018)

[3] Bonnie L Rusk. Conserving Biodiversity and reducing habitat degradation in Protected Areas and their Areas of Influence. Draft Technical Report for the Department of Physical Planning and Environment. 2014.

[4] Director’s Report – Annual Review and Planning Meeting of the Department of Agriculture, February 27, 2018

[5] Travel & Tourism Economic Impact 2018 – St. Kitts & Nevis, World Travel & Tourism Council

[6] Source: www.ezilon.com

[7] [The OECS Protected Areas and Associated Livelihoods \(OPAAL\) Project. 2011. ENVIRONMENTAL AND SOCIOECONOMIC BASELINE STUDIES. St. Kitts and Nevis Site Report - Central Forest Reserve, St. Kitts](#)

[8] <http://villasofnevis.com>

[9] 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.

A.2. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

N/A

A.3. Stakeholders

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Stakeholders participated in the identification of project priorities and in the definition of planned outputs and outcomes during interviews and consultations. Project stakeholders had the opportunity to review and comment on proposed project activities and to provide specific inputs to the project formulation process. During project implementation,

stakeholder participation will include the provision of co-financing, participation of technical staff in workshops, training, and tools development, the facilitation of local project events and processes, the provision of project oversight through participation on the PSC or TAC, as data sources, technical expertise and knowledge management through the institutionalization of project results and lessons learned to allow for up-scaling, replication, and sustainability.

The inclusion and engagement of Civil Society Organizations (CSOs) and the public in the implementation of the project will be ensured via their direct participation in the governance and decision-making bodies of the project. Special effort will be made to ensure that CSOs active or present in the area of influence of the project are represented in project decision-making and in interventions which may affect their interests. In all instances, the standards and guidelines of the GEF Policy on Environmental and Social Safeguards shall apply, especially as it relates to ensuring appropriate stakeholder participation.

Stakeholders	Current Mandates / Responsibilities	Roles in Project Implementation
Department of Physical Planning	The Department of Physical Planning of the Ministry of Sustainable Development is the government body charged with providing a framework to support the implementation of policies, programmes and measures to control and regulate the development of land and buildings	Main lead for Component 1 of the project –Lead on revision of National Physical Development Plan, also contribute to the assessment and execution of rural public works and the revision of the National Building Codes and the National Physical Development Plan.
Department of Economic Affairs and PSIP	GEF Operational Focal Point Charged with the prioritization of investments, review of progress made in key public investment policies and measures, and to provide technical support to ensure that barriers to success are removed.	Lead Executing Agency: overall coordination of project; lead review and revision of environmental policies and plans
Department of Agriculture	Responsible for national agriculture policy development, agriculture research and the provision of extension services for agriculture production and national food security.	Participate in implementation of Component 2, deploy farmer field schools and extension approaches, assist with procurement of seeds, materials and trees
Department of Water Services	Tasked with providing an affordable and reliable service to businesses, institutions and households whilst ensuring the sustainability of the country's water resources	Lead on the execution of water storage tanks; participate in water assessments.
Ministry of Tourism	Responsible for tourism policy development and implementation, industry regulation, industry statistics, strategic development of the tourism sector	Support development of eco-tourism or conservation based tourism and enforcement of green guidelines; participate in revision of legal texts.
Housing and Land Development Corporation	To provide for the systematic development and alienation of land in respect of Agriculture, Industry, and Tourism, and to set up a fund for development	Participate in the revision of Building Codes and the National Physical Development Plan
Ministry of Community Development, Gender Affairs and Social Services	Charged with the responsibility for community development, social development, gender issues, poverty alleviation services and community cohesion activities.	Participate in the implementation of Components 2 and 4, and in ensuring all gender issues are addressed, including compliance the GEF-7 Core Indicator on gender

Stakeholders	Current Mandates / Responsibilities	Roles in Project Implementation
Saint Christopher National Trust (SCNT)	To preserve and promote the natural, historical, ecological and cultural heritage of the island of St. Christopher (St. Kitts), and to educate the public locally, regionally and internationally on the history of the Federation of St. Kitts and Nevis.	Support implementation of activities related to sustainable development, built heritage and conservation, and protection of the natural environment.
Nevis Historical and Conservation Society	To promote effective management of the historical, cultural and natural resources of the island of Nevis for the benefit of all of its people.	Support implementation of activities related to sustainable development, built heritage and conservation, and protection of the natural environment.
REACH Hamilton Community Group	Environmental education and awareness group in the village of Hamilton Estate on Nevis, engaged in advocacy, capacity building, and the implementation of local environmental projects focused at solid waste and agro-forestry.	Key role in organizing the participation of local communities in agroforestry and agricultural production activities, based on their experience in community education and awareness on natural resource management, small-scale reforestation initiatives, small business development, and identifying local knowledge on agricultural production and the traditional uses of plants.
New River Farmers Association in Nevis	Farmers Cooperative in Nevis engaged in agroforestry and adaptation to climate change initiatives in farming, the preservation of local farming knowledge, and capacity building to farmers.	Key role in organizing the participation of local communities in agroforestry and agricultural production activities, based on their experience in community education and awareness on natural resource management, small-scale reforestation initiatives, small business development, and identifying local knowledge on agricultural production and the traditional uses of plants.
Fahies Agricultural Women's Co-operative Society	Women's group engaged farming and agroprocessing activities; its goal is to provide value-added nutritious foods by utilizing local agricultural crops while partnering with the community and improving the livelihoods of its members.	Key role in sustainable agricultural development and sustainable land management, and instrumental in ensuring the participation of women in agriculture
Nevis Turtle Monitoring Network/Department of Fisheries	Dedicated to the development of a Turtle Conservation Program for Nevis that involves local communities, to ensure that sea turtles are preserved for future generations. Involved in systematic monitoring of turtle nesting.	Assess, regulate and promote sustainable use of the fisheries resources, and to manage the harvest of stock to ensure food security, to promote aquaculture and encourage conservation practices
International Union for the Conservation of Nature (IUCN)	Key regional player in biodiversity conservation; gender mainstreaming; climate change, and water resources management. Responsibility for project design.	Project Executing Agency with responsibility for day-to-day delivery of project activities and results, monitoring, evaluation and fiduciary responsibility for project resources.

Documents

Title

Submitted

PRODOC SKN 06 SEPTEMBER 2019

Revised Co-Financing Letter in regard to the GEF-6 National Project submitted by the National Authorising Officer for EU-SK

Appendix 2 - Detailed Cofinance budget - 06 SEPTEMBER 2019 (for submission)

Appendix 1 Budget and budget notes 06 SEPTEMBER 2019 (for submission)

Appendix 1 Budget and budget notes FINAL AUG 7 2019

EX-ACT-_v7_SKN FINAL MAY 14 2019

PRODOC SKN 31 JULY 2019 FINAL VERSION

Appendix 1 Budget and budget notes FINAL MAY 27 2019 (revised)

Appendix 2 Detailed Cofinance budget - BA edits -IUCN5march

Appendix 12b_IUCN as EA for SLM GEF-6 National Project

Appendix 12a_Govt

EX-ACT-_v7_SKN FINAL MAY 13 2019

PRODOC SKN 27 MAY 2019 FINAL VERSION

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

Find above

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier; Yes

Member of project steering committee or equivalent decision-making body; Yes

Executor or co-executor;

Other (Please explain)

N/A

A.4. Gender Equality and Women's Empowerment

Please briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

Overview

St. Kitts and Nevis has ratified a number of international and regional conventions and agreements that promote gender equality, including the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) 1979; the Inter-American Convention on the Prevention, Punishment and Eradication of Violence Against Women (Convention of 'Belem do Para') 1995; and among OECS Member States, the Treaty of Basseterre (1981). The Country Gender Assessment (CGA) of 2016 (the most recent of such assessments) conducted by the Caribbean Development Bank indicates, however, that while the country has ratified the Optional Protocol to CEDAW, it has never been used. SKN also upholds the following international and regional instruments: the Nairobi Forward-looking Strategies for the Advancement of Women (1985); the Beijing Declaration and Platform for Action (1995); the Millennium Development Goals (2000); the Commonwealth Plan of Action for Gender Equality (2005-2015); the OAS/CIM Strategic Plan of Action (2011-2016); and the Quito Consensus (2007).

According to the CGA, the institutional arrangements in St. Kitts and Nevis to address gender issues include: (i) the Department of Gender Affairs, which had been established in 1984 and was formerly was known as the Bureau of Women's Affairs; (ii) a National Advisory Council on Gender Equity and Equality; and (iii) an Inter-Ministerial Committee of

Gender Focal Points. However, due to the lack of or reduced capacity, the most active unit is the Department of Gender Affairs (DGA). The DGA is headed by a Permanent Secretary within the Ministry of Social and Community Development, Culture and Gender Affairs. Civil society organisations are not actively engaged in advocacy on gender equality and women's empowerment in the country, although gender-sensitive approaches are taken with regard to some issues. CSOs and NGOs in St. Kitts and Nevis are also challenged due to their dependence on external funding for their operations, and there is need for the Government to engage them in partnership for the development and implementation of the national gender mainstreaming agenda.

In St. Kitts and Nevis, at the primary level, females have a higher completion rate at 32.5%, as compared to males at 24%. At the secondary level also, females have a slightly higher completion rate at 52.5% as compared to males at 51.6%. As reported in the CGA, in 2012, there were almost two times the number of females than males at the Caribbean Secondary Education Certificate (CSEC) level (807 females or 64%, compared to 455 males or 36%), and almost CAPE three times the number of female than male candidates (418 girls or 71%, compared to 167 boys or 29%). However, at the tertiary level, males have a higher completion rate at 11.6% as compared to females at 5.4%. In St. Kitts, females were more likely than males to be among the indigent; but in Nevis, it was men who comprised the majority of the non-indigent poor and the vulnerable. The National Poverty Reduction Strategy (NPRS) responds to some of these realities through the Poverty Employment Programme. One of these, the Women in Construction Trades (WICT) project, offers training for females in construction skills such as tiling, plumbing, roofing, carpentry and electrical works, which thus promotes the employment of women in non-traditional trades. With support from the United Nations Educational, Scientific and Cultural Organisation (UNESCO), there are plans to review the Technical and Vocational Education and Training (TVET) policy, to encourage women's participation in fields considered as "male fields" which are often located in the higher-paying sectors of the economy, and thus address gender equality and transform gender relations.

The CGA reports that females in St. Kitts were more likely than males to be indigent. In Nevis, however, men were more likely than females to be among the non-indigent poor and vulnerable. It is important to note that women also perform the majority of housework, child and elderly care in SKN. In this regard, there is the view that having the full responsibility for care restricts the ability of many women to seek opportunities for self-development outside the home, resulting in high levels of poverty among female-headed households. There is an urgent need for programmes and initiatives that aim to increase women's access to opportunities for employment, entrepreneurship and ownership, and thus empower them economically in key sectors such as agriculture and tourism.

Gender Inequalities

While the data above suggest some favourable positions for women in terms of their overall status in education in SKN, there are also several inequalities to be reported. In SKN, women are generally under-represented in targeted growth areas, better-paid jobs, large-scale enterprises, and leadership and decision-making. Labour and employment are marked by women's lower participation in the formal labour force and higher unemployment rates, with women occupying the lower paying sectors of the economy. Women are more likely to be unemployed and defined as "economically inactive". As reported in the CGA, women's unpaid reproductive work in the home (or 'care economy'), and their work in the

informal economy and subsistence agriculture are not quantified or taken into account in economic and social policy-making. Overall, the unemployment rate is higher for women than men, and women tend to remain unemployed for longer periods than men.

It is estimated that some 80% males and 20% females occupy farm holdings and that there is a 70:30 ratio of males to females in actual production. In addition, with the exception of the all-female Fahies Agriculture Women Cooperative Society, women's membership in cooperatives stands at 24%. While women dominate agro-processing in St. Kitts & Nevis, they face major barriers to expanding their involvement in agriculture, including domestic responsibilities, expertise, marketing, and access to Caribbean and other markets. In the tourism sector, the concentration of women is in the lower skilled, less stable 'domestic' side of the sector. In SKN, gender bias underpins economic and social decision-making, which affects communities, families and households, and individual women's lives.

In terms of decision-making authority and power, women in SKN are under-represented in positions at all levels where they can sufficiently influence the power and decision making process. This happens to be the case at the levels of parliament, the executive (central government), local government, and in Statutory Bodies.

Project Activities to promote Gender Equity

The Project will seek to institutionalize gender mainstreaming at all levels of intervention and operation of the project. In its efforts to fully integrate gender mainstreaming, the Project will be guided by the principles that gender elements are important drivers and incentives for achieving global environmental benefits, and in ensuring gender equity and social inclusion. The Project also embraces the fact that the needs, interest, and capabilities of women are habitually structurally different from those of men, in relation to the access, use, and management of biodiversity resources within project intervention areas, and thus, must be given special consideration in ensuring equal access to the resources and services of the Project.

In the context of training and capacity building programmes, both women and men will be involved in a balanced way, ensuring that the selection criteria for training include gender-specific characteristics that will ensure meaningful and significant participation by women in all trainings offered by the project (not less than 25%). The gender aspect will also be taken into account in the information and communication strategy of the project, by formulating messages specifically tailored to women and men independently, whenever relevant, and by taking into account gender aspects and the representation of both genders in all communication and information materials. All efforts will be made to ensure that project implementation incorporates and recognizes the relevant differences between gender labor, knowledge, needs, priorities, and responsibilities at the productive farm level, especially in relation to CSA and in the selection of farmers to benefit from SLM interventions, including access to materials, seedlings, technical assistance, fencing, and access to enhance water infrastructure for farms. Additionally, women will be given priority to access support and work in the establishment and operations of plant nurseries to be supported by the project, and to be used in the reforestation efforts of the project on both islands. The project also identifies in its Results Framework a specific indicator relevant to women: Number of women benefitting directly from the project through access to training, reforestation support, and CSA support: 80 women.

Documents

Title	Submitted
GEFID9785_Improving Environmental Management through SLM in St	
Appendix 2 - Detailed Cofinance budget DEC10 2019	
Appendix 1 Budget and budget notes DEC10 2019	
PRODOC SKN DEC10 2019	
Endorsement Request DEC10 2019	
Appendix 2 - Detailed Cofinance budget NOV27 2019	
Appendix 1 Budget and budget notes NOV27 2019	
PRODOC SKN 27 NOVEMBER 2019	
Endorsement Request NOVEMBER 27 2019	
GEFID9785_Improving Environmental Management through SLM in St	
GEFID9785_Improving Environmental Management through SLM in St	
Endorsement Request 06 SEPTEMBER 2019 (for submission)	
GEFID9785_Improving Environmental Management through SLM in St	
Endorsement Request FINAL 31 JULY 2019_rev (updated 7 AUG 19)	
Revised Endorsement Letter PIF_Improving Environmental Management through SLM in SKN	

Title

Submitted

Endorsement Request FINAL 29 MAY 2019 (for submission)

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

If yes, please upload document or equivalent here

See above

If possible, indicate in which results area(s) the project is expected to contribute to gender equality:

Closing gender gaps in access to and control over natural resources; Yes

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

Find attached results framework

A.5. Risks

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.

Risk	Risk level	Mitigation Measures
Climate change variability: major natural disasters (such as hurricanes, earthquakes, floods and droughts) strike St. Kitts and Nevis	Medium	While there is no adequate management strategy in the case of a major hurricane or natural disaster striking the islands, risk preparedness and early loss prevention measures will be put in place for project activities involving agriculture, in line with current practices for Disaster Risk Management in SKN. Should a significant disaster occur, the project will work with development partners to address damages and to implement recovery strategies. Project activities to restore vegetative cover and prevent soil erosion will help in the longer term to reduce the damage caused by extreme weather events.

Risk	Risk level	Mitigation Measures
Limited policy level buy-in during periods of financial stress shifts priorities away from sustainable resource management and diminishes national investment after the project ends	Low	Environmental sustainability is a top-level priority for the Government of SKN, as expressed in several high-level policy statements and plans. Given the urgent need to diversify SKN's economy, and the potentially important savings this could bring in terms of energy, food imports, and avoided costs of land degradation, the project is expected to mobilize continued high-level support.
Legislative process may prove to be slow and extend beyond the life of the project with planned regulatory reforms not getting formally enacted/adopted by end of project.	Medium	The project and the Ministry of Sustainable Development will ensure proper due diligence and timely presentation of proposals to the relevant levels and decision makers in Government
Farmers may not have faith in Climate Smart Agriculture concept and show preference to continue to do things as they traditionally did.	Low	The project will ensure early and sustained engagement of farmers in all efforts to introduce and demonstrate the socio-economic benefits of CSA, and will launch the public education and awareness campaign early with specific messages tailor-made for farmers and including farmer's participation in the campaign.
The multi-sectoral nature of land use planning results in slow sector support, resulting in delays for approval by Cabinet.	Low	The project and the Ministry of Sustainable Development will adopt a policy which ensures broad public consultations and full and total engagement of sector ministries at the level of the Permanent Secretaries, in all proposals under consideration, and securing sector and individual ministry buy-in before proposals are presented to Cabinet for consideration.
Undefined land tenure situation results in delays in project interventions in areas adjacent to national parks and in areas once used for sugar cane production.	High	This is an issue that requires the early engagement of the Department of Lands and Surveys at the start of the project and on the Project Steering Committee. Ministry-to-Ministry agreement on the level of priority to be given to the definition of land tenure situation in areas intended for project intervention may be key.

A.6. Institutional Arrangement and Coordination

Describe the Institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

Institutional Arrangements for Project Implementation

DIVISION OF RESPONSIBILITIES

Project Implementing Agency – The United Nations Environment Program (UN Environment) is the GEF's Implementing Agency for this project. UN Environment is tasked with the overall responsibility of ensuring that GEF policies and criteria are adhered to and that the project meets its objectives and deliver on expected outcomes. Other specific Implementing Agency responsibilities include ensuring compliance with GEF policies and standards for results-based M&E, fiduciary oversight, safeguards compliance, project budget approvals, technical guidance and oversight of project outputs, approval of Project Implementation Reports (PIRs), and participation in the project's superior governance structure.

INTERNAL STRUCTURE

Project Executing Agency – The International Union for the Conservation of Nature, Regional Office for Mexico, Central America and the Caribbean (IUCN-ORMACC) will perform the role of executing agency. This decision was made by the GSKN, which has adopted a collaborative approach with partners to facilitate execution of the myriad of initiatives on sustainable development in the country. This is due on part to resource constraints, but is also the government's approach to strengthening networks for collaboration with regional and international partners. This has been a precedent with several other initiatives implemented by organizations such as FAO, UNDP, etc. IUCN-ORMACC will establish a Project Coordinating Unit (PCU) to oversee day-to-day project execution. The PCU will be mostly based in SKN, and is responsible for the fiduciary oversight and reporting of the project, including financial management and procurement consolidation according to the projects operational manual and procurement plan. It is also responsible for monitoring and evaluation (M&E), provides and coordinates technical advice, and coordinates and assists overall orientation concerning project conception, strategies, criteria and methodologies. The PCU will be staffed with a **Project Coordinator**, a **Sustainable Agriculture Specialist**, who will be based in SKN, and an **Administrative Assistant**, who will provide support from Costa Rica. The Administrative Assistant should be in IUCN ORMACC offices in Costa Rica as the majority of the position's key duties can not be performed from abroad as it requires handling of administrative related paperwork for internal review and approval processes, which imply printing, delivery and follow up of the same with relevant IUCN staff as discussed and agreed with the GSKN. However, when deemed necessary, the project will ensure administrative/logistical support to staff based in St. Kitts and Nevis via the provision of professional services. One representative of the Ministry of Sustainable Development together with IUCN staff will take part in the recruitment process of the PCU staff and decide about the most suitable candidate for each position according to IUCN recruitment procedures. The PCU Project Coordinator will have a double reporting line (IUCN and the Ministry of Sustainable Development). The administrative support and financial management and procurement services will be provided directly by IUCN-ORMACC, and technical delivery of project outputs will be complemented by IUCN experts' backstopping, other relevant national government agencies and specialist consultants on an as needed basis.

A **Technical Advisory Committee (TAC)** will be appointed to provide technical oversight, guidance and support during project implementation. The TAC is also responsible for reviewing and providing recommendations on project methodological processes (technical quality) and activities to the PCU for its consideration. The TAC will meet at least quarterly and will be facilitated by IUCN as executing agency. Members of the TAC will include the Project Coordinator and senior technical officers from the key ministries of government, CSOs and academia with thematic competence and/or authority of relevance to the areas of interest and objectives of the project. The TAC shall be Chaired by the Project Coordinator and consist of seven more members, at least 3 of which must be from non-government institutions. The specific roles and responsibilities of the Technical Advisory Committee are as follows:

- § Review and make recommendations to the PCU and PSC on technical matters related to the Annual Operational Plans, Procurement Plan, Annual Reports and Project Progress Reports;
- § Ensure that project activities adhere to the Annual Operating Plan, the GEF and UN Environment Social & Environmental Safeguards, and those of the Government of St. Kitts & Nevis;
- § Review and make recommendations for improving the Terms of References for the recruitment of consultants, while ensuring that this review does not constitute undue delay to the project's procurement processes;
- § Participate in key meetings, workshops, consultations, trainings and other related activities as required;

- § Provide the project with access to information, data, and technical advice of specialized areas of competence of the Member;
- § Ensure accountability by making decisions in accordance with standards that ensure management brings about development results, best value for the money, fairness, integrity, transparency, and effective international competition.

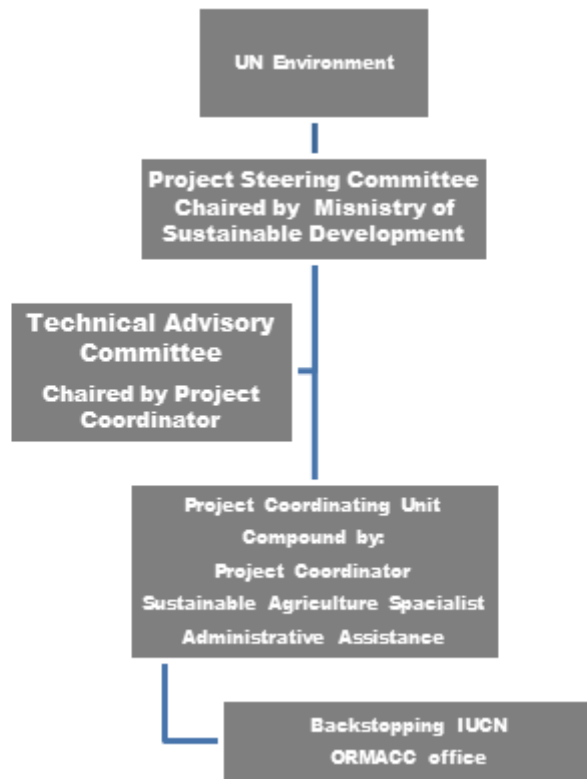
OVERSIGHT MECHANISMS

The project's superior governing body is the **Project Steering Committee (PSC)**. The PSC is responsible for ensuring that the project meets goals announced in the Project Results Framework by helping to balance conflicting priorities and resources. Conclusions and recommendations produced by the PSC will be used by IUCN-ORMACC to modify implementation strategies, annual work plans and resources allocation budget and, when necessary, to adjust the project's Result Framework in consultation with UN Environment and the Government of St. Kitts and Nevis. This committee will meet every six months, either physically or virtually. The PSC shall be chaired by the Ministry of Sustainable Development, and will include the Permanent Secretaries or their delegate from the Ministries with responsibility for (1) Sustainable Development; (2) Lands and Surveys; (3) Physical Planning; (4) Agriculture/Forestry; (5) Tourism and (6) Environment, and the GEF Operational Focal Point. The UN Environment Task Manager and the IUCN-ORMACC will also be members of the PSC. The specific roles and responsibilities of the Project Steering Committee are as follows:

- § Provide input into planning and coordination of the project;
- § Review and approve project policies and procedures;
- § Review and approve Annual Operational Plans and Budgets at the beginning of each fiscal year, to allow for smooth project execution through-out the rest of the fiscal year
- § Review the progress of the project and ensure activities are in line with approved annual operational plan and budget;
- § Review and approve all project technical and financial reports (quarterly, semi-annual reports, PIRs, and audited financial statements);
- § Ensures that required resources are committed and arbitrates any conflicts within the project or negotiates a solution to any problems between the project and external entities
- § Promote partnerships with relevant Government Ministries/agencies/departments for monitoring and execution of the project;
- § Facilitate the coordination of project financed activities with other related investments and institutions in St. Kitts & Nevis where applicable;
- § Ensure accountability by making decisions in accordance with standards that ensure management brings about development results, best value for the money, fairness, integrity, transparency, and effective international competition.

The project's Institutional and Implementation Structure is presented below.

Figure 1. Project Institutional & Implementation Structure



IUCN Backstopping and/or external consultants / national ministries and agencies involved may include experts in the following areas:

- Physical Planning,
- Natural Resource Management,
- Legal assistance,
- Sustainable Land Management

- Climate Smart Agriculture
- Knowledge Management & Public Awareness

Coordination with On-going Projects

The proposed project will coordinate and build on interventions underway by the GEF-UNDP Project “Conserving Biodiversity and Reducing Habitat Degradation in Protected Areas and their Buffer Zones”. This project seeks to strengthen laws and regulations that govern Protected Areas (PA); buttress policy and institutional frameworks for PA system management; establish a Protected Area Agency and overall institutional framework for PA system management; operationalize Terrestrial and Marine Protected Areas; and increase awareness of and support for the PA system. Coordination will be sought with this project to ensure that interventions promoted by the project are consistent with management plans and the demarcations of terrestrial protected areas. Of particular mention is the development of a Physical Development Plan for Nevis being funded by the above-mentioned project, which will complement that to be updated for St. Kitts under this proposed project, thus resulting in updated Physical Development Plans for both islands.

The regional project Integrating Water, Land and Ecosystem Management in Caribbean Small Island Developing States - GEF IWECO covers ten Caribbean countries, including St. Kitts and Nevis. The IWECO project’s primary goal is the implementation of an integrated approach to water, land and ecosystems services management. The IWECO sub-project in SKN will implement a number of investments and infrastructure projects, including: land degradation control measures along College Street Ghaut; a feasibility study for municipal grey water treatment to treat effluent from private and commercial properties in the greater Basseterre area; construction of a retention pond at higher elevations which can facilitate gravity fed irrigation; restoration and reforestation of quarries; the deployment of artificial reefs; and beach restoration. The project will also support a cost-benefit and feasibility study for sustainable sand extraction; invest in community-based water supply and sanitation for disadvantaged communities; create a suite of IW, LD, and BD-related indicators to be integrated into national accounts; and strengthen policy and legislation for the effective management of water, land and ecosystems resources that account for climate change. Cooperation will be sought to share methodologies and lessons and to explore opportunities for joint work and work plans to avoid duplication.

The recently approved and launched regional GEF project Preventing Costs of Invasive Alien Species (IAS) in Barbados and the OECS Countries, is intended to promote prevention, early detection, control and management frameworks for Invasive Alien Species (IAS) that emphasize a risk management approach by focusing on the highest risk invasion pathways into the participating countries. In SKN, the project will promote strengthened invasive alien species management frameworks and cross-sectoral arrangements to reduce IAS threats in terrestrial, marine and coastal ecosystems. This project will coordinate closely with the regional IAS project to avoid duplication, understand the lessons learnt and support replication. Coordination between the two projects will be sought specifically in biodiversity monitoring, methodologies for public outreach and consultations, guidelines and protocols for coastal developments, and Knowledge Management strategies as part of a broader South-South Cooperation approach for the region.

This proposed project will also coordinate with the IICA project “Retrofitting greenhouses in St. Kitts and Nevis to improve water and resource use efficiency, save seeds, upcycle plastics and develop the capacity of youth to design next-generation climate-smart agricultural systems”, in efforts to improve productivity, profitability and sustainability of greenhouse

and related activities by retrofitting structures with climate-smart and water and resource-efficient designs, systems and technologies. Coordination will also be sought in Climate-Smart Agriculture demonstrations, the development of training materials, training to farmers, and in the involvement of farmers in public awareness campaigns.

Coordination with Past Projects

Past projects presented in the baseline for this project will provide numerous linkages for potential expansion, replication and upscaling of proposed results. The Agriculture Diversification Project will provide opportunities to build on efforts to expand sustainable practices in agriculture to facilitate the expansion of non-sugar agriculture. Investments by the GEF can contribute to this objective by ensuring that it deploys in a low-carbon, climate smart way and that it promotes conservation and sustainable land management for the maintenance of carbon stocks in agricultural lands, reduced land degradation, conservation of forests and biodiversity of key economic significance. Progress in infrastructure, soil improvement, water and land management, technical support and training to farmers by the Agriculture Resource Management Project (ARMP) provides a host of experiences and lessons learned to inform strategies and approaches to be used by this proposed GEF intervention. The proposed GEF intervention will build on experience gained during the ARMP to replicate and upscale water harvesting, irrigation and other sustainable agricultural practices. The St. Kitts Water Conservation and Drought Management Project (CDMP) supported audits and conservation plans of public institutions (which are traditionally not metered); pressure management of water distribution mains; evaluation of potential surface water sources in abandoned sugar plantations for potential use in agriculture; and the retrofitting of six institutions, including three schools and one hospital. This proposed project will build on the assessments conducted by the CDMP for the construction of earth dams, ponds and other irrigation infrastructure.

Interventions by this project will also build on and complement investments by GEF Small Grants Programme, and particularly those in agriculture, climate change, land degradation, waste management and capacity building for communities, climate smart agroecology and landscape and seascape conservation. This project also will seek to strengthen the coordination and capacity of key community groups which have been engaged with the GEF Small Grants Programme, and include, but is not limited to the Fahies Agricultural Women's Cooperative Society, New River Farmers' Cooperative Society, Nevis Historical and Conservation Society, the REACH Hamilton Estate Community Group, the St. Christopher National Trust, among others.

Additional Information not well elaborated at PIF Stage:

A.7. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

Socio-Economic Benefits:

As stated above, the shift in SKN from sugar cane to tourism development as the primary economic driver has resulted in a series of use changes, not only on lands once used for sugar cane production, but also on the coastline to accommodate tourism development infrastructure. Deforestation on slopes has resulted in surface soil erosion and sedimentation, destroying suitable farm land, negatively impacting water supply and quality, and ultimately ending up on the coast with devastating consequences for mangroves, seagrass beds and coral reefs, and thus negatively impacting the tourism product the country has now prioritized as its primary economic driver. Damage from hurricanes also affects agriculture production in SKN with farmers suffering significant losses, as was evidenced in the aftermath of Hurricanes Irma and Maria in 2017. A direct consequence of these events has been the economic displacement of farmers who are forced to diversify from sugar into vegetable crops produced in a scattered and less organized fashion, with clear negative impacts on livelihoods and on the national economy.

This proposed GEF project will address land degradation, soil erosion and protect the country's water sources through reforestation and Assisted Natural Regeneration to abandoned and degenerated lands located on slopes at the higher elevations of the country. This will in turn protect sources of potable water for the country and the evolving tourism sector, and will help to protect biodiversity and ecosystems on the coast that are essential for the country's sustainable development objectives. Project investments in demonstrated SLM practices and CSA with direct benefits to at least 100 farmers, with support for water infrastructure for farmers, equipment, seedlings, fencing, technical support, and training will strengthen the resilience of agriculture production and the resilience of the farming community, and by extension will directly support the country's economic positions and the livelihoods of farmers. Additionally, the project's gender mainstreaming approach will ensure that women receive their fair share of project benefits, and especially women farmers, with a direct positive impact on their economic independence.

Project Cost-effectiveness:

The design of this project focuses on an integrated approach aimed at achieving efficiencies in addressing key issues and gaps impacting the sustainable development of St. Kitts and Nevis, with particular attention on land degradation, biodiversity conservation and climate change. The project embraces the legislative and regulatory framework, institutional capacity, human capacity, and direct support to sustainable production in agriculture as the primary pillars upon which project interventions will be based.

Project intervention measures were chosen based on a qualitative analysis of their alignment with national policies and priorities, their technical feasibility, estimated individual costs, probable execution times, availability of favorable enabling frameworks (in the political, legal, institutional, private sector willingness, and environmental aspects), and the estimated time for their design and implementation. This approach allowed for an effective identification of those interventions that can be implemented in the project cycle, have the highest probability of co-financing, and those that are most likely to consolidate alliances, not just nationally, but which also provide opportunities for regional and other possible south-south exchanges, while achieving tangible economy of scale in knowledge management through the maximization of experiences and lessons learned.

The project is expected to be cost-effective by complementing the baseline investments defined under the 'GEF Alternative', and as a result of its ability to bring together various partners from regulatory and productive agencies relevant to the agriculture, forestry, environment, and tourism sectors. The project is expected to achieve a far-reaching impact with the relatively limited amount of resources available, at the local and national scales, with direct socio-economic benefits to at least 22 women and 84 men in St. Kitts and Nevis.

A.8. Knowledge Management

Elaborate on the Knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings, conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document in a user- friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

The Knowledge Management approach of the project will be guided by a specific Knowledge Management Strategy developed specifically for the project during the preparation phase. The KM Strategy for the project seeks to create a SLM, BD and CC information and knowledge management framework, within the context of the proposed outputs and outcomes of the project in St. Kitts & Nevis. It is envisioned that the successful implementation of this framework within the life span of the project will result in a solid foundation for the extended dissemination and exchange of SLM, BD and CC knowledge in St. Kitts & Nevis, contributing directly to SLM, BD conservation and CC mitigation in the country. The KM approach is designed to meet the initial needs of the project as a temporary project/organizational structure, but with KM investments, structure, processes and systems, which will continue to be functional beyond the life of the project, with clear capacity building and institutionalization across St. Kitts & Nevis.

Activities will include the development of standardized data collection and reporting formats for use by all project documents (Progress Reports, M&E reports, work plans, etc.); standardized definitions of common terminologies to be used with respect to SLM, BD and CC; KM Guidelines and Communication Guidelines and train key personnel in their use; Systematization of Experiences and Lessons Learned as a result of project interventions; implement national and regional institutional partnerships through technical exchange programs, internships, and collaborative research agreements and Memoranda of Understanding; and establish a National KM Partnership Network across key institutions of the country. The project also will support regional and south-south cooperation by assisting the GSKN in participating in national, regional and global knowledge exchanges on SLM, BD and CC issues. The complete Knowledge Management Strategy for the project is presented in Appendix 18 of the UN Environment Project Document.

B. Description of the consistency of the project with:

B.1. Consistency with National Priorities

Describe the consistency of the project with nation strategies and plans or reports and assessments under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The aims of this project are consistent with the overall national policy priorities established by the Government of St. Kitts and Nevis (GSKN), such as the National Poverty Reduction Strategy and the National Adaptation Strategy (NAS, 2006), which outlines the strategy for the fiscal, economic, social, physical and environmental transformation of the Federation in the aftermath of the closure of the sugarcane industry. The NAS identifies four pillars of development to advance this process: non- sugar Agriculture, Tourism, Financial Services and Information and Communication Technology. Several crosscutting areas were also identified, including housing, infrastructural development, health and wellness, offshore education and private sector development. In order to choose the most suitable land uses, the project will also support a revision or updating of the National Physical Development Plan (NPDP), which identifies appropriate physical planning and land use strategies to allow for sustainable utilization of the natural resource base and to direct the use of public sector and private industry resources for planned and orderly urban development. The Nevis Physical Development Plan is still in the development phase. The project is also in line with the Sustainable Land Management Plan, which contains guidelines on land management with linkages to environmental conservation and adaptation to climate change, and the National Environmental

Management Strategy, which seeks to reduce environmental degradation, raise awareness on environmental issues, promote environmentally friendly technologies, and protect biodiversity. The project will be consistent with the National Conservation and Environmental Protection Act (NCEPA), which outlines a framework for the declaration of sensitive ecological and historic sites as protected areas, as well as the Development Control and Planning Act, which makes provisions for the development of land in urban and rural areas.

The project is also aligned with the St. Kitts Strategy and Action Plan for Agriculture 2017-2021, which prioritizes the following eight priority areas: create an environment for agribusiness to be more productive and profitable via capacity building and innovation; enhance national food security with emphasis on food safety; assist in development of value added chains domestic and export; develop and strengthen appropriate institutional structures mechanisms and human resource capacities; create an environment to attract and retain youth and women involvement in agriculture; adopt an Integrated Water Resource Management approach; reduce crop and livestock losses; adopt and develop profitable measures to adopt and mitigate to climate change.

Of overall relevance for the development of the project, is the recently developed Draft Land Use Policy of 26th February 2018, which once approved, will provide overarching policy direction and context for land distribution, land tenure, land use, land administration and management, and taxation. The update of the national physical development plan will be guided by strategic directions articulated by the Draft Land Use Policy. Other policy documents of continued relevance include the Capacity Building and Mainstreaming of Sustainable Land Management in St. Kitts and Nevis - Strategic Framework for Investment Planning and Resource Mobilization of Sustainable Land Management Interventions, October 2010, as well as the Proposal for the Organizational Framework for the Land Management Unit, March 2010. These documents will be instrumental as influential baselines in the planning, institutional and regulatory reforms proposed by the project.

Finally, this project makes a significant contribution to the implementation of SKN's commitments to the three Rio Conventions, as expressed in the country's UNCCD National Action Plan, the NBSAP, and the INDC and National Communications to the UNFCCC. The UNCCD NAP aims to address the main causes of land degradation and to combat drought through the promotion of alternative livelihoods, sustainable agricultural practices, the development and efficient use of energy, and the strengthening of capacities for assessment and observation. The GSKN is currently working with the Partnership Initiative on Sustainable Land Management (PISLM) to establish LDN targets; during the implementation phase, the project will identify ways in which it can provide inputs to this process, including the baseline, work plans and final LDN targets. The NBSAP establishes that the management of natural resources should be based on scientific grounds in order to ensure continuity of the natural ecological balance and prevent deterioration of ecosystems. The NBSAP also identifies as priorities efforts to develop SKN's scientific and technological capacity, to strengthen legal frameworks, and to establish socio-economic incentives for conservation and sustainable development of natural resources. The INDC and National Communications note key priorities to address climate change, including managing water demand and extraction and promoting adaptation to climate change through sustainable resilient livelihoods.

C. Describe The Budgeted M & E Plan:

The project will follow UN Environment standard monitoring, reporting and evaluation processes and procedures. Substantive and financial project reporting requirements are summarized in Appendix 8 of the UN Environment Project Document. Reporting requirements and templates are an integral part of the Environment legal instrument to be signed by the executing agency and Environment.

The project M&E plan is consistent with the GEF Monitoring and Evaluation policy. The Project Results Framework presented in Appendix 4 of the UN Environment Project Document, and includes SMART indicators for each expected outcome, means of verification, as well as mid-term and end-of-project targets. These indicators along with the key deliverables and benchmarks included in Appendix 6 of the UN Environment Project Document will be the main tools for assessing project implementation progress and whether project results are being achieved. The project's Costed M&E Plan is presented in Appendix 7 of the UN Environment Project Document, with all mentioned M&E costs fully integrated in the overall budget of the project, presented in Appendix 1 of the UN Environment Project Document.

The M&E plan will be reviewed and revised as necessary during the project inception workshop to ensure project stakeholders understand their roles and responsibilities vis-à-vis project monitoring and evaluation. Indicators and their means of verification may also be fine-tuned at the inception workshop. Day-to-day project monitoring is the responsibility of the project management team but other project partners will have responsibilities to collect specific information to track the indicators. It is the responsibility of the Project Coordinator to inform UN Environment of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely fashion.

The project Steering Committee will receive periodic reports on progress and will make recommendations to UN Environment concerning the need to revise any aspects of the Results Framework or the M&E plan. Project oversight to ensure that the project meets UN Environment and GEF policies and procedures is the responsibility of the Task Manager in UN Environment -GEF. The Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of scientific and technical outputs and publications.

Project supervision will take an adaptive management approach. The Task Manager will develop a project supervision plan at the inception of the project which will be communicated to the project partners during the inception workshop. The emphasis of the Task Manager supervision will be on outcome monitoring but without neglecting project financial management and implementation monitoring. Progress vis-à-vis delivering the agreed project global environmental benefits will be assessed with the Steering Committee at agreed intervals. Project risks and assumptions will be regularly monitored both by project partners and UN Environment. Risk assessment and rating is an integral part of the Project Implementation Review (PIR). The quality of project monitoring and evaluation will also be reviewed and rated as part of the PIR. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources.

A mid-term management review or evaluation will take place on September 30, 2021 as indicated in the project milestones. The review will include all parameters recommended by the GEF Evaluation Office for terminal evaluations and will verify information gathered through the project PIRs and quarterly progress reports, as relevant. The review will be carried out using a participatory approach whereby parties that may benefit or be affected by the project will be consulted. Such parties were identified during the stakeholder analysis (see section 2.5 of the project document). The project Steering Committee will participate in the mid-term review and develop a management response to the evaluation recommendations along with an implementation plan. It is the responsibility of the UN Environment Task Manager to monitor whether the agreed recommendations are being implemented.

An independent terminal evaluation will take place at the end of project implementation. The Evaluation and Oversight Unit (EOU) of UN Environment will manage the terminal evaluation process. A review of the quality of the evaluation report will be done by EOU and submitted along with the report to the GEF Evaluation Office not later than 6 months after the completion of the evaluation. The standard terms of reference for the terminal evaluation are included in Appendix 10, along with terms of reference for other key positions of the project. These will be adjusted to the special needs of the project at the appropriate time.

The UN Environment Capacity Development Scorecard is attached as Appendix 19 of the UN Environment Project Document. This will be updated at mid-term and at the end of the project and will be made available to the GEF Secretariat along with the project PIR report. The project's M&E Plan is presented below.

Type of M&E Activity	Responsible Parties	GEF Budget (USD)	IUCN Co-finance in kind (USD)	Time Frame
Inception Workshop	· IUCN · Government of St-Kitts and Nevis – Ministry of Sustainable Development	10,000	2,000	Within 2 months of project start-up
Inception Report	· IUCN	5,000	1,000	1 month after project inception meeting
Measurement of project indicators (outcome, progress and performance indicators, GEF tracking tools) including baseline data collection	· IUCN · International Consultants (related project outputs 1.3.1, 2.1.1, 2.1.2, 3.1.1.) Please ref. to consultants cost. Appendix 9.	53,000		Outcome indicators: start, mid and end of project Progress/performance indicators: annually
Standard semi-annual progress reporting and monitoring to UN Environment	· IUCN	13,577		Within 1 month of the end of reporting period i.e. on or before 31 Jan. and 31 Jul.
Monitoring by the Project Steering Committee and advisory technical group of environmental and social risks, and corresponding management plans as relevant	· IUCN · Government of St-Kitts and Nevis – Ministry of Sustainable Development	41,500	4,000	Once a year minimum for 5 years
Project Implementation Review (PIR)	· IUCN	10,000	2,000	Annually, part of reporting routine
Mid Term Review/ Evaluation	· UN Environment	20,000		At mid-point of project implementation
Terminal Evaluation	· UN Environment	30,000		Within 6 months of end of project implementation
Project Final Report	· IUCN	11,000	2,000	Within 2 months of the project completion date
Co-financing report	· Government of St-Kitts and Nevis – Ministry of Sustainable Development · IUCN		4,000	Within 1 month of the PIR reporting period, i.e. on or before 31 July
Total M&E Plan cost		194,077	15,000	

PART III: Certification by GEF partner agency(ies)

A. GEF Agency(ies) certification

GEF Agency Coordinator

Date Project Contact Person Telephone Email

Kelly West Senior Programme Manager & Global Environment Facility Coordinator Corporate Services
Division UN Environment

Christopher Cox, Task
Manager

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ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Outcomes	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Project Objective: To transform degraded forest landscapes into biodiversity and climate-friendly areas of sustainable agricultural/agroforestry production.						
Component 1: Integrated and strengthened environmental planning and management on the islands of St. Kitts and Nevis to support island sustainability						
Outcome 1.1: Reduced pressure on natural resources from competing land uses on the islands of St. Kitts and Nevis	Number of land use planning and management tools developed and adopted	1	2	2	Updated / revised National Physical Development Plan and Land Use Maps	Government of SKN prioritizes policy formulation and regulatory reform as an essential first step for BD conservation, SLM, CSA and CCM. Stakeholders and decision-makers are receptive to incorporating project results into policy formulation processes and value the importance of inter-institutional coordination for policy success. Key institutional project stakeholders fully embrace the outputs of the project and institutionalize required processes and strategies for BD conservation, SLM, CSA and CCM.
	Number of legal and/or regulatory instruments developed to support land use planning implementation	0	1	2	Publication in gazette of revised legal and regulatory instruments to support NPDP implementation Copies of baseline and actual digital land use maps and Building Codes	
Outcome 1.2: Improved systemic capacity for promoting	Number of stakeholder institutions capacitated for coordinated action in SLM, BD and CSA	0	4	8	Training registration forms, participants lists, certificates Copies of undergraduate or	Key institutional project stakeholders fully embrace the outputs of the project

Outcomes	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
sustainable development in the islands of St. Kitts and Nevis through INRM	Number of technical persons in the government service who have completed post-graduate training in the fields of Geographic Information Systems (GIS); Land Use Planning; Sustainable Land Management; Climate Change and/or Climate Smart Agriculture; and Environmental Management/Ecosystem Restoration	0	3	6	post-graduate degrees obtained	and institutionalize required processes and strategies for BD conservation, SLM, CSA and CCM.
	Increase in score of Capacity Development Scorecard (score out of a maximum of 39)	19	18	30	Capacity Development Scorecard at Mid-Term and End of Project	Stakeholder institutions show an interest in collaboration and partnerships with SKN to strengthen information and capacity building for BD conservation, SLM, and CCM.
Outcome 1.3: Reduced pressure on three indicator species at two Key Biodiversity Area (KBA) sites	Number of KBAs with Biodiversity Baseline Assessments	0	1	2	Baseline Assessment Reports	Counterpart organizations are willing to share information and recognize the usefulness of the data to be produced and knowledge to be generated.
	Number of Indicator Species with increase in population	0	1	3	Species Inventory, Population Density Reports,	Technical data and

Outcomes	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
	Area in M2 available for Leatherback Turtle nesting on beaches within the targeted KBAs	TBD in Year 1	Baseline is maintained	Baseline is maintained	and Abundance Index Reports Turtle Nesting Reports	monitoring systems are robust enough to guarantee quality information on BD conservation progress
	% change in number of successful leatherback turtle nests over baseline	TBD in Year 1	At least 10% change in nesting success	At least 15% change in nesting success	Participants' list of turtle conservation activities Project Progress Reports	Stakeholder institutions show an interest in collaboration and partnerships with SKN to strengthen information and capacity building for BD conservation
	Number of locals engaged in Leatherback turtle conservations activities	0	At least 30 persons engaged	At least 60 persons engaged	Least Tern and Brown Pelican Nesting Reports Biodiversity Monitoring Reports	The Department of Physical Planning embraces the goals and objectives of the project, and willingly shares relevant GIS data for project purposes.
	% change in recorded successful nesting of the Least Terns and Brown Pelicans within KBAs over baseline	TBD in Year 1	At least 5% change in nesting success	At least 10% change in nesting success		
	Number of hectares of mangroves rehabilitated within KBAs	TBD in Year 1	TBD according to baseline	TBD according to baseline		

Outcomes	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Outputs under Component 1						
Output 1.1.1: Updated/ revised National Physical Development Plan (NPDP) and Building Codes						
Output 1.1.2: Revised legal and regulatory framework to support NPDP implementation						
Output 1.1.3: Baseline digital land use maps of areas of high priority environmental concern						
Output 1.2.1: Relevant Institutions, CSO and Communities capacitated for coordinated and effective action on SLM, BD conservation and climate smart agriculture						
Output 1.2.2: National capacities improved through post-graduate technical training for at least 6 students engaged with the local authorities.						
Output 1.3.1: BD Management Strategy based on biodiversity baseline assessments for 2 KBAs						
Component 2: Mainstreaming BD conservation, SLM and CCM into key development and resource management sectors						
Outcome 2.1: Conservation of BD habitat and ecosystem services, and increased carbon sequestration in soil and woody vegetation, achieved through restoration and management of critical forest sites	Number of hectares restored through reforestation / ANR and/or trees planted in agroforestry	0	100	265	Project Progress Reports	The Department of Physical Planning embraces the goals and objectives of the project, and willingly shares relevant GIS data for project purposes.
	Number of hectares of mangrove ecosystems rehabilitated and protected	0	10	20	Biodiversity Monitoring Reports	
	Metric tons of CO2 emissions directly mitigated as a consequence of project investments in reforestation, ANR, CSA, and SLM	0	0	79,342tCO2eq over a 10 year period	Annual Agriculture Sector Report Carbon sequestration assessment report measuring CO2 emissions mitigated	Ministry of Agriculture is fully engaged with the goals and objectives of the project
	Number of men producers' direct beneficiaries in 215 has. on CSA and SLM	0	40	70	Project Progress Reports Signed beneficiary agreement	Local communities and agriculture stakeholders take an interest in and/or see the benefits of SLM and CSA

Outcomes	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
	Number of women producers' direct beneficiaries in 215 has. on CSA and SLM	0	15	30	Project progress reports Signed beneficiary agreement	Local communities and agriculture stakeholders take an interest in and/or see the benefits of SLM and CSA
Outcome 2.2: Local communities adopt tested SLM practices to reduce land degradation	Number of hectares of degraded land restored (removal of invasive underbrush/ regrowth, sustainable clearing, bunding and contouring, terracing, etc.) resulting in decreased soil erosion, increased carbon sequestration, agricultural crop production and increased BD conservation and ecosystem services	0	80	215	Project Progress Reports Biodiversity Monitoring Reports Annual Agriculture Sector Report Carbon sequestration assessment report	Ministry of Agriculture is fully engaged with the goals and objectives of the project Local communities and agriculture stakeholders take an interest in and/or see the benefits of SLM and CSA
Outcome 2.3: Improved infrastructure conditions support climate resilience in agriculture	Number of hectares benefitting from improved water infrastructure (irrigation) for agricultural production in support of SLM measures	0	50	100	Project Progress Reports Annual Agriculture Sector Report	Ministry of Agriculture is fully engaged with the goals and objectives of the project The Department of Physical Planning embraces the goals and objectives of the project, and willingly shares relevant GIS data for project purposes.

Outcomes	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Outputs under Component 2						
Output 2.1.1: Decreased soil erosion, increased carbon sequestration and agroforestry production through reforestation and Assisted Natural Regeneration (ANR) (265ha)						
Output 2.1.2: Increased ecosystem integrity through 20ha* of mangrove ecosystems rehabilitated and Protected (Cayon to Keys).						
Output 2.2.1: Decreased soil erosion, increased carbon sequestration and agricultural crop production obtained through restored areas of degraded land (215 ha).						
Output 2.3.1: Water storage tanks and accompanying distribution lines in place to support sustainable and climate- friendly agricultural production for at least 100 participating farmers.						
Component 3: Knowledge management and dissemination for SLM, BD and CC						
Outcome 3.1: Public servants from key institutions have increased planning and environmental management capacity	Number of reports produced for international commitments using SLM, BD conservation and CSA data of integrated monitoring platform	0	3	6	SLM, BD conservation and CSA reports	Stakeholder institutions show an interest in collaboration and partnerships with SKN to strengthen information and capacity building for BD conservation, SLM, CSA and CCM.
	Number of partnerships established with regional research institutions or platforms.	0	1	3	Partnership Agreements or MOUs Project Progress Reports	
	Number of stakeholder institutions participating in the project's Knowledge Management Network	0	7	12	Mid-Term and Terminal Evaluation Reports	
Outcome 3.2: Increased understanding and awareness of relevant environmental issues among the general public, land use managers, the tourism industry and international visitors	Number of government institutions, schools, CSOs, and productive sectors specifically targeted by key messages of the Public Awareness Campaign	0	15	25	Public Awareness Survey Reports Project Progress Reports	Local communities and agriculture stakeholders take an interest in and/or see the benefits of BD conservation, SLM and CCM, trust the awareness-raising message and embrace its content.
	Number of farmers who have heard, seen, or read public awareness messages on SLM, CSA and Biodiversity conservation communicated by the project.	0	100	200	Mid-Term and Terminal Evaluation Reports	

Outcomes	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
to SKN	Percentage increase in number of visitors and residents interviewed departing from airports and seaports in St. Kitts & Nevis who have seen, heard or read public awareness messages on BD conservation and sustainable use of natural resources communicated by the project.	TBD at inception	20%	50%		
Outputs under Component 3						
Output 3.1.1: A plan for knowledge management and information exchange on environmental issues is developed and under implementation						
Output 3.2.1: Increased awareness and understanding of issues related to SLM, BD Conservation and CSA						

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

GEF Secretariat Comments

GEFSec Comments	Responses
Given small hectare numbers in Table B and E (20 ha BD and 650 ha SLM) we recommend that PPG explores how these pilot level activities can be replicated on a wider scale.	The project has been designed to maximize capacity building and knowledge transfer in CSA and SLM at the level of farmers as well as institutions providing extension services and other technical support beyond the project life; it will provide numerous opportunities for the upscaling of SLM, Biodiversity Conservation and CSA. To this end, the project is creating an enabling framework for expanded development of sustainable and climate-smart agriculture, through the institutionalization of methodologies, production technologies, and extension support services. Additionally, the Farmer Field School approach will provide hands-on learning and will support farmer-to-farmer knowledge exchange. This enabling framework will support the expansion of sustainable agriculture development and will create capacity at the level of farmers, thus reducing reliance on external support from the non-farming community to be able to adopt and implement sustainable agriculture practices at the level of the individual farmer.

GEF Council Comments

GEF Council Comments	Responses
<p>The proposal addresses the three main barriers as explained pg. 6-7 'barriers'. However, how to improve the lack of updated and comprehensive data and its effective use should be included in the KM section, e.g. Outcome 3. This includes a clearer explanation how the project will contribute to improve local capacities through making effective inputs into national education, technical and/or academic training programmes, rather than just providing manuals or best practices – the latter does not necessarily or automatically prompt their use.</p>	<p>The Knowledge Management Strategy (Output 3.1.1) of the project embraces a comprehensive approach for access, use and sharing of knowledge through standardized data collection and reporting, standardized definitions of common terminologies to be used with respect to SLM, BD and CC; KM Guidelines and Communication Guidelines and training to key personnel across institutions in their use; Systematization of Experiences and Lessons Learned as a result of project interventions; national and regional institutional partnerships through technical exchange programs, internships, and collaborative research agreements and Memoranda of Understanding; establishment of a National KM Partnership Network across key institutions of the country; and regional and south-south cooperation by assisting the GSKN in participating in national, regional and global knowledge exchanges on SLM, BD and CC issues, consistent with Appendix 19 of the UN Environment Project Document.</p>
<p>Outcome 2.2 states 100 farmers as beneficiaries of training in land restauration and agricultural practices. Germany recommends explaining how this will be scaled up.</p>	<p>As mentioned above in Section A6 of this CEO Endorsement Request, Farmer Field Schools, the targeted inclusion of youth farmers, and other farmer-based extension systems will play a key role in ensuring the replicability of results from one farm to the next, and from one generation to another, by promoting a learning-by-doing approach in which results are usually immediately visible and transferable, and are easily handed down between generations of farmers. Through Component 3, the project will disseminate its key achievements so that a larger group of stakeholders can become inspired to take up the proposed technologies and approaches. The successful demonstration of Climate Smart Agriculture will incentivize other farmers and other projects to expand and upscale the scale and magnitude of small scale rural agriculture through-out the country, as an important means of livelihood for rural families.</p>
<p>Mangrove area (20 ha) are to be restored (pg.10, 2.1) - meaning newly established? Or, rehabilitated (pg.11, 4); pg.12 Aichi targets) - meaning brought back to their former state? Please clarify, and explain how will this be achieved (reference to 2.1)?</p>	<p>As described in Output 2.1.2, the project will work with the Department of Marine Resources, local NGOs and CBOs to rehabilitate at least 20 hectares of mangroves in the Cayon to Key KBA, which will help to protect coastal areas on the eastern coast of St. Kitts (downstream of the CFRNP) that are critical nesting habitat for the Leatherback turtle (<i>Dermochelys coriacea</i>) as well as other sea turtle species. This will be done through enrichment planting of dominant species of mangrove that already occur in the area where cover has been removed through prior clearing activities. Follow-on maintenance work to ensure survivorship of plantings will be undertaken.</p>
<p>Much focus is put under 1.3 reduced pressure on three indicator species at two Key Biodiversity Areas (KBA) sites (pg. 2, 9). Where are these mentioned under 4) Table comparing baseline scenario and incremental cost? Point 2?</p>	<p>Reference to three (3) indicator species has been specifically stated in Table 4 of the UN Environment Project Document and in Section 4 of this CEO Endorsement Request.</p>
<p>Explain where protection of sea grass beds come in the proposal as they are mentioned under point 2 in 4) pg. 11 – or consider concentrating on mangroves – 20 ha, only.</p>	<p>The text in Table 4 in Section 4 of the UN Environment Project Document and in Section 4 of this CEO Endorsement Request have been adjusted accordingly to restrict focus on the protection of mangroves.</p>

STAP Comments

STAP Comments	Responses
<p>1. STAP welcomes the project's use of georeferenced data to monitor changes in land use and land cover change in the islands. Remote sensing can assist with quantifying land use change and land cover resulting from urbanization and tourism to better inform biodiversity conservation, and environmental management of mangroves. The following paper can assist with detailing component 1, and the application of digital maps to monitor and assess environmental management. The paper also offers evidence on the application of remote sensing data to observe mangrove degradation and the effectiveness of protective legislation to reduce mangrove loss in the Caribbean: Tuholske, C. et al. (2017). "Thirty years of land use/cover change in the Caribbean: Assessing the relationship between urbanization and mangrove loss in Roatan, Honduras". <i>Applied Geography</i> 88 (2017) 84-93.</p>	<p>As described in Output 1.1.3, the digital land use mapping and prioritization exercise will entail the creation of a land use map based on the Restoration Opportunity Assessment Methodology (ROAM) and other tools, as InVEST, ROOT, among others, which allow for identifying the impact of the actions proposed on the provision and conservation of ecosystems services and the way to optimize them. To improve capacities in GIS, the ROAM and the other tools will be implemented within the GIS technicians unit, receiving training on the use of the tools and the methodology and in integrating existing platforms (Arc Map and ERDAS Imagine remote sensing), which are the base for ROAM implementation. Besides the technical component, the ROAM methodology is based on a strong consultations process, which will be carried out among the revision process involving all sectors and main stakeholders related to the NPDP application.</p> <p>In addition, the GSKN is in the final stage of the receipt of electronic maps that have been done for the country. This initiative will provide updated information on the state of play of the current land use and will aid to inform the land use maps specific to environmental pressures that will be developed under this project.</p>

2. STAP encourages UNEP to define in detail the images used, and the method used to assess the images for vegetation changes; this includes defining the spatial and temporal scale, and describing the parameters that were used to characterize and assess agricultural dynamics, and deforestation. STAP encourages the project proponents to complement the georeferenced data with ground-truth information. This entails considering socio-economic factors, and farming characteristics (cultivation period so that it matches the images' time-series). It also would be valuable to describe the opportunities and limitations in using georeferenced data to monitor and assess vegetation degradation. The project proponents are encouraged to think about how to scale-up, or transfer, the georeferencing method so it can be used for future projects.

The images to be used in order to assess vegetation changes will be obtained in ground truth overflights using unmanned aerial vehicles equipped with multispectral high resolution cameras such as "Mappir" cameras. This aims to obtain georeferenced multispectral high resolution images close to 20 centimeters resolution at a very high quality spatial scale, data that will enable the calculation of Normalized Difference Vegetation Index (NDVI), allowing for monitoring in specific timeframes in previously identified sampling sites to assess vegetation degradation and deforestation. For nationwide analysis it is necessary to quote with international providers for remote sensing images for the study area, adjusted to availability. The approach described here is consistent with the following reference:

Lange, M., Dechant, B., Rebmann, C., Vohland, M., Cuntz, M., & Doktor, D. (2017). Validating MODIS and Sentinel-2 NDVI Products at a Temperate Deciduous Forest Site Using Two Independent Ground-Based Sensors. *Sensors (Basel, Switzerland)*, 17(8), 1855. doi:10.3390/s17081855

3. For component 2, STAP recommends drawing from the literature review in STAP's paper on "Mainstreaming Biodiversity in Practice: A STAP Advisory Document". In particular, STAP recommends acting on the finding that project proponents should give attention to the design, implementation and assessment of mainstreaming biodiversity activities. The results will build the evidence base of GEF (and non-GEF) mainstreaming projects, in particular how and why mainstreaming is important, and what has been learned from it. STAP's mainstreaming paper can be accessed through this link: <http://stapgef.org/node/1600>

The approach used in the project's design for 'mainstreaming biodiversity' is in accordance with the "Mainstreaming Biodiversity in Practice: A STAP Advisory Document". It embraces the notion that the sustainable use of biodiversity has to be 'institutionalized' and evidenced through its incorporation into governance structures such as sectoral and national policies and strategies. The projects aims to incorporate biodiversity considerations into the updated NPDP; SLM manuals and Tools; CSA manuals and Tools; the projects Knowledge Management Strategy; and the project's Public Education and Awareness Strategy.

4. For Component 3, STAP is pleased to see the intention in the title of the component to address Knowledge Management (KM) issues. The project's intentions to address the potential for scaling-up will need to use the lessons from this project, which therefore demands some sort of KM system, rather than ad hoc assimilation of outcome experiences. However, the outcomes in Component 3 described in the text are, unfortunately, not what STAP considers to be KM. Outcome 3.1 appears to be financing the attendance at conferences, technology fairs and supporting partnerships. Outcome 3.2 is education and awareness- raising. Sound KM practices require a KM Strategy that includes the explicit storage of experiences and lessons from the project, and their accessibility to future initiatives; it may also include a dedicated KM system, such as a decision-support system. The project proponents are urged to examine some of STAP's on-going advice to the GEF at <http://www.stagef.org/knowledge-management-gef> as well as some of the recommended knowledge management tools – see, for example <http://www.knowledge-management-tools.net/knowledge-management-systems.html>

The Knowledge Management Strategy (Output 3.1.1) of the project embraces a comprehensive approach for access, use and sharing of knowledge through standardized data collection and reporting, standardized definitions of common terminologies to be used with respect to SLM, BD and CC; KM Guidelines and Communication Guidelines and training to key personnel across institutions in their use; Systematization of Experiences and Lessons Learned as a result of project interventions; national and regional institutional partnerships through technical exchange programs, internships, and collaborative research agreements and Memoranda of Understanding; establishment of a National KM Partnership Network across key institutions of the country; and regional and south-south cooperation by assisting the GSKN in participating in national, regional and global knowledge exchanges on SLM, BD and CC issues. A complete Knowledge Management Strategy for the project was developed for the project during the preparation phase, and is presented as Appendix 19 in the UN Environment Project Document.

5. STAP encourages the project proponents to consider using a framework to address problems and organize interventions. STAP proposes the Scientific Conceptual Framework for Land Degradation Neutrality (LDN). The framework can assist in implementing strategies to address land degradation, generate multiple benefits, and achieve LDN. (The LDN approach focuses on tracking and balancing anticipated new losses with gains, based on principles designed to limit unintended outcomes.) The framework is an integrated land use planning that can help organize the interventions (e.g. component 2) in a coherent way. The framework also provides methods to monitor and assess indicators – indicators that are complementary to the project's indicators. Applying an LDN framework can also assist with assessing the land potential and land degradation status. This is relevant for assessing the rehabilitation potential of the land prior to investing in the rehabilitation measures described in the project. The framework can be found at: http://www2.unccd.int/sites/default/files/documents/LDN%20Scientific%20Conceptual%20Framework_FINAL.pdf

The Project will be implementing the Restoration Opportunity Assessment Methodology (ROAM), which aims to identify the most suitable opportunities to develop restoration of the landscapes. In this sense, the project will contribute to decrease land degradation vs. land degradation neutrality which is the aim of the UN tool.

6. STAP recommends developing a stakeholder plan that describes the different responsibilities and accountabilities of individuals. The plan also should detail how stakeholders' knowledge and learning will be brought together so that a shared understanding of the problems and responses is conceived. The project deals with multi-dimensional challenges across sectors and actors that are likely to result in divergent perspectives that need to be captured for effective stakeholder participation. STAP suggests looking at this paper for evidence on how to engage stakeholders dealing with environmental change and local development challenges affecting islands in the Caribbean: Saint Ville, A. et al. (2017). "How do stakeholder interactions influence national food security policy in the Caribbean? The case of Saint Lucia". Food Policy 68 (2017) 53–64.

As described in Output 3.2.1, the project will implement select sections of a Public Education and Awareness Strategy (Appendix 18 of UN Environment Project Document) developed during project preparation to complement the project's Knowledge Management Strategy. The approaches described in paper as referenced by STAP were reviewed and considered in the development of the Public Education and Awareness Strategy.

A total of twenty-two key stakeholder institutions have been identified and each of their intended role in project implementation has been mapped. Of primary significance is the participation of stakeholders on the Project Steering Committee and the Project Advisory Committee. These primary bodies will guide all major decision-making of the project, and thus guarantee stakeholder participation in critical processes essential for project implementation and success. Stakeholders also will perform various other roles necessary for project implementation, including as data sources, beneficiaries of trainings and other project support, and as sources of project co-financing.

7. Finally, STAP urges the project proponents to reconsider the title of the project and its objective. A shortened version of the project objective would make more sense: something like "Transforming degraded forests through sustainable land and biodiversity management". STAP also proposes the use of 'climate- resilience' in the project objective, because it provides an achievable target of building the national capacity to absorb the stresses of climate change while at the same time not contributing to further climate change.

The PIF was approved with the title and objective as presented; GEF guidance is that these should not be changed once the PIF has been approved.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS.

A. Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: \$99,999	
<i>Project Preparation Activities Implemented</i>	<i>GETF/LDCF/SCCF/CBIT Amount (\$)</i>

	<i>Budgeted Amount</i>	<i>Amount Spent To Date</i>	<i>Amount Committed</i>
Local Consultants	\$ 20,000.00	\$ 20,000.00	\$ -
International Consultants	\$ 60,750.00	\$ 60,750.00	\$ -
Travel for Meetings	\$ 13,249.00	\$ 13,249.00	\$ -
Meetings	\$ 6,000.00	\$ 6,000.00	\$ -
Total	\$ 99,999.00	\$ 99,999.00	\$ -

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

N/A

ANNEX E: GEF 7 Core Indicator Worksheet

Use this Worksheet to compute those indicator values as required in Part I, Table G to the extent applicable to your proposed project. Progress in programming against these targets for the program will be aggregated and reported at any time during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Core Indicator 1	Terrestrial protected areas created or under improved management for conservation and sustainable use				<i>(Hectares)</i>	
	<i>Hectares (1.1+1.2)</i>					
	<i>Expected</i>			<i>Achieved</i>		
		PIF stage	Endorsement	MTR	TE	
Indicator 1.1	Terrestrial protected areas newly created					
Name of Protected Area	WDPA ID	IUCN category	Hectares			
			<i>Expected</i>		<i>Achieved</i>	
			PIF stage	Endorsement	MTR	TE

			Sum				
Indicator 1.2		Terrestrial protected areas under improved management effectiveness					
Name of Protected Area	WDPA ID	IUCN category	Hectares	METT Score			
				Baseline		Achieved	
				PIF stage	Endorsement	MTR	TE
		Sum					
Core Indicator 2		Marine protected areas created or under improved management for conservation and sustainable use					(Hectares)
		Hectares (2.1+2.2)					
		Expected			Achieved		
		PIF stage	Endorsement	MTR	TE		
Indicator 2.1		Marine protected areas newly created					
Name of Protected Area	WDPA ID	IUCN category	Hectares				
			Expected		Achieved		
			PIF stage	Endorsement	MTR	TE	
		Sum					
Indicator 2.2		Marine protected areas under improved management effectiveness					
Name of Protected Area	WDPA ID	IUCN category	Hectares	METT Score (Scale 1-3)			
				Baseline		Achieved	
				PIF stage	Endorsement	MTR	TE
		Sum					
Core Indicator 3		Area of land restored					(Hectares)
		Hectares (3.1+3.2+3.3+3.4)					
		Expected			Achieved		
		PIF stage	Endorsement	MTR	TE		
			650	285			
Indicator 3.1		Area of degraded agricultural land restored					

			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 3.2	Area of forest and forest land restored					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
			350 ha reforested	Approximately 265[2]		
Indicator 3.3	Area of natural grass and shrublands restored					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 3.4	Area of wetlands (including estuaries, mangroves) restored					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
			20	20[3]		
Core Indicator 4	Area of landscapes under improved practices (hectares; excluding protected areas)					
			Hectares (4.1+4.2+4.3+4.4)			
			Expected		Expected	
			PIF stage	Endorsement	MTR	TE
				215		
Indicator 4.1	Area of landscapes under improved management to benefit biodiversity					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE

Indicator 4.2		Area of landscapes that meet national or international third-party certification that incorporates biodiversity considerations			
Third party certification(s):		Hectares			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
Indicator 4.3		Area of landscapes under sustainable land management in production systems			
		Hectares			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
		300 ha under sustainable agriculture practices	At least 215 ^[4] hectares of agricultural lands converted into farms that employ resilient and sustainable farming practices		

[2] 265 ha includes 205 ha of forest through ANR, 60 ha under agroforestry

[3] 20 ha of mangrove restoration

[4] 215 ha of degraded land restored for annual crops under improved SLM practices

ANNEX: Project Taxonomy Worksheet

Use this Worksheet to list down the taxonomic information required under Part1 by ticking the most relevant keywords/topics//themes that best describes the project

Please see Annex F



Submitted to HQ

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