Integrated Landscape Management for Addressing Land Degradation, Food Security and Climate Resilience Challenges in The Bahamas

Part I: Project Information

GEF ID
10694

Project Type
FSP

Type of Trust Fund
GET

CBIT/NGI
CBIT **No**
NGI **No**

Project Title
Integrated Landscape Management for Addressing Land Degradation, Food Security and Climate Resilience Challenges in The Bahamas

Countries
Bahamas

Agency(ies)
UNEP

Other Executing Partner(s)
Department of Environmental Planning & Protection

Executing Partner Type
Government

GEF Focal Area
Land Degradation

Taxonomy

Focal Areas, Forest, Drylands, Forest and Landscape Restoration, Chemicals and Waste, Waste Management, Land Degradation, Land Degradation Neutrality, Carbon stocks above or below ground, Land Productivity, Land Cover and Land cover change, Sustainable Land Management, Restoration and Rehabilitation of Degraded Lands, Sustainable Agriculture, Sustainable Pasture Management, Drought Mitigation, Integrated and Cross-sectoral approach, Income Generating Activities, Sustainable Livelihoods, Improved Soil and Water Management Techniques, Community-Based Natural Resource Management, Ecosystem Approach, Sustainable Fire Management, Climate Change, Climate Change Mitigation, Technology Transfer, Climate Change Adaptation, Climate resilience, Innovation, Livelihoods, Small Island Developing States, Influencing models, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, Transform policy and regulatory environments, Stakeholders, Local Communities, Civil Society, Academia, Non-Governmental Organization, Community Based Organization, Type of Engagement, Information Dissemination, Participation, Partnership, Consultation, Private Sector, SMEs, Individuals/Entrepreneurs, Financial intermediaries and market facilitators, Beneficiaries, Communications, Awareness Raising, Behavior change, Education, Public Campaigns, Gender Equality, Gender Mainstreaming, Women groups, Gender-sensitive indicators, Sex-disaggregated indicators, Gender results areas, Participation and leadership, Access to benefits and services, Capacity Development, Knowledge Generation and Exchange, Access and control over natural resources, Integrated Programs, Food Systems, Land Use and Restoration, Food Value Chains, Integrated Landscapes, Sustainable Food Systems, Landscape Restoration, Sustainable Commodity Production, Smallholder Farming, Capacity, Knowledge and Research, Knowledge Exchange, Learning, Adaptive management, Indicators to measure change, Theory of change, Knowledge Generation, Targeted Research

Sector
Mixed & Others

Rio Markers
Climate Change Mitigation
Climate Change Mitigation 1

Climate Change Adaptation
Climate Change Adaptation 1

Submission Date
12/9/2021

Expected Implementation Start
9/1/2022

Expected Completion Date
9/1/2026

Duration

48In Months

Agency Fee($)
543,170.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
LD-1-4	Reduce pressures on natural resources from competing land uses and increase resilience in the wider landscape	GET	4,402,537.00	11,620,902.00
LD-2-5	Create enabling environments to support scaling up and mainstreaming of SLM and LDN	GET	1,315,043.00	3,471,178.00
		Total Project Cost($)	**5,717,580.00**	**15,092,080.00**

B. Project description summary

Project Objective

To enhance climate-resilient food production across productive agricultural landscapes through sound Integrated Landscape Management and Land Degradation Neutrality approaches in The Bahamas.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing ($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing ($)
Component 1: Strengthening the enabling environment for achievement of land degradation neutrality through improved policy and governance	Technical Assistance	1.1: Three lead agencies with responsibility for land management in the Government of The Bahamas adopt an enhanced ILM decision making framework to achieve LDN in the longer term. Indicators: (i)National policy position on land degradation neutrality endorsed by government and stakeholders and reflected in policy pronouncements by the three lead agencies with responsibility for land management; (ii) Inter-sectoral coordination mechanisms on LDN institutionalized	1.1.1: Advisory and support services, including capacity building, to develop and implement an Integrated Land Management Strategy, and Inter-Sectoral Operational Framework to achieve LDN in The Bahamas provided to selected personnel from at least 3 lead national agencies with responsibility for agricultural/rural land management. 1.1.2: Studies and recommendations conveyed in at least 5 policy papers to upgrade relevant land development policies, regulatory instruments and incentive regimes and specify how the LDN target-setting process will be integrated, to encourage investments in the agricultural sector towards LDN, made available to key audiences	GET	259,000.00	3,500,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing ($)
Component 2: Demonstration of regenerative agriculture and resilient food production systems, practices and technologies	Investment	**2.1:** Effectiveness of SLM and regenerative climate smart agriculture practices demonstrated in Abaco, Andros, Cat Island, Eleuthera, Grand Bahama, Long Island and New Providence. Results documented and disseminated to key stakeholders for replication. *Indicators: (i) Number of assessments of efficacy of the SLM/CSA restorative measures based on nature-based solutions over 10,000 ha of productive landscapes that serve as demonstrations, reviewed and accepted by scientific agencies and stakeholders (at mid-term and project*	2.1.1: Degraded areas rehabilitated across 10,000 hectares of productive landscapes through demonstration and implementation of restorative nature-based solutions for uptake by farmers/ stakeholders. Target islands: ? 2500 ha Abaco ? 3500 ha Andros ? 500 ha Cat Island ? 700 ha Eleuthera ? 2100 ha Grand Bahama ? 600 ha Long Island ? 100 ha New Providence. 2.2.1: Suite of at least 10 SLM-LDN, restorative climate-smart agriculture, integrated waste management tools, practices, approaches, technologies and capacity building to support expanded adoption of SLM and regenerative climate-smart agriculture practices across an additional 17,300 ha by at least 700 farmers.	GET	2,938,761.00	6,447,080.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing ($)
Component 3: Incentivizing uptake and replication of SLM and climate resilient agriculture	Technical Assistance	**3.1:** Communities contribute to develop, operationalize and, replicate gender sensitive business investment plans and market access mechanisms to support livelihood enhancement. *Indicator: (i) Increase in number of agricultural-based investments that have access to markets that incorporate SLM and climate-smart approaches;* *(ii) Increase in productivity/ yield of farms participating in the programme.*	**3.1.1:** *Gender-sensitive business investment plans (inclusive of market access mechanisms), business development services and capacity building* to facilitate enhanced production of agricultural and other value-added products from restored landscapes and access to markets made available to farmers and community groups. **3.1.2:** *Grant mechanism* made available to support eco-social business ventures[1] accessed by farmers and community groups. [1] Businesses with ecological focus with social benefits	GET	936,219.00	2,300,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing ($)
Component 4: M&E, enhancing monitoring and knowledge management systems for land degradation neutrality assessment and agricultural production system resilience assessment and tracking related GEB Indicators	Technical Assistance	**4.1:** Enhanced evidence-based decision-making to support evaluation toward land degradation neutrality and agricultural production resilience and contribution to GEBs in productive agricultural landscapes. *Indicators: (i) Availability and utilization of new data products in national level reporting, research efforts and decision-making; (ii) LDN monitoring system operational; (iii) Functioning LDN reporting to the UNCCD; (iv) Lessons learned on ILM and LDN mainstreamed in land use related decision making and policies*	**4.1.1:** *National Environmental-Agricultural Production Information System* developed and accessible through multi-stakeholder operational platforms for use to improve decision making by technical professionals, farmers, practitioners and other stakeholders. **4.1.2:** *Low-cost environmental/ agrometeorological systems for land resource degradation and agro-climatic assessment and accompanying capacity building* designed and pilot-tested in six of the target islands by researchers, students, technical professionals and relevant community stakeholders for monitoring trends in land degradation, food system resilience and GEBs at multiple scales. **4.2.1:** *Knowledge Management Strategy and Plan* and *Communication Plan* for the systematization, publication and dissemination of best practices / lessons learned, and enhancement of awareness using innovative technologies and digital tools to support the scaling up and mainstreaming of interventions by target beneficiaries including policy and technical support professionals, practitioners, other beneficiaries. **4.2.2:** *Suite of at least 15 specific public awareness*	GET	1,311,400.00	1,980,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing ($)
				Sub Total ($)	**5,445,380.00**	**14,227,080.00**
Project Management Cost (PMC)						
				GET	272,200.00	865,000.00
			Sub Total($)		**272,200.00**	**865,000.00**
			Total Project Cost($)		**5,717,580.00**	**15,092,080.00**

Please provide justification

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	Investment Mobilized	Amount($)
Recipient Country Government	Ministry of Environment & Housing, Dept. of Environmental Planning & Protection (DEPP)	In-kind	Recurrent expenditures	3,550,000.00
Recipient Country Government	Ministry of Agriculture, Marine Resources and Family Island Affairs	In-kind	Recurrent expenditures	1,500,000.00
Recipient Country Government	Forestry Unit	In-kind	Recurrent expenditures	512,080.00
Recipient Country Government	Department of Agriculture	In-kind	Recurrent expenditures	3,500,000.00
Other	University of The Bahamas	In-kind	Recurrent expenditures	2,500,000.00
Recipient Country Government	Bahamas Agriculture and Marive Science Institute (BAMSI)	In-kind	Recurrent expenditures	500,000.00
Recipient Country Government	Bahamas Agricultural and Industrial Corporation (BAIC)	In-kind	Recurrent expenditures	750,000.00
Other	Bahamas Development Bank	In-kind	Recurrent expenditures	500,000.00
Beneficiaries	Bahamas Agripreneur National Farmer group	In-kind	Recurrent expenditures	20,000.00
Beneficiaries	Bahamas Network of Rural Women Producers (BAHNROP)	In-kind	Recurrent expenditures	20,000.00
Beneficiaries	Cat Island Farmers Association	In-kind	Recurrent expenditures	20,000.00

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Civil Society Organization	One Eleuthera Foundation	In-kind	Recurrent expenditures	20,000.00
Other	IICA	In-kind	Recurrent expenditures	1,500,000.00
Other	CARDI	In-kind	Recurrent expenditures	50,000.00
Other	Partnership Initiative for Sustainable Land Management (PISLM)	In-kind	Recurrent expenditures	150,000.00
			Total Co-Financing($)	**15,092,080.00**

Describe how any "Investment Mobilized" was identified

IN GEF ?GUIDELINES ON CO-FINANCING? HTTPS://WWW.THEGEF.ORG/SITES/DEFAULT/FILES/DOCUMENTS/COFINANCING_GUIDELINES.PDF ONLY 'INVESTMENT MOBILIZED" IS DEFINED. "INVESTMENT MOBILIZED MEANS CO-FINANCING THAT EXCLUDES RECURRENT EXPENDITURES". IN DEFINING RECURRENT EXPENDITURE THE FOLLOWING DEFINITION FROM HTTPS://METEOR.AIHW.GOV.AU/CONTENT/INDEX.PHTML/ITEMID/269132 WAS USED "RECURRENT EXPENDITURE ON GOODS AND SERVICES IN EXPENDITURE, WHICH DOES NOT RESULT IN THE CREATION OR ACQUISITION OF FIXED ASSETS (NEW OR SECOND-HAND). IT CONSISTS MAINLY OF EXPENDITURE ON WAGES, SALARIES AND SUPPLEMENTS, PURCHASES OF GOODS AND SERVICES AND CONSUMPTION OF FIXED CAPITAL (DEPRECIATION)." ALL THE CO-FINANCING IS AT THIS STAGE DETERMINED AS RECURRENT EXPENDITURE, AS IT COVERS SALARIES AND PURCHASES OF GOODS AND SERVICES.

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	Amount($)	Fee($)	Total($)
UNEP	GET	Bahamas	Land Degradation	LD STAR Allocation	5,717,580	543,170	6,260,750.00
			Total Grant Resources($)		**5,717,580.00**	**543,170.00**	**6,260,750.00**

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 **true**

PPG Amount ($)

150,000

PPG Agency Fee ($)

14,250

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNEP	GET	Bahamas	Land Degradation	LD STAR Allocation	150,000	14,250	**164,250.00**
				Total Project Costs($)	**150,000.00**	**14,250.00**	**164,250.00**

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)
10000.00	10000.00	0.00	0.00

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)
10,000.00	10,000.00		

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)

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)

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)

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)
10000.00	17300.00	0.00	0.00

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)

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)

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)
10,000.00	17,300.00		

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)

Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	1516775	3927880	0	0
Expected metric tons of CO?e (indirect)	0	0	0	0

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)
Expected metric tons of CO?e (direct)	1,516,775	3,927,880		
Expected metric tons of CO?e (indirect)				

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Anticipated start year of accounting	2021	2022		
Duration of accounting	20	20		

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)
Expected metric tons of CO?e (direct)				
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

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)

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	500	393		
Male	500	392		
Total	1000	785	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Part II. Project Justification

1a. Project Description

describe any changes in alignment with the project design with the original pif

Table 7: Changes from the Original PIF

PIF Text	CEO ER Text	Explanation for changes
Table C Indicative Sources of Co-financing **Estimated co-financing** Forestry Unit - 1,000,000 Department of Physical Planning ? 1,500,000 Department of Gender and Family Affairs ? 200,000 Cat Island Conservation Institute ? 20,000	**Table C Indicative Sources of Co-financing** **Confirmed co-financing** Forestry Unit - $512,080 (Note that co-financing commitment letters not forthcoming, hence removed from Table C: 1. Department of Physical Planning 2. Department of Gender and Family Affairs 3. Cat Island Conservation Institute)	The overall project co-financing amount has been **adjusted from $17,300,000 to $15,092,080** because of the revised amount from the Forestry Unit and no confirmed co-financing form the Dept of Physical Planning, the Dept of Gender and Family Affairs and the Cat Island Institute. The DEPP anticipates that before commencement of the project these entities will respond with the initial co-financing initially pledged. The changes have been incorporated in the summary financial tables. The partners are confident that the changes in the co-financing commitment, will not adversely impact on the overall project or the Forestry Unit contribution during project implementation.

PIF Text	CEO ER Text	Explanation for changes
Estimated project component cost: Component 1: $862,864 Component 2: $2,690,105 Component 3: $761,350 Component 4: $761,350 PMC: $253,783 Total project cost: $5,329,452	**Revised project component cost:** Component 1: **$259,000** Component 2: **$2,938,761** Component 3: **$936,219** Component 4: **$1,125,400** PMC: **$ 272,200** Total project cost: **$5,717,580**	At PIF stage the estimated costs were unsubstantiated estimates based on proportional allocation guided by consultations with stakeholders. The PPG phase was able to more accurately cost the project components based on the definition of associated activities to achieve the intended outputs. In addition, the DEPP committed an additional $425,000 of residual STAR resources to the project since PIF submission. The following summarizes how the additional costs were incorporated into the proposal: **Component 1:** The initial estimated allocation was determined to be more than what is required to achieve the objectives. This current allocated amount will ensure the preparation of the ILM Strategy document, but also see the establishment of an Inter-Sectoral Coordinating Mechanism, the preparation of policy papers that explores and unlocks the distribution of land in The Bahamas. **Component 2:** Additional resources are being allocated to facilitate the undertaking of pilot restorative nature-based solutions on selected farms and degraded sites, through expanded engagement by the Forestry Department (and resource requirements). Also, an additional resource allocation is being made for small ruminant demos on Cat Island. **Component 3:** The gender-sensitive Grant mechanism was increased to accommodate and incentivize more farmers. Also, additional funds are allocated to provide training in post-harvest market access, areas where mostly women are employed. **Component 4:** The specifications for the equipment and establishment of the field stations evaluated

PIF Text	CEO ER Text	Explanation for changes
Outcome 2.1 indicator in Table 2 (Project Description Summary): Increase by 10,000 ha the area of productive landscapes that incorporate climate-resilient SLM and restorative measures based on nature-based solutions that serve as demonstrations to stakeholders.	**Outcome 2.1 indicator revised to**: Number of assessments of efficacy of the SLM/CSA restorative measures based on nature-based solutions over 10,000 ha of productive landscapes that serve as demonstrations, reviewed and accepted by scientific agencies and stakeholders (at mid-term and project end).	Further internal review suggested that indicator at outcome level should better reflect documented efficacy of practice and acceptance. This has been incorporated in the results framework.
Outcome 2.2 Indicators: (i) Increase in adoption of SLM and climate smart measures by farmers and stakeholders within land holdings based on field assessment surveys; (ii) No. of farmers trained	**The revised indicator is limited to** (i) Increase in adoption of SLM and climate smart measures by farmers and stakeholders within land holdings based on field assessment surveys.	The number of farmers trained was removed as an outcome-level indicator and reflected in the results framework as an output-level indictor.
Outcome 4.1 Indicators: (i) Availability and utilization of new data products in national level reporting, research efforts and decision-making; (ii) LDN monitoring system operational;(iii) Functioning LDN reporting to the UNCCD; (iv) Lessons learned on ILM and LDN mainstreamed in land use related decision making and policies	**Revised indictors are:** (i) Change (%) in availability and utilization of new data products in national level reporting, research efforts and decision-making (via user uptake survey) (ii) LDN monitoring system operational (iii) Lessons learned on ILM and LDN mainstreamed in land use related decision making and policies (number of policy references)	The Functioning LDN reporting to the UNCCD indicator is incorporated as an output-level indicator. This is reflected in the results framework.
Output 1.1.1: Advisory and support services, including capacity building, to develop and implement a Strategy and Inter-Sectoral Operational Framework to achieve LDN in the Bahamas provided to selected personnel from at least 3 lead national agencies with responsibility for agricultural/rural land management	**Revised Output 1.1.1:** The term ?Integrated Land Management? was included in the title; revised to: Advisory and support services, including capacity building, to develop and implement an **Integrated Land Management** Strategy and Inter-Sectoral Operational Framework to achieve LDN in the Bahamas provided to selected personnel from at least 3 lead national agencies with responsibility for agricultural/rural land management	The term ?Integrated Land Management? is included to better define what the strategy is.

PIF Text	CEO ER Text	Explanation for changes
Output 1.1.2: Studies and recommendations conveyed in at least 5 policy papers to upgrade relevant land development policies, regulatory instruments and incentive regimes to encourage investments in the agricultural sector towards LDN conducted and made available to key audiences	**Revised Output 1.1.2:** Studies and recommendations conveyed in at least 5 policy papers to upgrade relevant land development policies, regulatory instruments and incentive regimes and specify how the LDN target-setting process will be integrated, to encourage investments in the agricultural sector towards LDN, made available to key audiences	Emphasis is now placed on the project?s contribution to alignment with the UNCCD 2018-2030 Strategic Framework and will undertake the update/alignment of the National Programme of Action of 2006 as part of the suite of policy papers to be developed (this will include definition of the LDN targets).

PIF Text	CEO ER Text	Explanation for changes
Output 2.2.1: Suite of at least 10 SLM- LDN, restorative climate-smart agriculture, integrated waste management tools, practices, approaches, technologies and capacity building to support expanded adoption of SLM and regenerative climate-smart agriculture practices across 20,000 ha by at least 1,000 farmers.	**Revised Output 2.2.1:** Suite of at least 10 SLM-LDN, restorative climate-smart agriculture, integrated waste management tools, practices, approaches, technologies and capacity building to support expanded adoption of SLM and regenerative climate-smart agriculture practices across an additional **17,300 ha by at least 700 farmers.**	The number of farmers were adjusted to reflect baseline findings from the farmers? the survey, data provided by the Department of Agriculture, and the MAMRFIA Agricultural Strategy and Action Plan.[1][1] The Plan suggests that while the number of registered farmers do not accurately reflect the number of farmers, there are no more than 1,000 farmers in the country. The Dept of Agriculture estimates the number of active farmers that can be targeted by the project at approximately 700. The field assessment during the PPG phase concluded that the overall number of hectares over which restoration (under Output 2.1.1.) and SLM/CSA practices can be reasonably extended over (under Output 2.2.1) is a combined 27,300 ha. Restorative and regenerative climate-smart activities will take place on an estimated 10,000 ha, aligned to GEF Core Indicator 3.1. An additional 17,300 ha will be targeted for demonstration of SLM best practices and transfer of knowledge, aligned with GEF Core Indicator 4.3. It should also be noted that while the number of farmers targeted for capacity building using the SLM tools is aligned and to be reported under Output 2.2.1 (700 farmers), this extends also to Output 2.1.1 (meaning that this number of 700 farmers also applies to landscapes under restoration under Output 2.1.1)

PIF Text	CEO ER Text	Explanation for changes
GEF Core Indicator 6: Greenhouse Gas Emissions Mitigated: estimated at -1,516,775 tCO2-eq	**Revised GEF Core Indicator 6 estimate:** Greenhouse Gas Emissions Mitigated: estimated at **3,927,880 tCO2-eq**	The Carbon ex-act account tool was used to estimate the sequestration potential of the of various planned SLM project interventions; the estimate was adjusted based on the further on-ground assessment carried out during the PPG Phase. The revised area over which the carbon sequestration estimation was done is now 27,300 ha
GEF core indicator 11: number of direct beneficiaries disaggregated by gender was stated as 1,000 with a 50-50 female-male split.	**Revised GEF core indicator 11**: **785 direct beneficiaries**, retaining the 50-50 female-male split.	Based on the in-field assessments and stakeholder consultations during the PPG phase it was determined that the project may reasonably reach 700 active farmers and stakeholders directly utilizing land resources. There will be approximately 85 stakeholders from support agencies and associated community-based and enterprise support organizations that will be considered among direct beneficiaries.

PIF Text	CEO ER Text	Explanation for changes
Areas targeted for restorative measures 1. **Abaco:** Treasure Cay; Marsh Habour; Sandy Point & Crossing Rock 2. **Andros:** North Andros-Mastic point Settlement, Nicholls Town; Fresh Creek, Stafford Creek; Standiard Creek; Draiggs Hill to Mars Bay 3. **Cat Island:** Orange Creek & Arthur?s Town; Port How 4. **Eleuthera:** Upper and Lower Bouge & Gregory Town, Palmetto Point, Rock Sound 5. **Grand Bahama:** High Rock; Pelican Point; Sweetings Cay & Mcleans Town 6. **Long Island:** Entire landscape 7. **New Providence:** Bonefish Pond; Carmichael Road North (Government subdivision)	**Adjusted Areas targeted for restorative measures** **<u>Changes:</u>** 1. **Abaco:** Little Abaco, Treasure Cay, Central Abaco 2. **Andros:** North Andros-Mastic point Settlement, Nicholls Town 3. **Cat Island:** Arthur?s Town; Bennetts Habour Settlement; Pigeon Cay; Old Bight 4. **Grand Bahama:** High Rock; Freeport 5. **New Providence:** GRAC; South of Cowpen Road; Adelaide Village **<u>No changes:</u>** 6. **Eleuthera:** Upper and Lower Bouge & Gregory Town, Palmetto Point, Rock Sound 7. **Long Island:** Entire landscape	The specific locations were adjusted on some of the islands based on the findings of the site visits that included assessment of landscape features and requirements in consultation with farmers, stakeholders and technical personnel. The total acreage however remains unchanged.
Baseline scenario and any associated baseline projects CARDI intends to provide support to production of commercially important commodities with long-term responses focused on building a resilient sector through the promotion and adoption of climate smart practices and technologies. The estimated value of these support services from CARDI over the project duration is US$100,000	**Baseline scenario and any associated baseline projects** CARDI will lead and provide technical support on the demonstration of shade house technology for year-round vegetable production and the introduction of improved silvo-pastoral systems and housing designs for small ruminants. **The estimated value of these support services over the project duration is US$257,450**	Further discussions with the agency during the PPG phase provided relevant details about the support CARDI will provide which is now reflected.

1) Global environmental and/or adaptation problems, root causes and barriers that need to be addressed:

The Commonwealth of The Bahamas is an archipelago of 700 islands and cays surrounded by coral reefs and extensive sand flats extending from latitude 20? 50?N and 27? 30?N and longitude 72? 35?W and 80? 30?W, covers 321,159 km2 with a total land area of 15,000 km2. The islands are flat and low-lying, the highest point in the entire archipelago, at 63 m above sea level, is found in Cat Island. The islands are composed of coral with a limestone base, covered by a thin layer of soil that is lacking potassium and nitrogen, and therefore, exhibit low fertility [3].

The Bahamas has a sub-tropical climate, moderated by warm waters of the Gulf Stream, with mean daily temperatures ranging between 17?C and 32?C, where May to November are considered the summer months and December to April the winter season. The average rainfall varies from approximately 1,470 mm to 865 mm, with the northern islands receiving more precipitation than the southern islands. Most rainfall occurs between May to June and September to October. The hurricane season, which lasts from June to November can be frequented by tropical storms and hurricanes, and on an annual basis could be impacted by one or more storms, some of which could be particularly devastating. Hurricane Dorian, the strongest hurricane to hit the Bahamas in recorded memory and history, devastated the northern islands of Abaco and Grand Bahama in September 2019. The UN Economic Commission for Latin America and the Caribbean (UN ECLAC) estimated damages and losses from Hurricane Dorian amounted to US$3.4 billion, a number equivalent to a quarter of the country?s GDP (IDB, 2020) [4][2]. With global warming continuing to increase, the projections are for more rising temperatures, frequent and intense hurricanes and sea-level rise, that will continue to have a negative impact on the physical infrastructure and present continuous threat to agriculture and tourism, the main engine of economic growth in The Bahamas.

There are no rivers on any of the islands, but several have large brackish water lakes, and many others are deeply penetrated by tidal creeks, and numerous blue holes. Water that percolates into the ground from rain inputs is confined within Ghyben-Hertzberg freshwater lenses that generally lie within the 1.5 metres of the land surface and overlie brackish and saline waters at depth. The size, shape and orientation of the island, the subsurface geology and the amount of rainfall influence the shape, size and thickness of the freshwater bodies on each island. Only the islands of Andros, Abaco and Grand Bahama in the north can claim to have good supplies of freshwater. The groundwater supply in all the other islands in the archipelago (the central and southern islands) is brackish, and some islands do not have freshwater.

The Bahamas is a globally recognized biodiversity hotspot. The geographic complexity and isolated nature of The Bahamas have led to the development of extremely high levels of endemism in this hotspot with at least 1,111 species of vascular plants, of which 10.6% are endemic and 5.2% are threatened. The Bahamas has some 406 known species of amphibians, birds, mammals and reptiles according to figures from the World Conservation Monitoring Centre. The coastal and marine resources of The Bahamas include an extensive ecosystem of about 700 islands and more than 2,000 cays, reefs and rocks, extending 1,225 km from north to south. These islands are spread over two shallow oceanic banks, the Little Bahama Bank and the Great Bahama Bank, with depths of 10 m or less, surrounded by extremely deep water of up to 4,000 m. The country?s territorial waters span over some 13,880 km? which harbors a diverse aquatic ecosystem including an estimated 1,981 km2 of reef area found throughout the archipelago. The Bahamas comprise about 5% of the world?s total coral reef systems.

The islands in the northern Bahamas, Andros, Abaco and Grand Bahama, and smaller areas of New Providence are generally covered in self-regenerating Caribbean pine (*Pinus caribaea var. bahamensis*), forests, occasionally interspersed with coppices of hardwoods such as mahogany, while the southern islands are of mixed coppice vegetation and scrub lands. The pine forests cover a combined area of 618,500 ha. The coppice forest is dominated by West Indian mahogany (*Swietenia mahagoni*), cedar (*Cedrela odorata*), mastic (*Mastichodendron foetidissimum*) and horseflesh (*Lysiloma sabicu*). Mangrove forests are found throughout the islands that include red (*Rhizophora mangle*), black (*Avicennia germinans*) and white (*Laguncularia racemosa*) mangroves and buttonwood (*Conocarpus erectus*). One of the largest areas of mangrove swamp can be found along the northern coast of Grand Bahama Island.

The coastal ecosystems contained within the shallow bank waters, mangrove wetlands, and tidal creeks are critical spawning and nursery habitat for numerous ecologically and economically important marine species. These include the endangered Nassau grouper (*Epinephelus striatus*), snapper (Family *Lutjanidae*), tarpon (*Megalops atlanticus*), bonefish (*Albula vulpes*), Bahama Cavefish (*Lucifuga spelaeotes*), turtles (Hawksbill (*Eretmochelys imbricata*), Green (*Chelonia mydas*), and Loggerhead (*Caretta caretta*)), several species of shark, including Great hammerhead (*Sphyrna mokarran*), Bull (*Carcharhinus leucas*) and Nurse (*Ginglymostoma cirratum*), Queen conch (*Lobatus gigas*), Caribbean spiny lobster (*Panulirus argus*) and a variety of other marine invertebrates. Also found are the critically endangered Elkhorn coral (*Acropora palmata*), the endangered Boulder Star coral (*Orbicella annularis*).

The forests harbour a variety of faunal biodiversity that includes endemic and endangered species that include Bahama Parrot (*Amazona leucocephala bahamensis*), Bahama oriole *(Icterus northropi)*,

Bahama nuthatch (*Sitta pusilla insularis*), Bahama swallow (*Tachycineta cyaneoviridis*), Kirtland?s warbler (*Setophaga kirtlandii*), West Indian flamingo (*Phoenicopterus ruber*), Bahamian Hutia (*Geocapromys ingrahami*), Bahamian pygmy boa constrictor (*Tropidophis canus*), several species of Rock iguana (*Cyclura sp*.) and the rare atalia hairstreak butterfly (*Eumaeus atala*). Given the biodiversity of global significance and the important ecosystem services that they provide, several of the hotspots identified across the archipelago have been designated key biodiversity areas (KBAs) [5].

Socio-Economic Context: The population of The Bahamas is 389,410 (2020) [6]. New Providence, on which the capital city Nassau is situated, although among the smallest of the populated islands, has approximately 70% of the population of the entire country. The next most populous island is Grand Bahama, with a population of 51,368 (2010 population census). In terms of gross domestic product per capita, The Bahamas is one of the richest countries in the Americas (following the United States and Canada), with an economy based on tourism and finance. The tourism sector is by far the dominant sector, accounting for approximately 50% of GDP [7] and is built around the favourable climate and outstanding coastal and marine environment that is highly sought after by the sector. Tourism employs more than half the workforce. Agriculture and fisheries make up 5% of the GDP and about 5% employment.

The coastal areas of The Bahamas have been subject to competing increasing development demands, particularly from the tourism sector which has put pressure on the marine and coastal environment. Large tracts of land have been cleared for tourism and urban development projects. On New Providence urbanisation has resulted in a high degree of modification of the natural environment on that island, mainly on the eastern half. Development is now shifting to the west of the island, putting increased pressure on the rich biodiversity of the western and southern ends of New Providence. There has been expansion of illegal squatter settlements in several of the Bahama Islands including New Providence, Grand Bahama, Eleuthera and Abaco, with increased potential for adverse environmental impacts due to improper waste disposals contaminating freshwater well field areas and coastal environments. There is a mining industry in the country mainly for sand and aggregates associated with the construction sector, and there is an aragonite mining investment in Andros. Quarrying and mining have resulted in varying degrees of land scarification over all the islands, degrading potential for future agriculture and other productive land uses. On Crown lands in many of the islands, there is unregulated (and in some cases illegal) land conversions from forests and agricultural lands to settlement areas.

Agricultural production which covers approximately 1.4% of land area in The Bahamas [8] is generally carried out throughout the archipelago. The majority of the estimated 600 farmers are smallholders, concentrated on Andros, Cat Island, Eleuthera and New Providence [9]. Larger-scale commercial production occurs on Andros, Abaco and Grand Bahama. Men and women in the agricultural sector constitute approximately 5.6% and 1.8% of the total workforce respectively. There is some level of economic differentiation between the sexes based on agricultural commodity type; for example, more

women tend to be engaged in floriculture, handicraft and cascarilla production. However, the root causes of gender-based differentiation and associated challenges in the sector is not specifically tracked by the agencies with responsibility for the development of the sector. Given other observed disparities in male/female participation in agriculture or ownership of farms, initiatives have been included in the project to ensure greater gender equity in the provision of training and access to resources.

The Government owns 90% of the 95,000 ha of arable land available for farming in the country which is made available to farmers under lease arrangements [10]. For the most part, the bulk of the food is produced on small farms under semi-commercial/subsistence production systems. The main commodities produced include onions, melons, citrus, okra, and tomatoes. Other crops include corn, cassava, sweet potatoes, beans and pigeon peas. In terms of livestock, the most important are poultry with significant production output and small ruminants, namely goat and sheep. The two main supermarket chains in The Bahamas AML Foods and Super Value, are also major purchasers of agricultural products. Both AML and Super Value have several outlets that include wholesale club stores, and supermarkets, the majority of which are located on the main islands of New Providence and Grand Bahama. The tourism industry accounts for the other main private sector linkage that services some six million visitor arrivals that have been growing at an average 7% per annum. Agribusiness development potential lies in the fact that agri-food and ornamental crop import substitutions represent a potential value of US$189.6 million, or 28% of total agri-food products and ornamentals imports of US$678 million [11]. About 90% of The Bahamas? food supply is imported [12].

The Government of The Bahamas has made investments in the agricultural sector in an attempt to diversify the economy that is heavily reliant on the tourism sector and increase livelihood opportunities for a large segment of the population that is reliant on agriculture. Commercial timber extraction within the pine forests on the northern islands of the archipelago up until the mid-1970s eventually resulted in contraction of the resource to small areas of old growth with large areas of immature trees. There are approximately 283,750 ha [13] of pine forests within the national Forestry Estate; the commercial forest industry is now non-existent and all rights to harvest timber falls under the jurisdiction of the State. The forest areas now provide the essential service of sustaining the underground freshwater reserves, the only natural source of freshwater in The Bahamas.

The enhancement of food security in the country is set against the context of rising food import bills and increasing incidences of chronic non-communicable diseases. The high dependence on food imports negatively impacts agricultural production, perpetuates underemployment in rural communities leading to increasing rural-urban migration. The growing reliance on imported processed foods has been linked to deterioration in the quality of diets consumed in The Bahamas. In this regard, the Government developed a Food and Nutrition Security Policy and Action Plan (FNSP) 2017-2020 in collaboration with the FAO, to guide efforts to increase the productivity and self-sufficiency of the country?s agricultural production systems [14] [15].

The Bahamas has been severely impacted by the COVID-19 pandemic, due to travel restrictions and the consequent abrupt halt in visitor arrivals upon which the tourism sector, the main industry of the country, depends. This circumstance had caused unemployment to rise and GDP to fall by historic levels where it is now estimated that some 50% of the country are now unemployed due to the closure of the large hotel resorts. The impacts of the pandemic have also brought into focus the vulnerability of food supply chains, particularly in the context where 90% of the food consumed is imported. The islands with larger populations such as New Providence have been hard hit, along with Grand Bahama and Abaco, where the pandemic has compounded the impacts from the passage of Hurricane Dorian in September 2019. However, unlike other countries in the region, The Bahamas has a more robust fiscal and macroeconomic situation, which allows it to develop a strong emergency response and the Government has put in place a series economic stimulus measures to offset the impacts of the crisis [16].

Policy and Legal Context: The development policy of The Bahamas is based on the *Draft National Development Plan of The Bahamas Vision 2040 [17]*. This policy instrument considers the nexus between environment, agriculture and response to climate change under the strategy area related to Natural Endowments. The *Draft National Development Plan* states that the country will identify the best use for the natural endowments of The Bahamas so as to maximise the potential for high value added agribusiness and fisheries industries in line with SDG 14 Target 14.7 and SDG 15 Target 15.1. The Plan proposes to undertake ecosystem services valuation studies across The Bahamas on the land and marine resources including fisheries and forestry stock, arable land and type of soil for agriculture along with wetlands, streams, pond and or estuaries, etc. Studies should also include an assessment of the agricultural capacity and valuation of resources. The Plan also calls for a study on the long-term potential of agribusiness in The Bahamas, identifying the products and markets best suited for development. Other relevant policy instruments are the *Agriculture Sectoral Plan for The Bahamas,* and the *Agriculture Land Policy.* The Agricultural Land Policy seeks to foster long term development and conservation of the national agricultural resources as well as to protect the country?s future capacity to produce under the policy.

There is no single legislation relating to the development and management of land resources in The Bahamas [18]. Land and resource planning and management in The Bahamas are governed by two principal pieces of legislation. The *Conservation and Protection of the Physical Landscape of The Bahamas Act* (1997), which authorizes the Department of Physical Planning within the Ministry of Works and Utilities to protect the physical landscape from environmental degradation (e.g. regulate filling of wetlands, drainage basins or ponds; prohibit digging or removing sand from beaches and sand dunes); to regulate excavation, landfill, quarry / mine operations and indiscriminate land clearing and issuance of permits; to manage protected trees; and to levy fines for illegal movement of sand, trees, vegetation and excavation. The *Planning and Subdivision Bill* (2010) authorizes the same department to ensure appropriate and sustainable use of all land; provide for the orderly sub-division of land;

protect and conserve the natural and cultural heritage of The Bahamas; and oversee the preparation of land-use plans for each island, the preparation of physical plans, development control and regulation, environmental impact assessments, among other aspects. Other relevant legislative instruments include the *Coast Protection Act* (1968), *Agriculture and Fisheries Act* (1963), *Town Planning Act* (1961), *Private Roads and Subdivisions Acts* (1961 and 1965 for the Out Islands), *The Bahamas National Trust Act* (1959), *Reclamation and Drainage Act* (1916).

Project sites:

Seven islands in the Bahamian archipelago have been selected as targets for the project given that the land management practices typify the resultant land degradation challenges the country faces. These are (1) Abaco, (2) Andros, (3) Cat Island, (4) Eleuthera, (5) Long Island, (6) Grand Bahama and (7) New Providence. These islands are home to most of the country?s population and harbour significant natural and biological resources the underpins the economy. Further, several of these islands experienced recent intense hurricanes that severely impacted landscapes, worsening land degradation with direct effects on ecosystems and livelihoods, driving the need for intervention. The project proposes to demonstrate the application of integrated landscape management approaches through a strengthened planning process and translated to demonstration of good practice within landscape areas that are subject to degradation, supported by strengthened monitoring and assessment tools for decision making. Climate-smart agricultural systems to be piloted in this project will incorporate climate resilient crops, and agroforestry systems will generate multiple benefits. Such benefits will include maintaining and mitigating further biodiversity loss, enhancing carbon sequestration and soil carbon storage along with moisture retention, that will contribute to soil health and productivity. Further, the push to get economic investments back up and running to buffer impacts of the COVID19 pandemic will be assisted by contributions from the project in the context of demonstrating green recovery opportunity and avenues for building back better. The target islands are shown in Figure 1. Refer to Annex D for more detail on the project areas.

Figure 1: Map of the Bahamas showing the project islands

Refer to Annex D for more detail on the project areas.

Causes of land degradation: *Agricultural management:* The *majority of cultivation* is practiced on Crown lands. Part of these lands that are either are under lease from the Government, as is the case for the larger, more commercial farmers mainly in the northern islands. Another part of the Crown lands is under smaller scale subsistence systems that typically employ shifting cultivation/slash-and-burn methods that are not authorized by Government. The shifting cultivation systems are highly damaging to the natural environment and impacts native biodiversity and leads to relatively rapid soil fatigue as the nutrients are depleted. Once the nutrients are depleted, the cultivators move to clear a new section

of land. Typically, no crop rotations or agronomic measures are implemented to conserve nutrients, enhance moisture retention and soil faunal health in the already marginal calcareous soils, thereby reducing overall land productivity over time. Due to the relatively poor quality of the soils, agro-chemicals including fertilizers, are required to ensure adequate crop yields but there is a tendency toward excessive and indiscriminate application. Agrochemical pollution has been identified as a great threat to the groundwater resources in The Bahamas and is of critical concern given that potable water supply on the islands depends on vulnerable freshwater lenses that lie relatively close to the surface. On the central and southern Bahamian islands, free-ranging small ruminants such as sheep and goats overgraze landscapes and contribute to degradation. Although there have been studies on the chemical composition of Bahamian soils [19] [20], the rates of land degradation and impacts on agricultural and ecosystem productivity has not been quantified in The Bahamas. It should be noted that Surface erosion due to overland runoff in the Bahamian islands is minor given the high porosity of the soil and underlying limestone substrate; most rainfall incident on the land surface effectively infiltrates. However, soil loss can be significant from exposed landscapes due to inundation by major storm surges where retreating flood waters can dislocate topsoil. Land clearing with heavy equipment that strips organic matter from topsoil is widely used.

Figure 2: A typical example of slash and burn activity in The Bahamas that contributes to land degradation; example on Cat Island

Deforestation and land conversion: There is significant deforestation occurring on all of the islands associated with conversion from native forest to other uses including agriculture, mining/quarrying, commercial use and housing. In the coppice forests in the southern islands, shifting cultivation, harvesting for woodcarving and charcoal making have led to a reduction in forest extent and biodiversity. The Forestry Unit (Ministry of the Environment and Natural Resources) estimates that annual forest cover/extent change across the islands ranges between 5 to 10%. On New Providence the average rate of change is estimated to be 10% annually while on Grand Bahama and Abaco the forest cover change is estimated at 5%. Most of the land use conversions are occurring on Crown lands and are substantially unregulated. Land clearing has facilitated access for developers to access property or enable illegal squatting. Many areas are subject to deforestation and habitat alteration due to indiscriminate land filling and dumping. Despite free solid waste disposal on the islands, residential and commercial dumping occurs within all the three forest types; pine, coppice and mangroves. The human activities in deforested areas have led to increase incidence of bush fires with negative impacts to adjacent forest lands. Deforestation has altered critical habitat and disturbed wildlife corridors across these natural forest areas. Unregulated land conversions are the manifestation of the generally inadequate regulatory environment and lack of land use planning, coupled with weak enforcement of existing legal instruments and low agency capacity to address the issue.

Figure 3: Stockpile of illegally harvested wood on New Providence. Such unplanned and unmanaged activities expose fragile soils and contribute to loss of biodiversity and other ecosystem services

Quarrying and mining: There are numerous quarry operations across the islands from which aggregate is extracted for construction purposes. In many cases, mining operations are done without regulation

and without measures installed to mitigate degradation. Many abandoned mined-out areas become a public health hazard due to mosquito breeding as they collect water.

Water resource degradation: The freshwater resources of The Bahamas are inherently vulnerable to overexploitation given the shallowness of the water lenses and as mentioned above, are vulnerable to the impacts of land degradation and pollution from agricultural discharges, urban and commercial discharges, quarrying and other mining activities. There has been evidence of increasing trends toward significant nitrate, phosphate, and bacterial contamination in groundwater reserves as reported in the UNCCD National Action Programme [21]. Mismanagement of water in the agriculture sector is typically a result of poor irrigation scheduling which results in water wastage. Extraction in excess of natural recharge rates has been increasing risk of saline intrusion and salinization of soils under irrigation, contributing to loss of land productivity and land degradation [22] [23] [24].

Climate change influences: According to a 2007 World Bank *Comparative Analysis on the Impact of Sea Level Rise on Developing Countries* [25][3] The Bahamas was ranked the country most in danger in the Caribbean (out of ten countries [26]) from losses among coastal populations and declines in GDP that might result from storm surge intensification. The country was also listed as one of the top three countries most vulnerable to the climate change impacts of coral bleaching, increasingly powerful tropical hurricanes and rising sea level. The Bahamas Department of Meteorology has observed that rainfall in New Providence has decreased at a rate of 107 mm over 100 years. The rainfall on Long Island and Inagua has been decreasing at a rate of 259 and 427 mm over 100 years, respectively. Since 1905, the mean daily maximum temperature for July has been increasing [27]. Fluctuations in rainfall patterns over the past few years, particularly in the southern islands have led to serious shortfalls in freshwater supplies. These islands were experiencing severe drought, during the PPG field visits, that caused extensive crop failures.

The Bahamas has been impacted by severe hurricanes and prevailing climate change trends are favoring increasing frequency of these extreme events. Most notable of these was Category 5 Hurricane Dorian of September 2019, the most intense tropical cyclone on record to strike the Bahamas, and the worst natural disaster for the country. The estimated damages and losses amounted to US$3.4 billion (IDB, 2019), equivalent to a quarter of the country?s GDP [28], with losses of over US$60 million to the agriculture and fisheries sub-sectors [29]. The hurricane had devastating impacts on Abaco and Grand Bahama through flooding by seawater, topsoil erosion with retreating flood waters, and sediment deposition in many places. The hurricane destroyed forests and led to large amounts of wood wastes that need to be managed to support the revitalization of the forests, agricultural lands and the devastated landscape. The inundation of agricultural land by seawater and consequent heavy salinization will drastically affect long-term productivity of such lands. Similar impacts were experienced with the passage of Hurricane Joaquin in October 2015 in the southern Bahamas. The rising frequency of occurrence of catastrophic hurricanes such as Dorian will cumulatively result in (i) changes in the coastal ecosystems and degradation of marine resources, (ii) loss of productive agricultural land, resulting in loss of local agricultural production, (iii) reduction in food security and increasing in national import bills and (v) increased vulnerabilities in coastal agricultural communities

due to economic and social stress. Sea level rise is threatening the highly vulnerable freshwater lenses through saline intrusion along with increasing the rate of coastal erosion.

Mean temperatures have been observed to have increased by around 0.5?C since 1960, at an average rate of 0.11?C per decade with seasonal variation in the rate of temperature increase, with the most rapid rate between June to August and September to November (0.13 and 0.15?C per decade respectively). It has been found that the rate of warming is more rapid in the northeastern islands compared to the southwestern islands. There have been increases in the frequency of ?hot? days and nights and decreases in ?cold? days and nights during the period 1973-2008. In terms of mean precipitation, there has been no significant or consistent changes observed since 1960. The modeled projections of mean annual temperature suggest an increase by 0.8-2.3?C by the 2060's, and 1.2-2.5?C by the 2090's, and it is forecasted that there will be substantial increases in the frequency of ?hot? days and nights and decreases in the frequency of ?cold? days and nights. Rainfall projections for The Bahamas suggest overall decreases mainly due to decreases in rainfall during the March-May and June-August periods. It should be noted that the proportion of total rainfall that falls in heavy events during the March-August period is projected to decrease [30].

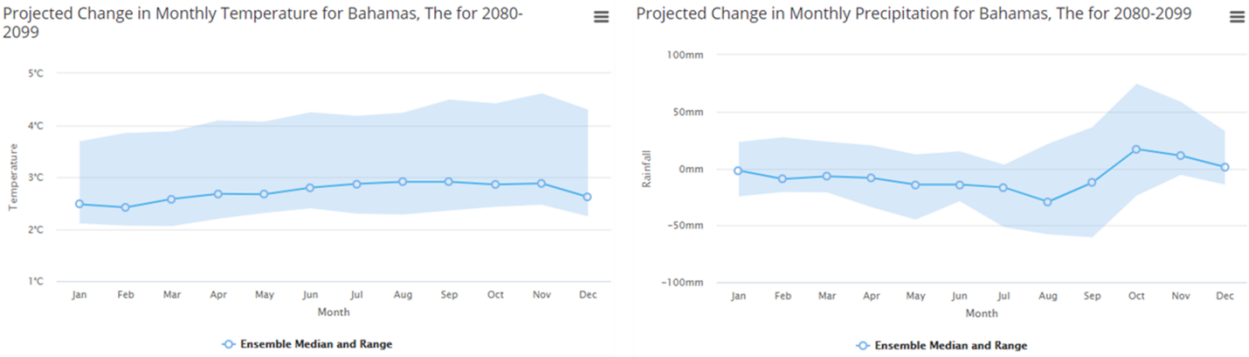

Figure 4: Projected Change in Monthly Temperature and Precipitation in The Bahamas [31][4]

Climate-change induced drought events and long-term changes in temperature regimes are equally threatening to agriculture and food production systems and biodiversity due to heightened fire risk across terrestrial landscapes, proliferation of pests and disease, and invasive species. Invasive plants like Brazilian Peppertree, *Schinus terebinthifolia* has become a growing concern for some farmers in Abaco, while the Australian pine, *Casuarina sp.* has taken over significant sections of the coast in all islands and the paperback tree, *Melaleuca quinquenervia,* is targeted under a BNT-led management program. The effects of climate change have exacerbated the problem of invasive plants. The invasives are generally well-adapted to increasing soil aridity and salinization attributed to climate change. They outcompete crops and native plants to significantly reduce biodiversity where they occur and rapidly spread.

Barriers: The project considers the long-term solution to address the problems of land degradation to be increased implementation of SLM practices through an integrated landscape management planning approach. This translates into the introduction of restorative measures that reduces the drivers of land degradation and mitigation of losses of productivity within agricultural and natural ecosystems, while enhancing resilience to climate change. There are four key barriers that need to be addressed in advancing integrated landscape management that balances competing land use demands to address land degradation.

Table 8: The four key barriers the project intends to address

Barrier 1: Ineffective and fragmented policy and planning processes and weak institutional capacities to effect integrated land management: The Bahamas does not have an integrated strategic planning framework for specifically addressing land degradation and associated threat of maintaining long-term productivity of agricultural landscapes through impositions forced by changing climate. The policy and institutional response framework are weak and remains rather fragmented with responsibility shared among multiple agencies. Policy instruments such as the *Conservation and Protection of the Physical Landscape of The Bahamas Act* and the *Planning and Subdivision Bill* among others, generally have not been put into effect to address integrated landscape management, and the legislative, regulatory and institutional response is inadequate. Ability to enforce provisions of relevant legislative instruments is challenging due to human resource capacity, which further compounds the situation. In general, planning and development pertaining to agricultural/rural lands is more responsive to short-term mandates rather than on a longer-term strategic outlook under the framework of sustainable land management. While there is wide recognition that climate change will have significant adverse impacts over productive landscapes in The Bahamas there is no comprehensive plan to address this specific issue and there is no consideration of land degradation neutrality target setting that will set the guidance for how these landscapes will be conserved to maintain the flow of goods and services. While there is growing recognition of the importance of integrating the value of ecosystem services in decision making, particularly pertaining to land management tradeoffs to enhance climate resilience and achieve land degradation neutrality, the concept remains outside regulatory mandates as professionals charged with planning and policy development do not have the necessary tools or means to facilitate adoption. At the broader level there are limitations in effectively engaging in multi-sectoral planning and fully integrating private sector and the community in natural resource management planning. Political will remains relatively weak to be a driver for change on this issue, which is in large measure due to limited awareness among the key decision makers of the scope and scale of the issue and not having the policy and supportive technical guidance that is necessary to inform action. This challenge is particularly manifested in respect to conversion of productive agricultural lands into commercial and residential uses, compromising long-term national food security and increasing challenges to maintain the ecological integrity of landscapes and protection of water resources from pollution.

Barrier 2: Lack of demonstrable models to encourage adoption of integrated land management approaches that incorporate sustainable land management and climate-smart agriculture: One of the foremost challenges is limited knowledge on best practices for incorporating sustainable land management in agricultural landscapes in The Bahamas. It is well known that climate change will likely mean degradation in quality of soils through salinization and erosion but there are no protocols, technical resources, methodologies that are designed to implement remediation and restorative measures for conditions in The Bahamas, and optimally those that incorporating nature-based solutions. Closely related is the general lack of technical knowledge on how to transition current agricultural systems to incorporate SLM and be more resilient to climate change. While there is some level of familiarity among technical specialists who are working with farmers and stakeholders in the field, their technical capacity is not adequate. Knowledge of these methods and how to implement them among farmers is virtually non-existent. Furthermore, tools in the form of guidelines and other forms of technical assistance packages are not available. Examples of such include guidelines for land conservation that include the creation and maintenance of buffer zones and green spaces/habitats within agricultural and other commercial landscapes that may assist in controlling the transmission of fertiliser and pesticide residues, facilitation of natural pollination, maintenance of wildlife habitats for threatened species, while safeguarding the hydrological resources. Another critical challenge is the fact that there is currently very limited field infrastructural capacity to replicate and produce planting material necessary to restore degraded landscapes and to support the integration of planting material into farming/grazing systems at the needed scale to have an impact to reduce land degradation. Substantial volumes of organic wastes are generated by households and the commercial sector that could be recycled and used in agricultural production for soil amelioration and land conservation. The destroyed timbers (on Abaco and Grand Bahama) as a result of Hurricane Dorian can also be recycled to organic material. However, there are no demonstrable models available to test applications and guide design of appropriate systems.

Barrier 3: Lack of fiscal incentivization to support the integration of sustainable land management and ecosystems-based climate resilient approaches into agricultural production systems: Another challenge is that there is an absence, or very limited business planning guidance and fiscal incentives to help transition agricultural systems to integrate more SLM practice. The investment climate is overall sub-optimal. This in turn means that interest among farmers and producers to change practices has remained limited and will remain is this condition unless active intervention in this area is made. Related to this issue is the limited access to potential markets for commodities, particularly non-traditional ones produced for the cottage industry that has the co-benefit of land and ecosystems conservation. There have been no market study analyses to assist stakeholders appreciate economic potentials from commodities derived from land conservation systems (e.g., non-traditional crops and non-timber forest products) that address land degradation. Active engagement of private sector is critical in terms of facilitating market access, particularly for local commodities that are produced more sustainably, however this dynamic supportive linkage with private sector interests remains rather weak and will contribute to challenges for upscaling investments by farmers. Another challenge is absence of land titles that creates disincentives for investors and leads to difficulties accessing credit to make needed investments in SLM within agricultural systems.

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Barrier 4: Lack of science-based decision support resources and lack of the knowledge support system to design response measures and means to monitor efficacy of investments in SLM and climate resilient agriculture systems and to adequately assess contributions to local and global environment benefits: The country lacks an integrated information management framework that is focused on assessment of land degradation and tracking of investments in sustainable land management across agricultural and rural landscapes in particular. This compromises the ability to invest in the process of establishing land degradation neutrality that may inform spatial development tradeoffs and decisions on land development. There have been other initiatives in the country that have included environmental data management components that are of relevance, however most of these systems have been developed around project-based directives and as a result, long-term application is generally not sustained beyond the project periods as they tend not to be mainstreamed into national accounts. Data collection and analytical work across related sectors remains disjointed and does not feed adequately to inform decision making to inform more sustainable land management approaches. There is limited in-field capability to systematically collect data, particularly for monitoring how climate change is affecting hydrological relations and changes in soil condition that has important implications in the context of degradation of ecosystems and agricultural land productivity potential. Planning for the agricultural sector is hampered by poor and/or inadequate agricultural statistics collection and data available to policy makers is limited and outdated, which compromises the government?s ability to make informed policy decisions. Technical professionals do not have capacity in state-of-art research tools and methodologies that prevents them from employing them adequately in their work or maintaining them beyond initial investment when introduced under short-term initiatives. Farmers, communities and other beneficiaries are often not engaged in the process of data collection, where there is recognized good potential to mobilize additional data collection support through citizen science approaches. Consequently, there is low buy-in and limited recognition of the importance of data application by stakeholders. The other important element of under this barrier is the general lack of translation of knowledge gained from field data collection into public awareness products to drive behavior change among direct stakeholders and policy makers alike.

2) Baseline scenario and any associated baseline projects

Baseline - Government investments: The Government of The Bahamas, through the Ministry of Agriculture and Marine Resources and Family Island Affairs (MAMRFIA), aims to expand food production in an effort to achieve some measure of food security, reduce the growing food import bill and generate foreign exchange to enhance incomes and livelihoods of the farming communities. Priorities have been aimed at obtaining foreign investment to expand the production and export of poultry and pork, agro-processing and production of fruits and vegetables. Management and development of land is mainly the responsibility of government given that as much as 90% of the 95,000 ha of the arable lands in the county are State lands. Further responsibilities are delegated to other agencies that are mandated to support the sector. The Department of Agriculture has established a fee method for access to commercial agricultural lands in places that have been identified for the establishment of such farms or industry. The fee schedule depends on whether or not land conservation measures have been adopted. Users of commercial lands with conservation measures adopted, pay between 10 and 30% of the fee per acre paid for commercial lands without conservation measures adopted. This fee schedule also depends upon the location of the land, whether in New Providence or the Family [32] Islands, and the length of time the land is being used for agricultural purposes. The

Ministry of Agriculture will lend technical and policy advisory support to farmers over the project period and will spend an estimated US$4 to 6 million related to these services over the duration of the project.

The government has invested in development of the agricultural sector since 2013 with contributions in excess of US$20 million. Those expenditures included the commissioning of The Bahamas Agriculture and Marine Science Institute (BAMSI). BAMSI is a higher education center, and is involved in undertaking research, and a producer of fruit, vegetables and livestock. In addition to providing extension and training services, BAMSI operates tutorial farms, which are involved in commercial activities. BAMSI also provides inputs and purchases output from farmers who fulfil their technology requirements. The agency is directly involved in marketing of commodities. It is anticipated that BAMSI?s programme for agribusiness support will contribute to the baseline associated with this project, mainly in capacity building for improved agricultural practice. Over the project period it is estimated that the investment will approximate US$500,000.00.

To encourage engagement of youth in agriculture the Ministry of Agriculture and Marine Resources and Family Island Affairs has been running a Summer Employment Programme in partnership with the private sector which is open to Bahamian citizens and residents who are at least 15 years old. The Ministry of the Environment and Natural Resources also manages a Youth Environmental Corps, which is providing apprenticeship and training to Bahamian youth in the development of green and blue economies. Approximately 1,200 jobs have been created to work with The Bahamas National Trust (BNT) and The Bahamas Public Parks and Public Beaches Authority and Forestry Unit of the Department of the Environment.

It is estimated that the Government of The Bahamas and allied national agencies will spend between US$3 and US$5 million under baseline actions over the expected course of the project. This will be done as part of a joint environmental management enterprise to address climate resilience and improved land management through its lead agencies. These agencies include the Ministry of Agriculture and Marine Resources and Family Island Affairs, the Department of Environmental Planning and Protection, the Department of Agriculture, the Department of Physical Planning and the University of The Bahamas, The Bahamas Agriculture and Marine Science Institute and The Bahamas Agricultural and Industrial Corporation.

Baseline - donor and partner assistance programmes: The *Inter-American Institute for Cooperation on Agriculture* (IICA) collaborates closely with the Government of The Bahamas in contributing technical and policy guidance to development of the country?s agricultural sector. The areas of priority of the government of The Bahamas include climate smart agriculture, integrated agricultural systems, organic

waste management, apiculture development, sanitary and phyto-sanitary (SPS) framework development and training, research and industry development for specific industries unique to The Bahamas. Additionally, entrepreneurship, capacity building in governance and training for producer groups, development of youth in agriculture through garden-based programmes and creating a stronger linkage between agriculture and tourism, are areas of priority. In response to the recent hurricane impacts, IICA is providing support to the Ministry of Agriculture under a ?Climate Action Project? that is developing hydroponic systems to enhance resilience in crop production systems. Based on investment over the last 8 years, IICA will contribute on average US$250,000 (US$ 1 million over project period) to $300,000 (US$ 1.2 million over project period) of technical assistance, project management, direct internal funding and capture of external funds annually. One of IICA?s major focuses will be the use of organic matter to remediate degraded soils which is part of the plans to reverse the soil degradation trends in The Bahamas. IICA will also offer technical cooperation related to sustainable agriculture, low-carbon production systems and climate-smart agriculture that restore degraded lands to enhance their productivity. The Institute has extensive experience in extension services, which contribute to effective participation at the community level and to the development of local technical capacities. The Institute is currently working with the MAMRFIA to establish an extension services app called the AgriEx App that will be a platform in which the MAMRFIA can provide information through factsheets and other formats and communicate with stakeholders on a 24-hour basis. These programs ensure the sustainability of the actions carried out. IICA offers state-of-the-art technical cooperation in the bioeconomy, biotechnology, innovation and ?agriculture 4.0? [33] that allow the development of restoration schemes for degraded areas that respond to the current demands and needs.

Within the scope of the *Caribbean Agricultural Research and Development Institute (CARDI)*?s Strategic Plan 2018-2022, the agency will collaborate with the Government of The Bahamas, where the focus of cooperation is on developing resiliency in intensive crop and livestock systems with emphasis on roots and tubers, namely cassava and sweet potato, onions, corn, coconut, hot peppers, pigeon peas, poultry, livestock and small ruminants. The approach in The Bahamas has been about leveraging the agro-tourism linkages and encouraging investment in organic agriculture and value-added product development. The agency had worked with partners on post-Hurricane Dorian response to assess damage to the agriculture sector noting that livestock and vegetable production was hard-hit in the affected islands. CARDI intends to provide support to production of commercially important commodities with long term responses focused on building a resilient sector through the promotion and adoption of climate smart practices and technologies. As part of its agricultural resilience strategy, CARDI has been working with livestock farmers to establish silvo-pastures for sheep and goat production, thereby reducing soil and land degradation resulting from over-grazing. Training of crop farmers is ongoing with respect to proper pesticide use, aimed at mitigating soil and groundwater contamination. Varieties of crops with improved tolerance to pests and diseases are being promoted so that less agro-chemical input is needed in production. Drought and salt tolerant forage species including endemic leguminous plants like Cinicord and Ramshorn and forage species like Mombasa and Mulatto are also being introduced. CARDI will also provide technical support to demonstrate the use of shade house technology as a CSA intervention to extend the growing season of vegetables,

increase import substitution and enhance the overall competitiveness of the agriculture sector. The estimated value of these support services over the project duration is US$100,000.

The Government of The Bahamas collaborates with the *Food and Agriculture Organization* within the signed Country Programming Framework (CPF) [34]. Recent projects in the agricultural sector of relevance includes *Technical Assistance to support the development of an Action Plan for the National Food and Nutrition Security Policy of The Bahamas (2016-2018)* that aimed to provide guidance and support to FNS Policy development and strengthen the capacity of the country to address its FNS issues in a systematic and integrated manner, *Towards a Caribbean Blue Revolution (2016-2018)* that sought to develop small- and medium-scale aquaculture and aquaponics farms in an economically viable, ecologically sustainable and socially acceptable manner. Following post-Hurricane Dorian assessments, the FAO is supporting a new project, *Rebuilding Fisheries Livelihoods in Abaco and Grand Bahama islands following Hurricane Dorian* and the *Hand in Hand Initiative*, both valued at $200,000 each. The FAO-supported *Agro-Ecology Livestock Project* is winding down and lessons from this initiative will be drawn into this project as appropriate. The Ministry of Agriculture, Marine Resources and Family Island Affairs is also collaborating with the FAO in assessment of the impact of the COVID-19 pandemic in the Agriculture and Fisheries Sector of the region including the Bahamas. The FAO will lend technical and policy support to sustainable agriculture and improved land and water resource use to the Ministry of Agriculture, Marine Resources and Family Island Affairs over the project period.

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

Project Overview: The GEF?s incremental funding and co-financing resources will be used to overcome the identified barriers that will prevent the country from advancing a more integrated landscape management agenda that reduces vulnerability from land degradation due to unsustainable land management practices in various economic sectors. The project design is reflective of a causal pathway as captured in the theory of change (Annex H). The project?s theory of change is underpinned by the desired intermediate state of attaining reduced vulnerability to land degradation across productive landscapes in the country through (a) the institution of policy, planning and development processes that foster LDN integration, (b) the reduced potential for land degradation over some 27,300 hectares through the installation of restorative SLM, nature-based solutions and climate-resilient agriculture systems and policy prescriptions (c) the enhancement of evidence-based decision-making on LDN among stakeholders. In this regard the project seeks to deliver intended outcomes under four project components that will contribute to the desired intermediate state and ultimately the desired impacts of improved and sustainable crop yields and healthy, resilient and productive ecosystems toward improved livelihoods and well-being and expanded global environmental benefits.

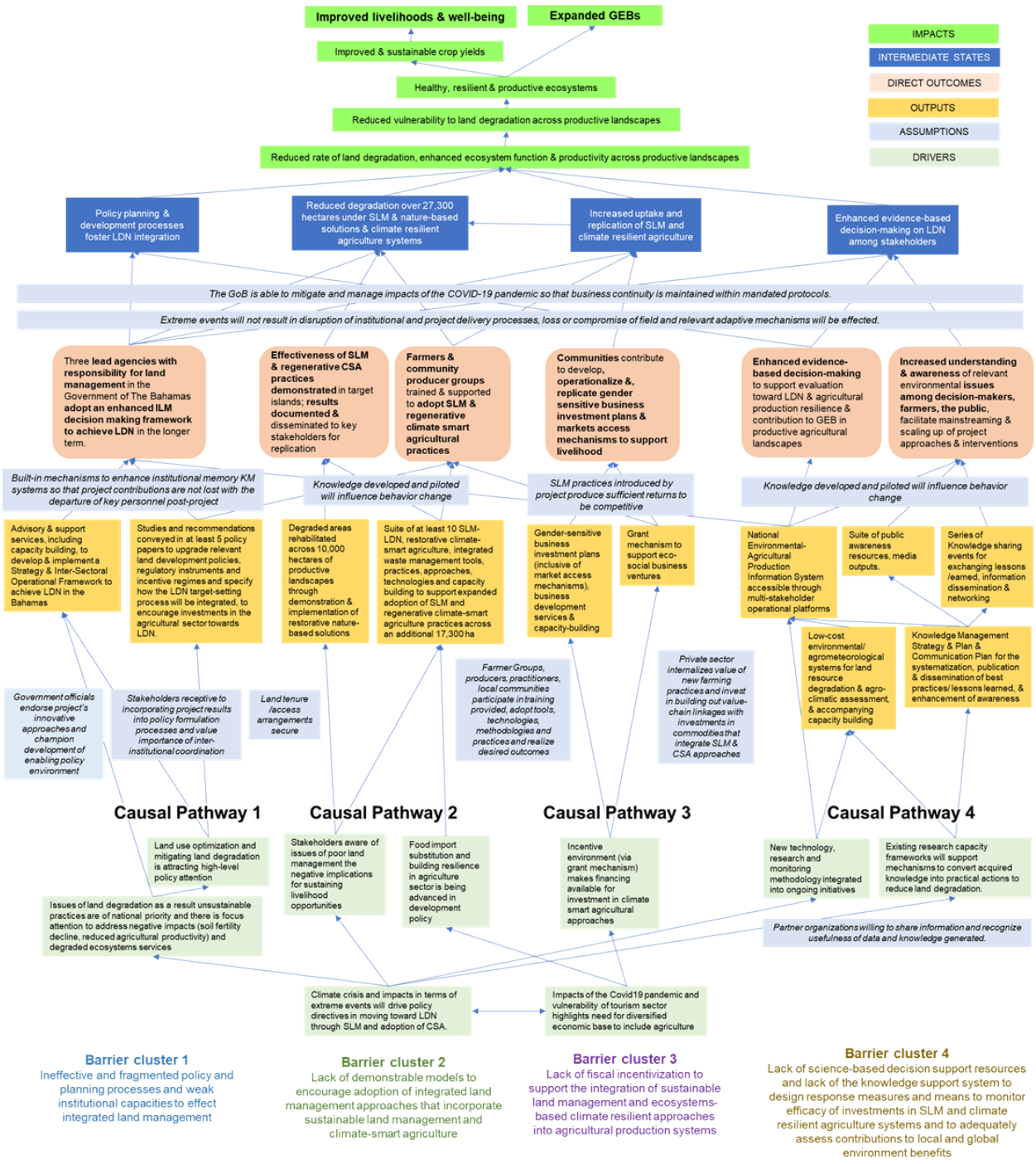
The project will make the strategic connection between agricultural and other landscapes development practices and moving toward achieving land degradation neutrality (LDN).

Investment under Component 1 will realize the outcome of an enhanced enabling policy environment that will contribute to achieving land degradation neutrality. Investment under Component 2 will realize two outcomes in terms of (i) expanded demonstration and replication of methods for SLM and regenerative climate smart agricultural practices and (ii) enhanced capacity among stakeholders to adopt SLM and regenerative climate smart agricultural practices. Investment under Component 3 will contribute to expanded livelihood opportunities through uptake of business investment plans and market access mechanisms. Investment under Component 4 will contribute to two outcomes, (i) enhanced evidence-based decision-making toward achieving LDN and (ii) increased understanding and awareness to trigger behaviour change and support scaling up of knowledge. These approaches will be tested on seven (7) islands in the Bahamian archipelago; Abaco, Andros, Cat Island, Eleuthera, Grand Bahama, Long Island and New Providence, across four components detailed below. The project will demonstrate opportunity for green recovery and building back better in the wake of the COVID19 pandemic with strong linkages to the wider recovery incentive framework under the *Accelerated Bahamas Recovery* Plan that has been put in place by the Government of The Bahamas to address the needs of persons on islands that have been severely affected, such as on Abaco, Grand Bahama and New Providence, also considering the fact that Abaco and Grand Bahama that were still in recovery from Hurricane Dorian.The project will be closely aligned to the policy statement *?The Bahamas National Pathway for Food Systems Transformation in support of The 2030 Agenda?* from the Ministry of Agriculture and Marine Resources in its contribution to the UN Food Systems Summit[35] that makes clear pronouncements on COVID-19 recovery and building resilience and sustainability in sector.

The project is framed against the backdrop of assumptions that have bearing on the anticipated outcomes to be realized through the proposed causal pathways. A fundamental assumption is that the policy directive to enhance food security, conserve ecosystems and build resilience in its productive sectors, including agriculture, against the effects of climate change, will remain at the top of the policy agenda, thereby maintaining strong political buy-in. Decisive leadership and effective coordination by the Department of Environmental Planning and Protection (DEPP) in accordance with its legal mandate will be critical to successful project implementation. Another key assumption is that there will be wide stakeholder buy-in among beneficiaries and collaborators alike in support of the project to realize the desired outcomes. It is further assumed that partner collaboration established and/or strengthened under the project, will continue post-project. Related, is the assumption that the private sector realizes that there is value in building out the value-chain linkages that are possible by making investments in commodities that integrate SLM and climate-smart approaches that mitigate degradation of terrestrial ecosystem services. Another critical assumption is that the knowledge and know-how developed and piloted under the project will positively influence behaviour change from direct beneficiary to policy-maker level. The project also assumes that should hurricanes traverse The Bahamas during implementation, the impacts will not completely debilitate continuity and that adaptive mechanisms

will be effective. Finally, with the ongoing COVID-19 pandemic, a crucial assumption is that debilitating effects will be reduced over time the Government of The Bahamas through its frontline health care sector is able to mitigate and manage the impacts and that business continuity is maintained within mandated protocols.

The project Theory of Change is shown below. Refer to Annex H (includes accompanying objective tree and problem analysis)



Project Objective: Project Objective: To enhance climate-resilient food production across productive agricultural landscapes through sound Integrated Landscape Management and Land Degradation Neutrality approaches in The Bahamas.

Components ? Outcomes ? Outputs

The project consists of four (4) components and (6) Outcomes as described below. Corresponding indicators and targets are fully developed in Appendix 4 Project Results Framework, and the project?s detailed work plan and benchmarks are presented in Appendices 5 and 6 respectively (UNEP Project Document).

Component 1: Strengthening the enabling environment for achieving land degradation neutrality through improved policy and governance.

This component focuses on strengthening the enabling environment? by tackling fragmented policy and planning processes and weak institutional capacities.

Outcome 1.1 Three lead agencies with responsibility for land management in the Government of The Bahamas adopt an enhanced ILM decision making framework to achieve LDN in the longer term.

Output 1.1.1: Advisory and support services, including capacity building, to develop and implement an Integrated Land Management Strategy and Inter-Sectoral Operational Framework to achieve LDN in The Bahamas provided to selected personnel from at least 3 lead national agencies with responsibility for agricultural/rural land management.

Building on the current national policy, legislative and regulatory frameworks of relevance to integration of SLM to mitigate land degradation, the project will develop an *Integrated Landscape Management (ILM) Strategy* and associated *Inter-sectoral Operational Framework (ISOF)*. The Strategy and Framework will define the pathway to reduce policy and institutional fragmentation and formulate recommendations for implementation to move the country toward land degradation neutrality, considering in particular the 95,000 hectares that are considered arable lands in the country, but with a focus on methodology adaptation to approximately 27,300 ha. The ILM Strategy and Inter-sectoral Operational Framework will be anchored within the provisions of the Environmental Planning and Protection Act (2019). In that regard, the DEPP to provide a coordinating function across the relevant agencies to ensure continuity and scale-up post-project. The Project Management Unit will engage the services of a consultant, who will deliver on the design of the Strategy and Operational Framework though rounds of consultations with stakeholders and intended beneficiaries. These key stakeholders will include the Ministry of Agriculture, Marine Resources and Family Island Affairs (MAMRFIA) which will provide policy guidance, with close technical support from the Department of Physical Planning, Department of Agriculture and the Forestry Unit. The ISOF to be constituted by representatives of the Ministries and departments mentioned above will strengthen the land management decision-making platform and will create the platform upon which the UNCCD National Action Programme (NAP) update and voluntary Land Degradation Neutrality-Target-Setting Programme (LDN-TSP) will be built (elaborated under Output 1.1.2).

A useful reference for consideration in developing the ILM Strategy is FAO?s Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT). The general principles contained will be reviewed and incorporated as relevant to guide the reformation of the land tenure framework to increase food security by providing greater access rights to lands for agricultural output and fostering enhanced investment in the sector. Following the completion of that review the ILM Strategy and ISOF will be presented to Cabinet for endorsement. This strategy, which will be aligned with the country?s National Action Plan under the UNCCD, will provide the foundation for setting LDN targets and will incorporate elements on enhancing resilience to climate change. These initiatives will use as a guiding framework ?*Land Degradation Neutrality in Small Island Developing States?* published by the UNCCD Secretariat and the FAO (2020) [36].

Output 1.1.2: Studies and recommendations conveyed in at least 5 policy papers to upgrade relevant land development policies, regulatory instruments and incentive regimes and specify how the LDN target-setting process will be integarted, to encourage investments in the agricultural sector towards LDN, made available to key audiences.

Linked to the development of the Strategy and ISOF is the *upgrade of the National Action Programme (to include LDN targets), relevant land development policies, regulatory instruments* and incentive regimes that will be needed to encourage investment in the agricultural sector as a primary focus. A primary policy instrument that will be updated is the UNCCD *National Action Programme to Combat Land Degradation in The Bahamas*[37], to include integration of the LDN target-setting process. The current National Action Programme (NAP) was prepared in 2006; it is outdated and not aligned with the current UNCCD 2018-2030 Strategic Framework. Within the scope of the ILM Strategy (to be developed as part of Output 1.1.1) the project will support the update/alignment of the NAP that will define updated national priority actions, several of which are being contributed to by this project. In accordance with Decision 2/COP.12 of the Convention, the project will support The Bahamas to establish national baselines and formulate the national-level voluntary LDN targets as part of the updated/aligned NAP. The process will be guided in accordance with the UNCCD *Land Degradation Neutrality Transformative Projects and Programmes: Operational Guidance for Country Support* (2019)[38] and the GEF-Scientific and Technical Advisory Panel (STAP) *Guidelines for Land Degradation Neutrality* (2020)[39][5]. The national process will be coordinated by the DEPP with oversight and technical guidance by the UNCCD National Coordinating Body (NCB) and the Partnership Initiative on Sustainable Land Management (PISLM). It should be noted that most of the agencies that will serve on the Project Steering Committee and Technical Advisory Committee are already represented on the NCB. The revised/aligned NAP and LDN Targets will be presented to Cabinet for approval.

Other key policy instruments, legislation and regulations to be evaluated and upgraded will include the Draft National Development Plan of The Bahamas - Vision 2040, Agriculture Sectoral Plan for The Bahamas, Agricultural Land Policy, Agriculture and Fisheries Act, Conservation and Protection of the Physical Landscape of The Bahamas Act and Planning and Subdivision Bill, and the Ministry of

Agriculture Incorporation Act. These legislative instruments will be reviewed to enhance mechanisms for cooperation across ministries, departments and agencies are strengthened, that agricultural lands are clearly delineated, that monitoring instruments are made effective, that challenges in accessing agricultural land are regularized, and bottlenecks contributing to delays are eliminated.

In the process of development of the Strategy, personnel from the i) Department of Environmental Planning and Protection, ii) the Ministry of Environment and Natural Resources, iii) the Ministry of Agriculture, Marine Resources and Family Island Affairs, iv) the Department of Agriculture, v) the Department of Environmental Health Services, vii) the Department of Lands and Surveys, among others, will be solicited and engaged in its preparation and gain familiarity with the methodologies and approaches as a structured capacity building effort. Direct beneficiaries who will also be contributors to shaping the Strategy will gain enhanced capacities through the participatory process. A *series of capacity building activities will be designed and implemented*, taking various formats ranging from in-person in-class settings, workshops and seminars to online fora, a particularly useful modality given the dispersed geography and efficiency that can be gained via remote learning. The lessons from the landscape restoration activities to be undertaken under Component 2 will be used to inform the policy reform and capacity building under this component.

Component 2: Demonstration of regenerative agriculture and resilient food production systems, practices and technologies.

This component will contribute to reducing land degradation through development and demonstration of best practice land restoration and regenerative climate-smart agricultural models on over 10,000 hectares in seven islands of The Bahamas and based on an integrated landscape management approach. In addition to the 10,000 ha to be targeted for restoration, 17,300 hectares of land that are under the management of the Ministry of Agriculture, Marine Resources and Family Island Affairs and the Bahamas Agricultural and Industrial Corporation (BAIC) will be the focus of SLM policy extension under the project. These are landscapes that are under active use and land not currently under production, that however have high productive use potential that require priority safeguard in the context of maintenance of ecosystem and agricultural productivity.

Outcome 2.1: Effectiveness of SLM and regenerative climate smart agriculture practices demonstrated in target islands with the results documented and disseminated to key stakeholders for replication.

Output 2.1.1: Degraded areas rehabilitated across 10,000 hectares of productive landscapes through demonstration and implementation of restorative nature-based solutions for uptake by farmers/stakeholders. Target islands:

? 2500 ha Abaco

- 3500 ha Andros
- 500 ha Cat Island
- 700 ha Eleuthera
- 2100 ha Grand Bahama
- 600 ha Long Island
- 100 ha New Providence

The project will support the growing policy attention that the Government of The Bahamas is placing on enhancing climate resilience within the agricultural sector given the increasing occurrence of extreme events. The pilot climate-smart agricultural systems will incorporate climate resilient crop and agroforestry systems that will enhance ecosystem functioning, carbon sequestration and soil carbon storage. This also comes against the backdrop of the COVID19 pandemic that exposed socio-economic vulnerabilities, amplifying the need to continue to invest in sustainable agriculture in the context of post-pandemic green recovery and resilience building in terms of expanding economic diversification and enhancing food security. To boost the very limited capacity to provide planting material in The Bahamas that will be required for landscape restoration and investment in CSA, a total of 10 nursery production facilities will be newly constructed or improved. Partnership arrangements with existing nurseries will be pursued. Existing nurseries were identified in New Providence (Bahamas Palms Nursery) and Grand Bahama (Lucaya Nursery and Landscaping Ltd) however details of arrangements with these entities have not been finalized during the PPG phase and will be pursued at project inception. Arrangements with existing nurseries are also important to ensure that some planting material is available to meet the needs of the demonstration plots during the early phases of the project. A total of *5 full-sized nurseries will be constructed with the capacity to produce at least 5,000 plants per cycle*. These nurseries are proposed one each for Abaco, Andros, Grand Bahama, New Providence and Eleuthera. *Three (3) smaller satellite nurseries (600-1000 plants) will be installed, one each on Cat Island, Long Island and Abaco and two (2) as upgrades to existing nurseries one each on Grand Bahama and New Providence*. The Cat Island Farmers Association have identified a location for a propagation facility on Cat Island and confirmed an interest in operating and managing that facility. The propagation facilities will be dedicated to the propagation of species to be used in land restoration through incorporation of agro-forestry systems and other soil/water conservation measures. These will include tree species such as *Lignum vitae*, Honduras mahogany, Lucayan Red Cedar, Black Ebony and other native species, along with grasses (for soil retention and improved grazing) and fruit trees such as soursop, mango, citrus, breadfruit, to diversify and boost value of agricultural output. The nurseries will feature vertical agricultural technologies and efficient water collection and irrigation technologies and be designed to be energy-efficient employing wind and photo-voltaic energy and will be designed for hurricane resilience. The facilities will not only serve as germplasm production centers but also as training centres to demonstrate land conservation methods. A plant propagation management committee is proposed to provide oversight and guidance for the coordination and management of these national propagation facilities during and post-project. Representatives from the MAMRFIA, Department of Agriculture, Forestry Unit, BAMSI, and BAHFSA are primary considerations for membership on the proposed committee. These arrangements will further enhance collaboration and natural synergies of the respective entities that can redound to greater efficiencies and cost reductions in the execution of forest and agricultural restoration within The Bahamas.

To reduce reliance on fertilizer inputs and boost capacity to generate organic soil conditioners and ameliorants that are highly needed given the fragile soils, the project will develop *3 pilot composting facilities, one each on Grand Bahama and Abaco* to convert existing massive stockpiles of organic material from toppled timber in the pine forests as a result of recent Hurricane Dorian impact [40] and also to convert organic wastes from household and commercial waste streams. *A third pilot composting facility will be installed on Eleuthera* to process household and commercial green waste. Green

Systems Bahamas Limited, located at the Airport Industrial Park Nassau, is the largest and only commercial composting facility in New Providence. The facility is equipped with a windrow turner, front end loader to end grinder and bagger. Discarded wooden pallets are used for producing mulch while green leaves and grass clipping and other woody debris primarily from gated communities and hotels are the main inputs used for composting. A collaboration arrangement with Green Systems was not established during the PPG phase but will be pursued during project implementation as the company has the experience and technical capacity to expand. FoodPost Farms, located in North Eleuthera has a small composting operation that utilizes green waste generated on farm and from the nearby Habour Island. The facility uses both turned piles and vermicomposting. There is potential for growth and upscaling this model. It is recommended that this facility is considered for upgrading and expansion with support from the project. It will be necessary to move the operation to a more spacious location and to purchase appropriate equipment that will enhance productivity and boost output. A site in North Eleuthera was identified for this purpose. The project will draw on experience from SIDS regions for demonstration of proof-of-concept and also on IICA?s relevant experience already in the country, and from across the hemisphere in the systems design. The Department of Agriculture in collaboration with the Department for Environmental Health Services will have oversight responsibility for the establishment and long-term operation of composting facilities under the project.

The project will support direct *on-ground restorative investment across 10,000 hectares on degraded landscapes.* The Department of Agriculture will have direct will have oversight responsibility for the implementation of this project component and to ensure that suitable arrangements are made for continuity post project. A reconnaissance survey during the PPG Phase of the seven targeted islands included farm visits and interviews with 41 farmers, and discussions with several key stakeholder representatives. The survey provided insights of the physical landscape conditions, dominant land use patterns and challenges faced by farmers. Prospective farmers were identified mostly from locations previously identified in the PIF design stage. However, some changes were made to the initial PIF list of selected landscape areas that the project will impact based on the survey; the updated list is captured in Table 2 below. Sixteen landscape areas including nearly 40 sites that are under active utilization for agricultural production (including grazing) and other uses that are compromised by various forms of degradation have been identified for restoration. Details on the location and spatial distribution of these sites are contained in Appendix 17 (UNEP Project Document).

A detailed land degradation assessment to be conducted early in the project implementation phase will guide the final selection of project sites and the areal extents of degraded lands that will be improved.

Areas targeted for restorative measures

Island	Areas targeted for restorative measures	Area (ha)
Abaco	1. Little Abaco 2. Treasure Cay 3. Central Abaco	2,500
Andros	4. North Andros ? Mastic Point settlement, Nicholls Town	3,500
Cat Island	5. Arthurs Town, Benett?s Harbour Settlement 6. Pigeon Cay 7. Old Bight	500

Island	Areas targeted for restorative measures	Area (ha)
Eleuthera	8. Upper and Lower Bouge & Gregory Town 9. Palmetto Point 10. Rock Sound	700
Grand Bahama	11. High Rock 12. Freeport	2,100
Long Island	13. Entire landscape	600
New Providence	14. Gladstone Road Agricultural Complex RAC 15. South of Cowpen Road ? Government subdivision 16. Adelaide Village	100

The issues to be addressed include indiscriminate forest clearance and degradation by slash-and-burn practice/shifting cultivation, agrochemical contamination, overgrazing and saline deposition/intrusion. The interventions will be oriented in as far as possible around nature-based restorative solutions that stabilize landscapes, restore soil fertility and enhance carbon sequestration, reduce grazing impact, create natural buffers for diversion of pollutant flows away sensitive ecosystems and ground water lenses, and amour eroding areas. Quick-growing planting material derived from natural vegetation stock and conventional seedlings produced in the nursery facilities (described above) will be utilized based on land capability suitability assessments for the areas targeted for restoration. *Baseline soil sampling and analyses to determine the degree of soil degradation* in the targeted areas will be carried out, and sampling will be repeated after interventions to measure effectiveness of the actions (data collected will feed to the information system in Component 3). The project will target lands for interventions where clear ownership title exists or where access to land is under clear entitlement to the land user(s) so as to avoid challenges with respect to continuity post-project. See Annex D for locations of project sites. These approaches will consider the integrated landscape management approach where the outcomes of interventions are to optimize multiple benefits to users and stakeholders. Mechanisms to facilitate contribution to enhancement of planning will be facilitated through the establishment of the Inter-Sectoral Framework and the updating of land management plans under Component 1 and knowledge management in Component 4.

Outcome 2.2: Farmers and community producer groups trained and supported to adopt SLM and regenerative climate smart agricultural practices.

Output 2.2.1: Suite of at least 10 SLM-LDN, restorative climate-smart agriculture, integrated waste management tools, practices, approaches, technologies and capacity building to support expanded adoption of SLM and regenerative climate-smart agriculture practices across an additional 17,300 ha by at least 700 farmers.

In support of the land restorative actions the project will contribute to *development and or adaptation of a suite of tools and methodologies* for use by professionals and practitioners based on best practice derived from local experience in The Bahamas and from similar environments in the region and at the global level. Important resources that will be drawn on in this effort will include the global SLM database hosted by World Overview of Conservation Approaches and Technologies (WOCAT) [41]. Significant technical support is expected from the local and regional experience of CARDI and IICA. The project anticipates a tailored *suite of at least 10 SLM-CSA products* for The Bahamas that will include technical guidelines, manuals, and various tools made available in a variety of formats on relevant topics to support targeted interventions to respective islands. The northern Pine Islands generally have adequate water resources to support agriculture and have larger more commercially-oriented farms producing a wide range of crops. The focus will be more on improving irrigation and fertilizer use efficiencies, reducing ground water contamination and using agroforestry and cover cropping techniques to improve soil quality and crop productivity. In the more arid south-eastern islands, farms are generally smaller and operate mostly at semi-commercial and subsistence levels. The need to develop suitable alternatives to slash and burn for land clearing, combat drought and high temperatures and make salt affected lands useable for crop and small ruminant production are extremely important. Included among the range of SLM and CSA technologies that will be demonstrated are integrated pest management, integrated crop management, composting, manmade potholes (for establishment of tree crops within calcareous rock landscapes), mulching, forest restoration, seed priming, improved silvo-pasture systems based on native and other improved climate resilient forage species, shade house technology, hydroponics and aquaponics systems.

The project will take up approaches and relevant lessons from the regional GEF CSIDS-SOILCARE Project: Caribbean Small Island Developing States (SIDS) soil management initiative for Integrated Landscape Restoration and climate-resilient food systems. Professionals from the Ministry of Agriculture, BAMSI, BAIC, Department of Forestry, IICA and CARDI who will deliver extension and advisory services will participate in training programmes to build their capacity for service delivery across all technical areas of relevance to the project. The farmers and practitioners targeted under the project will be integrated into the capacity building programme; a key focus will be on capacity development of youth and women in the food production technology sector where it is anticipated that at *least 600 young women and men (50:50 ratio) will be trained* on integration of climate-smart agricultural approaches in new and existing production systems.

Component 3: Incentivizing uptake and replication of SLM and climate resilient agriculture.

This component will contribute to assisting farmers and associated producer groups accelerate adoption of practices that will reduce adverse environmental impacts and enhance resilience of agricultural systems through provision of direct incentives to realize support for livelihood enhancement.

Outcome 3.1: Communities contribute to develop, operationalize and, replicate gender sensitive business investment plans and market access mechanisms to support livelihood enhancement.

Output 3.1.1: Gender-sensitive business investment plans (inclusive of market access mechanisms), business development services and capacity building to facilitate enhanced production of agricultural and other value-added products from restored landscapes and access to markets made available to farmers and community groups.

Given the fact that some fiscal incentives currently offered tend not to couple SLM and climate resilience and enhanced sustainability of the project investments, the project will provide support to enterprise development for farmer/producer groups to encourage uptake of SLM/Climate-Smart Agriculture methods into production systems. Gender-sensitive *business investment plans (and market access options)* that are either commodity-specific or around a commodity cluster, produced using SLM methods that have good economic growth potential, will be developed by the consultants under the guidance of BAIC for recipient producer groups. Part of the market access element may include certification/branding for food and other commodities that are produced using low-carbon processes, low-water, and minimal agrochemical footprints. These plans will be informed by the application of tools such as the *Economics of Ecosystems and Biodiversity (TEEB/TEEBAgriFood),[42]* the *Economics of Land Degradation (ELD) Initiative [43]*, among others, so that costs of biodiversity/ecosystem degradation at the landscape level from poor practices may be considered, and investment in sustainable trade-offs that incorporate the value of ecosystem services and biodiversity are demonstrated. In this regard, specialist guidance will be sought from UNEP?s Ecosystem Services Economics Unit as needed. The *capacity building programme* for entrepreneurs will be built on existing initiatives of the Department of Agriculture and partners and targeted to grant beneficiaries. By measuring the time spent by women, girls, boys and men on unpaid work and care needs, including community and environment management work, it should be possible to provide adequate care services to children of farm families, for older persons and persons with disabilities and thereby support women farmers? time allocation to farm productivity. The multiplier effect of this is the strengthening of the care economy at the community level with training, health and sanitation protocols and support for women, girls, and youths to create self-employment, particularly in a pandemic as several persons have faced, and continue to face, unemployment challenges.

Technical support from BAMSI and BAIC will support skills enhancement, and capacity development for farmers. BAMSI is a science-based agriculture driven education institution. BAMSI will develop a curriculum to specifically address SLM and climate change related issues that limit the quality and quantity of products supplied to the market. Additionally, BAMSI will build on its own current model as a supplier in the market, to develop a market access plan for farmers. By improving its product, and accessing new markets, farmers will begin to consistently produce more of what the local market demands and at more favourable rates. BAIC?s support role in agri-business support is well-recognized by the business community and operators within the agriculture industry as business investment plan specialists. BAIC will develop *two gender-sensitive business investment plan templates,* to be used by farmers and processors. The first business template will be developed for farmers that can be used for preparing business plans when seeking financial assistance. The other will be designed for agro-

processors, who may also want to seek financial support to turn their investment plans into reality. These plans will be accompanied by training sessions for farmers and agro-processors to ensure that they know how to use the templates even beyond the life of the project. BAMSI and BAIC together will provide the prerequisites for farmers wishing to participate in the grant funding program (Output 3.1.2). Experts will be retained by the project to facilitate and provide technical support in the development of the investment plans as well as providing assistance in completing the necessary paper-work to ensure they meet the requirements of the grant facility that is being made available under the project.

Output 3.1.2: Grant mechanism made available to support eco-social business ventures [44][6] accessed by farmers and community groups.

Based on the guidance from the investment planning outputs, a *grants mechanism* will be established and made available to farmers and community groups to support the establishment of new SLM, and climate-smart agri-businesses, or to expand related existing businesses and encourage investment in land conservation-oriented/climate smart agricultural systems. The project will ensure that the grant mechanism will be linked to the wider COVID-19 recovery fiscal incentive framework under the *Accelerated Bahamas Recovery Plan*, and also ensure that it is coherent with *The Bahamas National Pathway for Food Systems Transformation in support of the 2030 Agenda* that has been articulated by the Government of The Bahamas (presented at the UN Food Systems Summit, September 2021).

These grants will be administered through existing lending facilities/mechanisms available through The Bahamas Development Bank (BDB). These grant mechanisms will be based on business and marketing principles, but specifically developed for applicants under the project. In the development of business plans and the grants mechanism, the private sector will be consulted and engaged in the context of product development and market opportunity. This effort will be facilitated by the Bahamas Agricultural and Industrial Corporation (BAIC) and Bahamas Agriculture and Marine Science Institute (BAMSI) both of which purchase products from farmers and market them to hotels and food stores. Supermarkets, hotels, restaurants and other entities engaged in purchasing agricultural products will be targeted to determine the criteria used in purchasing from local farmers. That information will be used, not only to develop the business development and marketing templates but also to obtain an appreciation for food safety and quality. With the training provided along with the grant mechanisms made available, it is anticipated there will be an uptake in farming activity and together with the technical information provided under Component 4.1) it is anticipated that agricultural productivity and total production is expected to increase by at least 25% and 40, respectively by the end of the project.

The BDB?s management of the grant is part of their co-financing and will also include support for the distribution and administration of grants to farmers. By the nature of its work BDB understands the agriculture industry, and the needs of farmers. As a financial institution, BDB has the software, hardware, experience, and the skill set to distribute, administer, monitor, evaluate, and build the relationships within the industry sector to offer financial support beyond the life the grants. Administration of grants will follow the bank?s funding policies, and as much as possible, reports will be provided to analytics inclusive of gender-sensitive data. Using guidelines approved by the Project Steering Committee (PSC), Submissions will be reviewed for recommendations of full, partial, or other funding. Farmers may be awarded amounts up to $50,000 to be used over a period not exceeding 1 year ? similar to other local funding sources. Farmers requiring an excess of $50,000 will be given an option to apply for other funding options available through BDB. Given the fact that US$700,000 has been made available under the project, it is anticipated that at least 14 grants will be awarded over the life of

the project. The project proponents and partner agencies, notably BAMSI, BAIC, BDB fully intend to incorporate the GEF project investment among the current investment offerings to support enterprise development, hence will be mainstreamed into existing institutional practice post-project.

A *capacity building programme* for entrepreneurs will be initiated by BAIC to assist farmers in meeting acceptable food safety standards for trade. The increased agricultural output expected from the various project interventions requires that innovative and creative business ventures are developed to add value to produce and increase marketability and returns. Preferably vertically integrated business models that ensure the participation of farmers and provide fair returns on their investments will be initiated. SLM practices under this capacity building element will be adopted at the policy level of the Ministry of Agriculture and integrated into the support agencies? financial and technical assistance policies to ensure that farmers who practice SLM will benefit from additional programs. Some investment packages already being offered by BDB for example provide access to financing for agricultural development in crop production and animal husbandry, as well as value-added processing. The Bank is currently supportive of several agricultural projects and is willing to work with farmers to tailor loans payments, including providing soft loans and eased equity requirements in alignment with harvest cycles and offer grace periods and waived normal collateral requirements.

Component 4: Enhancing monitoring and knowledge management systems for land degradation neutrality assessment and agricultural production system resilience assessment and tracking related GEB Indicators

This component focuses on enhancing science-based decision-making to support improved integrated landscape management based on the capability to evaluate land degradation and environmental status of productive agricultural landscapes and contribution to global environmental benefits (GEBs) through increased understanding and awareness of relevant environmental issues.

Outcome 4.1: Enhanced evidence-based decision-making to support evaluation toward land degradation neutrality and agricultural production resilience, and to assess the contribution to GEBs in productive agricultural landscapes.

Output 4.1.1: National Environmental-Agricultural Production Information System developed and accessible through multi-stakeholder operational platforms for use to improve decision making by technical professionals, farmers, practitioners and other stakeholders.

The project will contribute to further mainstreaming of environmental assessment and data gathering efforts into policy-level decision making and learning opportunities, not only within academia but also

among the beneficiary stakeholder community. The Department of Environmental Planning and Protection through its coordinating mandate, in partnership with the University of the Bahamas, will create avenues to extend the application of the outputs beyond the project through integration into the university curricula and promote long-term research based on the systems established under the project.

The project will contribute to the strengthening of the environmental-agricultural production data collection, management, analysis, reporting and dissemination capacity of The Bahamas through the *development and implementation of the National Environmental-Agricultural Production Information System*. It will capture information on the number of farmers, gender, number of fishermen, fishing location, number of extension officers, crop production, yield estimates, harvested areas, livestock, prices, number of boats, fish stocks, fish landings, land use and any other critical data elements; it will be designed to facilitate data input from farmers - for example, using cell phone/tablets, etc. Its development will utilise open-source resources such as PostgreSQL or MySQL and a web-based application that is capable of simultaneously connecting to several different data sources, has GIS data storage, analysis and reporting capability and will provide centralized scientifically reliable and independent information in real-time allowing stakeholders and policymakers to plan, manage, demonstrate and predict complex changes/trends in the Bahamian environmental, agricultural and landscape. The Information System?s development and implementation will be achieved through partnerships between the Ministry of Agriculture, Marine Resources and Family Island Affairs, the Ministry of Environment and Natural Resources and the University of The Bahamas and will be housed and managed by the University of The Bahamas, with data replication at the Department of Transformation and Digitization to ensure data security and continuity.

Output 4.1.2: Low-cost environmental/ agrometeorological systems for land resource degradation and agro-climatic assessment and accompanying capacity building designed and pilot-tested in six of the target islands by researchers, students, technical professionals and relevant community stakeholders for monitoring trends in land degradation, food system resilience and GEBs at multiple scales.

The proposed National Environmental-Agricultural Information System will also synthesize land/environmental-agrometeorological data collection, management and analysis to support agro-climatic and land resource degradation assessments; as well providing key data inputs to facilitate national reporting to UNCCD (and other frameworks). The system will widen the spatial coverage and temporal continuity in capture of *inter-alia,* rainfall and temperature data, extent and severity of land degradation, changes in area of land cover types over time, land productivity, carbon stocks and other critical data elements. Determination of the efficacy of LDN measures requires assessment of vegetative cover change resulting from land conversion and habitat fragmentation, land productivity change measured by net primary productivity (NPP), changes in ecosystem function and carbon stocks measured by soil organic carbon (SOC). The system will also integrate other relevant data such as public awareness and landscape interventions on to address land degradation and status toward achieving land degradation neutrality. The project will contribute to the *outfitting of 6 environmental/agrometeorological field stations* on the islands of New Providence, Grand Bahama, Abaco, Andros, Eleuthera, Cat Island and Long Island that will support land resource assessment and monitoring of trends in land degradation. These will be low-cost sensor systems to obtain

land/agricultural data (soil nutrients, water, etc.), meteorological data (temperature, humidity, rainfall, etc.) and ecological (soil type, soil fertility) data. These wireless ground-based field stations will be complemented by remote sensing networks to measure soil, vegetation and crop cover indicators and changes. The field stations will be designed utilising consultant support from the project and constructed with lead support/resources from the University of The Bahamas. The project will incorporate monitoring and reporting tools for land degradation developed by Trends Earth. Global standard guidelines for soil sampling will follow the guidelines from FAO?s Global Soil Laboratory Network (GLOSOLAN) under the Global Soil Partnership (GSP), notably the *Standard operating procedure for handling and preparation of soil samples for chemical and physical analyses*,[45] and other land degradation assessment resources available from FAO?s Soils Portal [46]. The project will *build capacity among stakeholders* with the development and delivery of courses and programs by the University of The Bahamas related to land degradation and land resource assessment that will include aspects on data collection, measurement, statistics, agroforestry, ecology, environmental science, remote sensing, data analysis, quality assurance and GIS applications. Citizen science approaches (and a process to contribute data to the information system) will be incorporated as appropriate and applicable, as a means to address the barrier of limited engagement among stakeholders in contributing to monitoring efforts. The system development and implementation will be achieved through partnerships (defined by an organizational operational protocol at project inception), between the Ministry of Agriculture, Marine Resources and Family Island Affairs, the Ministry of Environment and Natural Resources, The Bahamas Department of Meteorology and the University of The Bahamas. The current data collection mechanisms, being utilised by The Bahamas Department of Meteorology, will be expanded and enhanced to support data collection and management.

The project will incorporate monitoring and reporting tools for land degradation developed by Trends Earth [47]. The project will establish alliance with the GEO Land Degradation Neutrality Initiative (GEO LDN)[48][7], a highly relevant initiative that seeks to develop minimum data quality standards, analytical tools and capacity building needed to strengthen land degradation monitoring and reporting, using remote sensing and data collected on-site. The project will *build capacity among stakeholders* with the development and delivery of courses and programs by the University of the Bahamas related to land degradation and land resource assessment that will include aspects on data collection, measurement, statistics, agroforestry, ecology, environmental science, remote sensing, data analysis, quality assurance and GIS applications. Citizen science approaches, drawing on relevant emerging experiences with support tools such as LandPKS [49][8] among others, will be incorporated as appropriate and applicable, as a means to address the barrier of limited engagement among stakeholders in contributing to monitoring efforts.

Outcome 4.2: Increased understanding and awareness of relevant environmental issues among decision makers, farmers, the public, facilitate mainstreaming and scaling-up of project approaches and interventions.

Output 4.2.1 Knowledge Management Strategy and Plan and Communication Plan for the systematization, publication and dissemination of best practices/lessons learned, and

enhancement of awareness using innovative technologies and digital tools to support the scaling up and mainstreaming of interventions by target beneficiaries including policy and technical support professionals, practitioners, other beneficiaries.

A *Knowledge Management (KM) strategy* is a useful tool for capturing, storing and sharing knowledge so that lessons learnt from past experiences can be shared and applied to future projects. It allows for the project outputs and lessons to be captured and organized in a manner whereby they are easily accessible by beneficiaries. The Knowledge Management Strategy will provide a framework for the sharing of knowledge and the project?s plan to learn and implement lessons and experiences from previous projects and initiatives, assess the stakeholders? needs and determine the best-suited formats for the delivery of information to targeted beneficiaries and the best-suited opportunities for exchanges. The Strategy will be developed by the Education and Awareness Consultant during the project phase utilising the guidelines developed during the PPG phase (contained in Appendix 20, UNEP Project Document).

A *Communications Plan* will also be further elaborated using the guidelines developed during the PPG to craft clear messaging, to increase stakeholder awareness of the land degradation issues that are being addressed by the project, the work and outputs of the project and to solicit buy-in among intended direct and indirect beneficiaries and other stakeholders. The Communications Plan will build its profile in alignment with global agendas, notably the Sustainable Development Goals, the UN Decade for Ecosystem Restoration, and the Bonn Challenge.

The Communications Plan is intended to communicate the project objectives and associated actions to increase awareness among specific beneficiaries including farmers, farmers? groups, NGOs, CBOs, local communities and the public, about issues related to climate-smart agricultural approaches, sustainable land management and land degradation neutrality. The Knowledge Management Strategy and Plan will allow for the sharing of opportunities to foster the rising need for actionable knowledge on environmental change, increasing interest from the private sector in sustainability, the growth of technological platforms that reduce the transaction costs of knowledge sharing, and satisfy an increased overall demand for south-south knowledge exchanges between developing countries. It will define how all the project outputs and learning from implementation will be captured and organized so that they are easily accessible by beneficiaries and users. Communications will provide a focus on channels used to share messages while knowledge management focusses on the potential change and opportunities for growth catalysed by different types of shared messages. The Communications and Knowledge Management planning and strategy development will be predominantly the responsibility of the Education and Awareness Consultant with input from the Project Management Unit of the DEPP. Guidance for the development of the project Communications Plan is contained in Appendix 19 (UNEP Project Document).

Output 4.2.2: Suite of at least 15 specific public awareness resources, media outputs developed and made accessible for use by policy and technical support professionals, practitioners, other beneficiaries and wider civil society

The assemblage of knowledge products generated by the project will be stored in a digital project ?knowledge hub? on the data servers of the DEPP and made available through its website at https://www.depp.gov.bs/. Already the DEPP maintains a landing page for its projects. The new portal or hub created for this project will be accessible from the DEPP projects webpage with linkages to existing data management systems that the partner agencies already manage. This hub will be populated throughout the project. The hub will be directly linked to social media sites, and once information is uploaded to the site, it will be published to the relevant DEPP and partners social media platforms concurrently (in accordance with existing and new data management protocols to be established). The population of information will be the responsibility of the IT Consultant, with additional input from the Education and Awareness Consultant and the Project Unit of the DEPP. The hub will in include a suite of awareness resources comprising of *five (5) high quality short videos* documenting implementation of SLM/CSA technologies that have been applied under the project; a *three (3) set poster series* on how Bahamians are addressing SLM issues the context of which will be developed under the Communications Plan upon conception with guidance from the Communications Approaches developed under the PPG. The hub will also host recordings of workshops, training, materials shared, training manuals and the short video versions of the training manuals which address SLM/ CSA to be clearly defined in the Communications Plan. the *recordings of five (5) radio programmes* on bandwidths that are accessible through the Family islands discussing the topics of land degradation and the experiences of local farmers. It is anticipated that resources will be made available in all commonly used formats ranging from conventional printed materials such as booklets, leaflets, flyers and posters to electronic media products distributed via social media channels. While there has been an increase in the amount of persons who use online facilities during the pandemic, consultations and discussions with farmers have shown that there are still challenges associated with this related to cost, internet access and technical capacity to use devices among the older age brackets. Therefore, any approach to both communications and knowledge sharing needs to be diverse.

Output 4.2.3: Series of at least 10 knowledge sharing events for exchanging lessons learned, information dissemination and networking organized and facilitated for participation among policy and technical support professionals, practitioners and other beneficiaries.

The project will host a series of *seven (7) live in-person and three (3) online events* in support of the various project activities and feature how project investments are contributing to addressing land degradation. These events will build a platform to generate local and international partnerships to share lessons learned on addressing land degradation and upscaling these experiences. The events will utilize commemorative days such as World Water Day, International Mother Earth Day, World Environment Day, World Day to Combat Desertification and Drought, International Day of the Tropics, International Day for South-South Cooperation, World Food Day and World Soil Day, to profile lessons and successes gained during project implementation. It is intended that these days will be commemorated annually in The Bahamas. Associated with that data management aspect of the project, will be the convening of an *annual conference on environmental data management* in The Bahamas for network participants, government organizations, academic and research institutions, non-profit organizations, citizen science groups, and others. The Conference will be a collaborative effort between the IICA, DEPP and U of B. This will ensure that every sector mentioned above will be engaged and involved in

this project. These activities will be led by the U of B as part of its KM capacity building initiative. They will also receive support from the Capacity Building and Education and Awareness Consultant who will be attached to the Project Management Unit.

Output 4.2.4: Project monitoring and evaluation system operating providing systematic information on progress in meeting project outcome and output targets.

4.) Alignment with GEF focal area and/or impact program strategies

Land Degradation Focal Area:

LD-1-4 Reduce pressures on natural resources from competing land uses and increase resilience in the wider landscape: The project will introduce tangible and reproducible models of relevant SLM and regenerative CSA technologies and approaches for the restoration of degraded lands over 10,000 ha across the Bahamas. These interventions will be tailored to suite local conditions and are expected to be relatively low cost and not too onerous in order to facilitate fast and widespread adoption. The project is also seeking to improve waste management by streamlining of green waste to composting facilities and reduce the loading of available landfill capacity. Improved farming practices that seeks to improve soil nutrient management and promote the use of integrated pest management approaches will help to reduce the risk of ground water pollution and other negative environmental impacts such as biodiversity losses. The following is the project outcome aligned to this focal area objective:

Outcome 2.1: Effectiveness of SLM and regenerative climate smart agriculture practices demonstrated in Abaco, Andros, Cat Island, Eleuthera, Grand Bahama, Long Island and New Providence. Results documented and disseminated to key stakeholders for replication.

LD-2-5: Create enabling environments to support scaling up and mainstreaming of SLM and LDN: Building on the policy changes to promote better coordination and synergies among key agencies with various responsibilities for addressing land degradation, the project will seek to capture the lessons learnt from the various pilot demonstrations on various SLM-CSA technologies. These will be packaged into various knowledge products that will be used to support upscaling and mainstreaming SLM and LDN in the Bahamas. The following are the project outcomes that are aligned to this focal area objective:

Outcome 1.1: Three lead agencies with responsibility for land management in the Government of The Bahamas adopt an enhanced ILM decision making framework to achieve LDN in the longer term.

Outcome 2.2: Farmers and community producer groups trained and supported to adopt SLM and regenerative climate smart agricultural practices.

Outcome 3.1: Communities contribute to develop, operationalize and, replicate gender sensitive business investment plans and market access mechanisms to support livelihood enhancement.

Outcome 4.1: Enhanced evidence-based decision-making to support evaluation toward land degradation neutrality and agricultural production resilience and contribution to GEBs in productive agricultural landscapes.

Outcome 4.2: Increased understanding and awareness of relevant environmental issues among decision makers, farmers, the public, facilitate mainstreaming and scaling-up of project approaches and interventions.

5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing;

Table 10: Incremental Cost Reasoning and Expected Contributions from the Baseline

Baseline	Incremental Cost
Under the baseline scenario, the national physical development planning process across all sectors; agriculture, tourism, extractives, urban development and other commercial expansion, will not incorporate the integrated landscape management / sustainable land management approaches that are based on definition of land degradation neutrality or related land conservation targets. There will be a continued disconnect between managing land resources and the process to transition the methods of agricultural production to become more climate resilient. Development decisions at the policy level will continue to be based on a rather ad-hoc regime, where short-term pressures may supersede balancing development with conservation needs, without arriving at optimal compromise or sustainable utilization with dual development and conservation outcomes. Policy makers and technical advisory personal will not have the required tools to assist with decision making in this regard. Stakeholders outside governmental decision-making processes will not be sufficiently engaged in the consultative process toward creating policy and achieving land degradation neutrality and how livelihood opportunities in consideration of gender dimensions may be preserved and/or enhanced.	With the GEF incremental investment a new approach will be put in place that will blend Integrated Landscape Management and climate resilient food production that considers achieving land degradation neutrality within a strategic outlook and intersectoral operational framework. This will provide the basis for improving decision-making among policy makers based on the guidelines to be produced and used by responsible agencies in their planning and operational delivery. This will contribute to ensuring that land use decisions are made based on the best available information, increasing the possibility that decisions will have dual conservation and desired development impact. With the GEF investment, land degradation neutrality objectives will provide a basis to guide land use planning, assessment of trends in land degradation processes and lend to priority setting in targeting landscape areas for land degradation mitigation. The GEF investment will contribute to enhancement of stakeholder engagement in contribution to planning and development processes.

Baseline	Incremental Cost
Under a business-as-usual scenario there will continue to be limited adoption of good land and soil management practices with the outcome of increased land degradation and pollution of soil and water resources and impacts to downstream ecosystems. This will predispose productive landscapes to becoming more marginal for agriculture, particularly considering climate change impacts that leading sea level rise and aquifer and soil salinization. There will be limited opportunity to hasten the rate at which technical personal can deliver capacity to beneficiary stakeholders in assisting with reducing vulnerabilities in the agriculture sector to these threats, and there will be continued slow pace of adoption of climate-resilient agriculture if farmers are not incentivized. Opportunities to restore critical landscapes and enhance ecosystem resilience, and to generate national capacity and awareness for such activities, will not be realized. Under the business-as-usual scenario overall negative impacts will impact farming and fishing livelihoods, the tourism industry, and generally the country?s ability to adapt to climate change and other challenges (such as extreme weather events), to which it is highly vulnerable.	The GEF investment will contribute a suite of tools and approaches based on best practice that are already being applied in The Bahamas and in other countries in addressing land degradation and vulnerability in productive agricultural landscapes. The investment will contribute to support infrastructure to multiply planting material to be used in restorative actions in degraded landscapes and provide means to ameliorate and enhance soil productivity. On-field best practice oriented around nature-based solutions to be deployed will include, but not limited to agroforestry and intercropping systems, soil erosion control, drainage management, buffer strip, hedgerow and windbreak installations, zero to low-tillage field preparations, composting and mulching systems, soil amelioration and low-water irrigation application. More efficient agrochemical use and biological control alternatives particularly where water resources and sensitive ecosystems may be threatened, will be applied. Under the GEF increment, farmers, with emphasis on women and youth, will be incentivized to invest in SLM and climate smart agriculture through a proposed grant mechanism that will be administered through existing credit mechanism(s). All these approaches will be supported through capacity building to guide adoption and replication toward sustainability of practice.

Baseline	Incremental Cost
Without the GEF investment, capacity for conduct of monitoring and assessments on trends in land degradation and SLM practice will remain weak; where monitoring does occur, it will continue to be confined within narrow sectoral needs and based on project-driven requirements. Agriculture monitoring and research will continue be targeted more towards production target assessments and employment statistics. There will continue to be an inability to assess efficacy of investments in SLM and climate-smart agriculture (CSA), and to adequately assess contributions to local and global environmental benefits. In general, there will be limited uptake for mainstreaming within broader national accounts. Without the project investment, there will continue to be limited in-field capability to systematically collect data, particularly for monitoring land degradation trends, how climate change is affecting hydrological relations and changes in soil condition that has important implications in the context of assessing agricultural land productivity potential. Beneficiaries will continue to have limited engagement in contributing to knowledge management systems and consequently will have little awareness and interest in potential applications.	The GEF investment will strengthen science-based decision-making to support improved integrated landscape management, based on capability to evaluate land degradation and environmental status of productive agricultural landscapes and contribution to global environmental benefits. The GEF investment will contribute to enhancement of assessment tools and field methods, and build the capacities among researchers, technical professionals, beneficiary and community stakeholders to employ these tools and methodologies with inclusion of citizen science approaches. A knowledge management system that pools the learning from all the project components and the scientific contributions will be put in place to facilitate publication and dissemination of best practices and lessons learned. The project will expand overall awareness and contribute to buy-in among stakeholders to realizing land degradation neutrality and achieving climate resilience in the agricultural sector.

6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF);

The project will generate the following benefits:

? 10,000 hectares of productive landscapes restored and under improved SLM (incorporating climate-resilient agriculture) in Abaco, Andros Island, Cat Island, Eleuthera, Grand Bahama, Long Island and New Providence that will contribute to enhanced adaptation to climate change through decreased vulnerability to land degradation induced by extreme weather events and longer-term climate change stressors, and reduced land-based pollution to ground water and coastal ecosystems;

? 17,300 hectares of additional productive landscapes under SLM practices with benefits of enhanced climate resilience through strengthened policy, regulatory and institutional arrangements and built capacities;

? 3,927,880 tonnes CO2eq greenhouse gas emissions mitigated through incorporation of improved cropping and agroforestry systems and enhanced carbon sequestration into soils within productive landscapes (CO2 sequestration;

? Improved socio-economic returns from improved land productivity.

Table11: Environmental Benefits to Be Realized for Each Project Component

Components	Global Environment Benefits
Component 1: Strengthening the enabling environment for achievement of land degradation neutrality through improved policy and governance	Addressing the national governance framework will enable implementation of necessary actions to achieve land degradation neutrality that will contribute to global environmental benefits. This work will be framed in the global aspiration specifically to Sustainable Development Goal 15 to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat land degradation and desertification, and halt and reverse land degradation and halt biodiversity loss. The strengthened national enabling framework will be consistent with the strategic objectives of the UNCCD 2018?2030 Strategic Framework [50], and in the context of delivering on GEBs, will be aligned to Strategic Objective 4. In this respect it is anticipated that national policy will be shaped under the project through the development and adoption of an ILM Strategy and accompanying ISOF that will be the basis for implementation of ILM that seeks to realize co-benefits in terms of conserving ecosystem services, safeguarding biodiversity and providing expanded livelihood opportunities. This Strategy will incorporate the update of the UNCCD National Action Programme and voluntary LDN target-setting to guide national action that will contribute quantifiably to global commitments and the aligned UNCCD NAP.

Component 2: Demonstration of regenerative agriculture and resilient food production systems, practices and technologies	The landscape restorative measures proposed under the project will be in line with strategic global directions under the UNCCD 2018-2030 Strategic Plan, with alignments to Strategic Objective 1: To improve the condition of affected ecosystems, Strategic Objective 2: To improve the living conditions of affected populations and Strategic Objective 3: To mitigate, adapt to, and manage the effects of drought in order to enhance resilience of vulnerable populations and ecosystems. The landscape restorative measures over 10,000 hectares, and an additional 27000 hectareas adopting SLM will incorporate nature-based solutions yielding multiple co-benefits that include adaptation to climate change impacts and contribution to climate chance mitigation through enhanced carbon sequestration. In the target islands several endemic species of global significance such as the Nassau grouper, Bahama Parrot, Bahama oriole, Bahama nuthatch, Bahama swallow, Bahamian pygmy boa among others that will benefit from restorative measures. This will be aligned to the proposed Post-2020 Global Biodiversity Framework in relation to Goal D where nature provides benefits to people in terms of improvements in nutrition and improvements in resilience to natural disasters. The measures will contribute at a global level to efforts to reduce greenhouse gas emissions through increased carbon sequestration via incorporation of agroforestry systems and improved soil management to preserve soil carbon. The project will contribute to the global commitment under SDG15 to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. The project will advance contributions to the global commitment under the UN Decade of Ecosystem Restoration.

Component 3: Incentivizing uptake and replication of SLM and climate resilient agriculture	The approach to be adopted in this project will catalyze processes needed to assist small and medium-sized enterprises (SMEs) in the agricultural sector enhance and develop new business opportunities, through more sustainable supply chains that create stable revenues that are based on integration of SLM and restorative agriculture, to maintain the integrity of ecosystems, and contribute at a broad level to achieving GEBs (alluded to under Component 2). The approach emulates the GEF7 private sector engagement strategy and the land degradation focal area strategy that recognizes the importance of enhancing sustainability of agricultural commodity supply chains for achieving land degradation neutrality and empathizes that there must be commitment among farmer/smallholder enterprises, facilitated by mutually beneficial engagement with the private sector in realizing GEBs. The project will contribute positively to uplifting local livelihoods, considering gender balance through enterprise development opportunity, enhancing living conditions among direct beneficiaries. In this regard, the component fosters alignment with global commitments under SDG 5 that seeks to achieve gender equality and empower all women and girls; of direct relevance to this project is in respect to SDG Target 5a whereby reforms in agribusiness development will support equity in access to economic resources by women. Again, this approach is well-aligned to the proposed Post-2020 Global Biodiversity Framework in relation to Goal D that speaks to accrual of benefits to people in terms of improvements in nutrition and improvements in resilience to natural disasters.
Component 4: Enhancing monitoring and knowledge management systems for land degradation neutrality assessment and agricultural production system resilience assessment and tracking related GEB Indicators.	Expanding the evidence base through strengthened monitoring systems will improve the quality of decision making by policy makers and lead to better choices by stakeholders in managing land and ecosystem resources under their stewardship contributing to overall global benefits. The project will contribute to the capability to evaluate land degradation and environmental status of productive agricultural landscapes, contributing to the basis for determining progress toward safeguarding and enhancing GEBs in line with the UNCCD 2018-2030 Strategic Plan and the Post-2020 Global Biodiversity Framework. Under the UNCCD Strategy 2018-2030 relevant global indicators include assessment of trends in land productivity or functioning of the land, and trends in carbon stocks above and below ground. Knowledge management systems will be put in place to facilitate publication and dissemination of best practices and lessons to stakeholders from local to global levels, to encourage uptake and replication of the approaches applied in this project.

7) Innovation, sustainability and potential for scaling up.

Innovation: The project will contribute innovative approaches to Integrated Landscape Management that takes into account climate resilience with key focus on the agriculture sector that is of critical importance to economic development and sustainability of rural livelihoods in the country. The Bahamas has been affected by catastrophic hurricanes in recent years, bringing into sharp focus the urgent need to adopt measures that enhances resilience of landscapes and maintain productivity, in the face of climate change. The recent COVID19 Pandemic has further exposed the vulnerabilities of the economy of the country that is extremely reliant on tourism, underscoring the need to diversity the economic base through investment in other sectors such as agriculture. The project intends to introduce innovation in policy and planning processes that specifically addresses sustainable land management and ensures that it becomes mainstreamed into wider national development planning frameworks under the guide of an ILM Strategy to be produced under the project. Opportunity for innovation will be gained by investing in climate resilient agriculture, which at a global level, is a high-priority issue as climate change directly threatens means of food production and food security. The project will employ a combination of nature-based solutions and climate smart agricultural production practices that will help ameliorate soils, conserve water resources, reduce degradation and pollution, enhance carbon sequestration and conserve biodiversity. The project will build on innovation in initiatives already underway through GEF investments, such as under *The Bahamas Pine Islands Project* and the *Meeting the Challenge of 2020 in The Bahamas Project,* that both have significant emphasis on carbon storage through improved terrestrial and marine ecosystem management. Innovation in scientific assessment and knowledge management systems will be introduced in this project with the establishment of state-of-art field data stations to collect agrometeorological, soil and other ecological data that is to feed into policy and technical responses.

Sustainability: Long-term institutional sustainability of the project outputs will be built around establishment of the ILM Strategy and associated inter-sectoral operational framework as a platform that fosters integrated landscape planning and management in the country. This framework will reduce

the extent to which decision making fragmented and made in an ad-hoc manner as pertains to land resources management. This project will complement other related GEF and non-GEF interventions that aim to better structure policy and decision making in this regard. A key means to enhance sustainability of the on-ground interventions to enhance climate resilience in agricultural production systems will be through financial incentivization. This will entail the establishment of a grant mechanism and business service support that will facilitate more business-oriented agricultural production to foster agricultural enterprises that integrate SLM and nature-based solutions that ensure adverse impacts is reduced along the production cycle. This business support contribution by the project will be integrated within existing enterprise support platforms in order to better guarantee sustainability of results. The Bahamas Development Bank for example offers investment packages for financing of agri-business projects and tailors its offerings and options (with soft loans, waived normal collateral requirements, eased equity requirements, grace periods) to facilitate investor needs and capabilities. The project?s grant mechanism will contribute to this programme with integrating the SLM/CSA elements and will seek assurance that the financing windows to retain these environmental considerations will remain after the project closes. The project will cement collaborative partnerships among the agencies that will be involved in the project and will contribute to enhancement of the institutional support services as relevant. This will also importantly help to build capacity of the direct beneficiaries to adopt and carry forward the outputs of the project. An approach will be developed for sustainability of the data collection platform, that will be built under the project in partnership with the collaborating network of national agencies, researchers, and development partners. The inter-sectoral ILM Strategy and Framework will be institutionalized principally within the mandate of the Department of Environmental Planning and Protection, that includes a multi-sectoral planning and development convening function within its governing legislative and policy framework. It is within this mechanism that project continuity and scale up will be assured. Sustainability will be enhanced through the institutionalization of capacity building opportunities within existing programmes with mandated government agencies and partner organizations. The University of the Bahamas as an indigenous entity will play a key role in this regard.

The scaling ? up potential: The prospect for replication of project outputs and results in other islands in The Bahamas and to other SIDS is highly likely. The vulnerability of the country due to its location within the more actively traversed sector of the Atlantic Hurricane belt and the fact that it is a low-lying oceanic state renders it as a good candidate to be a demonstration of the best practice models and experiences to the wider Caribbean region and to the SIDS group of nations that share similar vulnerabilities. The innovation in tools and methods to enhance local technical capacity among producers and land users, and among technical support staff in government and allied agencies will be an essential aspect to successful scaling up, and it is expected that persons trained will serve as resource persons to exchange experiences and knowledge within the country and in the wider Caribbean. The Department of Environmental Protection and Planning (DEPP) will exercise its cross-cutting mandate within government to facilitate scaling up of the successes of the project throughout the country, in close technical and policy cooperation with the Ministry of Agriculture, also in collaboration with the Land Administration Unit of that same ministry. The DEPP will maintain the policy-level convening

platform under the ILM Framework, while the Ministry of Agriculture will play the role in on-ground policy execution.

Through Component 4, the project will disseminate key achievements and lessons learned to facilitate the uptake of applied technologies and approaches. The project will extend reach to the CARICOM Secretariat and the Caribbean Community Climate Change Centre (CCCCC) to contribute knowledge and sharing for policy development work across the region and to encourage technical exchange. The Partnership for Sustainable Land Management (PISLM) is an important regional mechanism to support knowledge dissemination and upscaling in the Caribbean. Of note, the project will make contributions to the Caribbean Land-Soil Outlook, 2030 that will enable the sharing and exchange of the knowledge generated with countries that are not directly participating in the SOILCARE project. The project will contribute to scaling-up at the global level with relevance to SIDS, where tools and methods available through knowledge hubs such as WOCAT and Trends Earth will be applied, and lessons learned are contributed to global efforts in assessing, monitoring and arresting land degradation. Limited information has been shared to the UNCCD?s Knowledge Hub from The Bahamas, and this project will provide an outlet for the development of knowledge products in line with those shared on their Knowledge Hub in the form of articles, web resources, news articles and audio-visual materials.

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[2] Esteve, C. P. 2021. MAMR Agricultural Strategy and Action Plan Consultancy. Activity A: Current Situation Analysis. Draft. Bahamas Ministry of Agriculture and Natural Resources (MAMR).

[3] Foos & Bain, 1995).

[4] IDB (2020). Impact of Hurricane Dorian in The Bahamas: A View from the Sky

[5] World Database of Key Biodiversity Areas http://www.keybiodiversityareas.org/site/mapsearch

[6] Department of Statistics, Government of the Bahamas

[7] Bahamas Investment Authority

[8] World Bank, 2017

[9] The Bahamas Country Profile - Climate Change and Agriculture: Policies, strategies, and actions (IICA, 2017)

[10] The NAP to Combat Land Degradation in The Bahamas (2006) https://knowledge.unccd.int/sites/default/files/naps/bahamas-eng2006.pdf

[11] Diagnostic and Prioritization of Sectors for Boutique Agriculture - Road Mapping and Gap Analysis Report, IDB, 2019

[12] The National Food and Nutrition Security Policy and Agenda for Action, Government of The Bahamas, FAO, 2017

[13] The spatial extents are being quantified under the GEF Bahamas Pine Islands Project.

[14] The Bahamas and FAO, Building resilience and sustainable food and nutrition security

[15] The National Food and Nutrition Security Policy and Agenda for Action, Government of The Bahamas, FAO, 2017

[16] The Bahamas Country Note: Impact of COVID-19 and policy options, UNDP (2020) https://www.latinamerica.undp.org/content/dam/rblac/Policy%20Papers%20COVID%2019/undp-rblac-CD19-PDS-Number16-Bahamas-EN.pdf

[17] https://www.vision2040bahamas.org/media/uploads/2nd_Working_Draft_of_the_NDP_website_30.11.17c.pdf

[18] UNCCD NAP to combat land degradation in The Bahamas.

[19] Soil Test Procedures for Calcareous Rockland Soils of The Bahamas https://www.umes.edu/uploadedFiles/_WEBSITES/ARD/Content/bahamian%20soil%20test%20bulletin.pdf

[20] Soil and Land Resources of The Bahamas https://www.bahamas.gov.bs/wps/wcm/connect/28b10019-6c14-4982-b90f-0fdfb316c2bd/Soil+and+Land+Resources+of+The+Bahamas+(1).pdf?MOD=AJPERES&CACHEID=28b10019-6c14-4982-b90f-0fdfb316c2bd

[21] https://knowledge.unccd.int/sites/default/files/naps/bahamas-eng2006.pdf

[22] https://www.greengrowthknowledge.org/national-documents/bahamas-national-policy-adaptation-climate-change

[23] https://www.sam.usace.army.mil/Portals/46/docs/military/engineering/docs/WRA/Bahamas/BAHAMAS1WRA.pdf

[24] https://wsc.com.bs/wp-content/uploads/2020/01/The-Water-Resources-of-The-Bahamas-1.pdf

[25] http://documents1.worldbank.org/curated/en/156401468136816684/pdf/wps4136.pdf

[26] Countries under consideration: Egypt, Suriname, The Bahamas, Argentina, Jamaica, Mexico, Myanmar, Guyana, Taiwan

[27] Climate Change Policy and Adaptation Strategy for the Agriculture and Marine Resource Sectors (2017)

[28]https://publications.iadb.org/publications/english/document/Impact_of_Hurricane_Dorian_in_The_Bahamas_A_View_from_the_Sky.pdf

[29] https://reliefweb.int/report/bahamas/minister-pintard-hurricane-dorian-caused-agriculture-and-marine-industry-over-60

[30] https://climateknowledgeportal.worldbank.org/country/bahamas/climate-data-projections

[31] Source: https://climateknowledgeportal.worldbank.org/country/bahamas

[32] The ?Family islands? refer to the Bahamian islands excluding New Providence and Grand Bahama

[33] Categorization of high technology infusion into agricultural systems. See https://www.worldgovernmentsummit.org/api/publications/document?id=95df8ac4-e97c-6578-b2f8-ff0000a7ddb6

[34] http://www.fao.org/jamaica-bahamas-and-belize/programmes-and-projects/en/

[35] https://summitdialogues.org/wp-content/uploads/2021/09/Bahamas-National-Pathway-UNFSSD-2.pdf

[36] http://www.fao.org/3/ca8474en/CA8474EN.pdf

[37] https://knowledge.unccd.int/sites/default/files/naps/bahamas-eng2006.pdf

[38] https://catalogue.unccd.int/1224_UNCCD_LDN_TPP_technical_guide_GM.pdf

[39] https://www.stapgef.org/resources/advisory-documents/guidelines-land-degradation-neutrality

[40]With the passage of Hurricane Dorian in September 2019, it was estimated that some 42,008 ha of Caribbean Pine was catastrophically impacted due to extreme winds and seawater inundation on Abaco (13,563 ha) and Grand Bahama (28,445 ha). The Government, through the Forestry Department, is conducting salvage operations to move the material to reduce fire risk and potential proliferation of pests that may pose risk to standing and regenerating forests, and adjacent agricultural production areas (source: Forestry Unit).

[41] https://www.wocat.net/en/about

[42] http://www.teebweb.org/

[43] https://landportal.org/es/organization/economics-land-degradation-initiative

[44] Businesses with ecological focus with social benefits

[45] http://www.fao.org/3/ca8283en/ca8283en.pdf

[46] https://www.fao.org/soils-portal/data-hub/en/

[47] http://trends.earth/docs/en/index.html

[48] https://earthobservations.org/geo_ldn.php

[49] https://landpotential.org/

[50] https://www.unccd.int/sites/default/files/inline-files/ICCD_COP%2813%29_L.18-1716078E_1.pdf

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

Figure 4: Map of the Bahamas

The project will focus on the primary agricultural production landscapes of The Bahamas, specifically on islands of Abaco, Andros Island, Cat Island, Eleuthera, Grand Bahama, Long Island and New Providence. Refer to Annex D for detailed profiles of each island.

1c. Child Project?

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

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Throughout the preparation of the full-sized project proposal stakeholders have been consulted, both in groups and individually in gathering information to identify challenges that could potentially hinder the realisation of intended results. However, more significantly, their engagement was to seek their input in identifying project priorities, particularly as it related to areas where they have a direct interest as a potential beneficiary or where they have agreed, to partner with DEPP in the implementation of the project.

Among the key stakeholder groups (farmers associations, cooperatives, and non-profit organizations) were farmers and agro-processors, all of which are involved in the rural agricultural development sector. Given the importance of women to the farming community in The Bahamas, and the need to ensure gender balance, the Bahamas Network of Rural Women Producers (BAHNROP), a chapter of the regional organization the Caribbean Network of Rural Women Producers (CANROP) was consulted for their input both as beneficiaries and co-financier during project implementation. Several other groups, with whom IICA has interacted over the years were also engaged in the consultation process. They included the Bahamas Agricultural Entrepreneurs Cooperative, the One Eleuthera Foundation (OEF), Blue Field Farms (Aquaponics Research Centre), the Grand Bahama Beekeepers Cooperative, and the Cat Islands Farmers Association. Private sector and sector development partners also included the Bahamas National Trust (BNT), the Small Business Development Centre, the Inter-American Development Bank, the Bahamas Development Bank and the Caribbean Agricultural Research and Development Institute (CARDI). Private sector engagement included Sysco Bahamas (Bahamas Food Service), Super Value, Solomons Fresh Market, Budget Meats, Atlantis Resort and Baha Mar Resort.

Consultations with stakeholders at various levels during the PIF development and PPG phases considered their needs and priorities. The budgetary allocations and capacity building components of the project reflect those considerations. Provisions are made to address certain capacity limitations particularly among government agencies both during and post-project. The project will support key stakeholders with the necessary training, equipment and technical support that will not only assist them to meet project objectives but to increase their institutional capacities to effectively deliver on their respective overall mandates.

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 that are active or present in the influence of the project are represented in project decision-making and in interventions that 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.

Following UNEP?s guidelines, a stakeholder engagement planning guidance document was prepared (Appendix 21 of the UNEP project document). More importantly, the engagement of stakeholders was a continuous and ongoing exercise during the PPG phase and will continue during the implementation phase. Also of note was the use of the SRIF as a screening tool to identify, risks, associated with the implementation of the project as well as to determine the extent to which any marginalized persons, women and other social and environmental issues would be impacted by the project. While it was acknowledged that there are some moderate risks, particularly of a climate variability type (e.g., hurricanes, increasing temperatures and drought), the ongoing Covid-19 pandemic, and ongoing issues regarding security of land tenure, were discussed and initiatives designed in the project to alleviate and mitigate those impending conditions. The establishment of the Grievance Mechanism under the PSC will further serve to create avenues where disputes relating to the implementation of the project can be addressed.

Table 12: Project stakeholders and their roles in project implementation

Stakeholders	Current Role	Roles in Project Implementation
Dept. of Environmental Planning & Protection (DEPP)	Lead in environmental resource management in The Bahamas with focus on pollution prevention/control, regulation of activities, administration, conservation and sustainable use of the environment.	The DEPP will be the project Executing Agency and will lead and coordinate the development of the project with stakeholders and as Operational Focal Point will be the liaison with UNEP and GEF. The DEPP will provide overall project management on a day-to-day basis, guiding all project interventions [***All outputs]***

Stakeholders	Current Role	Roles in Project Implementation
Ministry of Agriculture, Marine Resources and Family Island Affairs	Responsible for agricultural policy, administration and planning, public markets and agricultural land leases and a combination of six government departments and autonomous bodies including BAMSI, BAIC, BAHFSA, Department of Marine Resources (DMR), DOA, Department of Cooperative Development (DOC).	Partner, stakeholder and co-financer. Provided guidance on policy and regulatory elements related to sustainable development of the agriculture and fisheries sectors and determine pathways for enhancing sustainability. High-level policy guidance on cross-sectoral integration. ***[All Outputs]***
Forestry Unit	Responsible for management, conservation, control and development of forest, demarcating and maintaining forest boundaries and the design and implementation of forest restoration initiatives.	Partner, stakeholder and co-financer. Provide expert advice on integration of forestry and agro-forestry systems in sustainable agriculture and sustainable land management for nature-based restorative solutions. ***[Outputs 1.1.1, 1.1.2, 2.1.1, 2.2.1, 3.1.1]***
Department of Agriculture	Responsible for agriculture, food production, agricultural marketing, horticulture, food quality control, Potters Cay Dock, plant protection, veterinary services, public markets and agricultural lands	Partner, stakeholder and co-financer. Technical guidance in the identification of a suite of climate-smart solutions, infrastructure requirements for restorative measures. Inputs on policy directions related to the incorporation of sustainable land management and enhancing enterprise development. ***[All Outputs]***
Department of Physical Planning	Provide land use, town and country planning framework for proper management of change in physical environment and facilitate participation and education of the public regarding Planning issues.	Consultative Stakeholder. Policy guidance on land management and integration across other development sectors. ***[Outputs 1.1.1, 1.1.2, 4.1.1]***
Department of Gender and Family Affairs	Coordinate, advocate and inform policy for and on behalf of women and girls, men and boys in The Bahamas	Consultative Stakeholder. Advisory role in ensuring gender considerations and safeguards are adequately built into the project design. ***[Outputs 2.2.1, 3.1.1, 3.1.2]***
University of The Bahamas	Advance and expand access to higher education, promote academic freedom, drive national development and build character through teaching, learning, research, scholarship and service in The Bahamas	Partner, stakeholder and co-financer. Primary responsibility for establishing, outfitting and managing the environmental/ agrometeorological systems as well as providing training in data gathering and interpretation. ***[Outputs 1.1.1, 1.1.2, 2.2.1, 4.1.1, 4.1.2, 4.2.1, 4.2.2. 4.2.3]***

Stakeholders	Current Role	Roles in Project Implementation
Bahamas Agriculture and Marine Science Institute (BAMSI)	Provision of tertiary level training to support agriculture and Marine resource management for the Bahamas, management of the Associated Farmers Program (AFP), Operation and maintenance of model demonstration farms to support technology transfer.	Partner, stakeholder and co-financer. Guidance in design of the enterprise development and capacity building aspects of the project. Incorporate experience from its research and demonstration facilities to design the climate-smart agriculture solutions. ***[Outputs 3.1.1, 3.1.2]***
Bahamas Agricultural and Industrial Corporation (BAIC)	Stimulate creation, expansion and promotion of SME Bahamian businesses developing profitable opportunities for domestic and international trade through research and feasibility studies, industrial land/industrial parks for lease, access to development funding, access to buyer markets, and business monitoring and evaluation.	Partner, stakeholder and co-financer. Guidance in design of the enterprise development (business plans) aspects of the project to include commodity marketing options. ***[Outputs 3.1.1, 3.1.2]***
Bahamas Development Bank (BDB)	Financial provider for promoting industrial, agriculture and commercial development, facilitating participation in approved enterprises while stimulating and enhancing the economic development of The Bahamas	Partner, stakeholder and co-financer. Consultative inputs on modalities for establishment and operation of the proposed financial grant mechanism. ***[Outputs 3.1.1, 3.1.2]***
Bahamas Agripreneur National Farmer group	Promotion of farming and agribusiness development in The Bahamas	Consultative partner and co-financier. Assist with engagement of farmers and solicit inputs to the project design. ***[Outputs 2.1.1, 2.2.1, 3.1.1, 3.1.2, 4.1.2]***
Bahamas Network for Rural Women Producers (BAHNROP)	Network of local craftswomen promoting local handicraft, financially empowering Bahamian women to strengthen rural communities.	Consultative partner and co-financier. Guidance and support for engaging with women farmers and producers on Andros, Cat Island and Eleuthera via their chapters on these islands. IICA is the secretariat for BAHNROP ***[Outputs 2.1.1, 2.2.1, 3.1.1, 3.1.2, 4.1.2]***
Cat Island Farmers Association	Responsible for advancing agricultural development on Cat Island through the consolidation efforts and representing the interests of small farmers to secure technical support and funding.	Stakeholder and co-financier. Consultative inputs to design of proposed SLM practices in agriculture and required technical support. ***[Outputs 2.1.1, 2.2.1, 3.1.1, 3.1.2, 4.1.2]***

Stakeholders	Current Role	Roles in Project Implementation
<u>Private sector (SME); other farmer/producer groups:</u> ? Caribbean Network of Rural Women Producers (CANROP) ? Bahamas Agricultural Entrepreneurs Cooperative ? Blue Field Farms (Aquaponics Research Centre), ? Grand Bahama Beekeepers Cooperative.	As umbrella organizations, provide a range of services aimed at improving the livelihood of their members by providing training, cultural exchange, networking and trade promotion.	Consultative inputs to the design of proposed SLM practices in agriculture and required technical support; challenges in accessing agricultural lands, sustainable financing and management efficiencies. ***[Outputs 2.1.1, 2.2.1, 3.1.1, 3.1.2, 4.1.2]***
<u>Private sector; larger commercial</u> ? Sysco Bahamas (Bahamas Food Service) ? Super Value ? Solomons Fresh Market ? Budget Meats ? Green Systems Bahamas Limited ? FoodPost Farms ? Atlantis Resort ? Baha Mar Resort	Private sector interests; food wholesale and retail across the country; recycling/compost management. Major investors in the hospitality sector.	Stakeholder. Consultative inputs in agribusiness support, partnership building with agribusiness grantees in facilitating/enhancing market access for commodities produced under CSA/SLM practices ***[Outputs 2.2.1, 3.1.1, 3.1.2, 4.2.3]***
Cat Island Conservation Institute	Promotes community in the conservation of the natural resources of Cat Island. Ongoing projects aim to restore and manage threatened coral reefs, monitor ecosystem health and build local capacity for co-management of protected areas.	Stakeholder. Consultative inputs to design of proposed monitoring systems and avenues for youth and community participation through evidence-based knowledge and participatory science. ***[Outputs 2.1.1, 2.2.1, 4.1.1, 4.1.2]***

Stakeholders	Current Role	Roles in Project Implementation
One Eleuthera Foundation	Provides support for the sustainable development of Eleuthera through various projects that enhance the economic, educational and environmental development and the health and heritage of residents. Demonstration of novel CSA on site and through extension support to farmers on crop and livestock production, business development support for start-ups and online training platforms are core components of the OEF program.	Stakeholder and co-financier. Provide logistical guidance and assist in making the connections with stakeholders on the island of Eleuthera [***Outputs 2.1.1, 2.2.1, 4.1.2, 4.2.3]***
Friends of the Environment, Abaco	Provides opportunities for student internships in the environmental field, support environmental education and awareness among school-aged groups, engage with the local communities the Sustainable Livelihoods program which commenced in 2020 to provide local support following Hurricane Dorian, and working with various partners to promote environmental awareness and implement GEF small programs on Abaco.	Stakeholder. Provided guidance and information related to the channels of communications and knowledge sharing ? both opportunities and challenges ? within the context of the communities of Abaco. ***[Outputs 4.2.1, 4.2.2, 4.2.3]***
Inter-American Institute for Cooperation on Agriculture (IICA)	Supports The Bahamas (via national office) to achieve agricultural development and rural well-being through provision of cooperation services in technology and innovation for agriculture, agricultural health, food safety and quality, international agricultural trade, family farming, rural development, natural resource management and the bioeconomy.	Partner executing agency and co-financier. Technical guidance on proposed SLM/climate-smart agricultural solutions and agency roles in technical support to the project. ***[Outputs 1.1.1, 2.1.1, 2.2.1, 4.2.1, 4.2.2. 4.2.3]***
Caribbean Agricultural Research and Development Institute (CARDI)	Responsible for providing technical support for agricultural research and development with a focus on crop production and small ruminants to enhance food security and climate resilience.	Partner executing agency and co-financier. Technical guidance on proposed SLM/climate-smart agricultural solutions and agency roles in technical support to the project. ***[Outputs 2.1.1, 2.2.1, 4.2.1, 4.2.2. 4.2.3]***

Stakeholders	Current Role	Roles in Project Implementation
Food and Agriculture Organization (FAO)	Supports the Ministry of Agriculture in developing a food and nutrition security policy, the introduction CSA technologies including aquaculture and aquaponic systems and restoration of fisheries-related livelihoods post Hurricane Dorian	Technical guidance on proposed SLM/climate-smart agricultural solutions and agency roles in technical support to the project. ***[Outputs 2.1.1, 2.2.1, 4.2.1, 4.2.2. 4.2.3]***
Partnership Initiative for Sustainable Land Management (PISLM)	Serves as a mechanism to facilitate exchange of experiences and good land management practices between several Caribbean countries. It also serves as a mechanism for stimulating the replication of various approaches, tools and methodologies throughout the Caribbean.	Partner, stakeholder and co-financer. Guidance and regional cooperation support in component design and execution in translating the UNCCD NAP and LDN framework to national policy and roles in knowledge dissemination to the wider Caribbean. ***[Outputs 4.2.1, 4.2.2, 4.2.3]***
The Nature Conservancy	Works in promoting the designation of protected areas, economic valuations of the ecosystems, promotion of projects that provide sustainable fisheries, acquisition of ecolabel certifications for fisheries, and working with local partners to promote education and environmental awareness within communities.	Partner. Provided guidance channels of communications and knowledge sharing within The Bahamas with particular emphasis on the Family Islands and the potential roles of on the ground environmental awareness partners in the promotion of the awareness and local training. ***[Outputs 4.2.1, 4.2.2, 4.2.3]***

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

The stakeholder engagement activities related to individual project components as well as project management activities are presented in **Table 5**.

Table 5: Stakeholder analysis matrix

Project Output	Stakeholder engagement activity	Methodology	Timing	Stakeholder involved
Outcome 1.1 Three lead agencies with responsibility for land management in the Government of The Bahamas adopt an enhanced ILM decision making framework to achieve LDN in the longer term.				
Output 1.1.1: Advisory and support services, including capacity building, to develop and implement an Integrated Land Management Strategy, and Inter-Sectoral Operational Framework to achieve LDN in the Bahamas provided to selected personnel from at least 3 lead national agencies with responsibility for agricultural/rural land management.	? Activity 1.1.1.1.: Develop, approve and operationalize an ILM Strategy (and aligned NAP) and Inter-Sectoral Operational Framework ? Activity 1.1.1.2: Conduct strategy and inter-sectoral operational framework training for three lead agencies.	1.1.1.1.: Inter-departmental meetings, Focus Group Discussions, Consultation meetings 1.1.1.2.: Training sessions, workshops	1.1.1.1: PY 1-2 1.1.1.2: PY 1	DEPP MAMR Department of Physical Planning Department of Agriculture Forestry Unit
Output 1.1.2: *Studies and recommendations conveyed in at least 5 policy papers to upgrade relevant land development policies, regulatory instruments and incentive regimes to encourage investments in the agricultural sector towards LDN conducted and made available to key audiences.*	? Activity 1.1.2.1 Develop policy papers and update land development policies.	1.1.2.1: Inter-departmental meetings, Consultation meetings, workshops	1.1.2.1: PY 1-2	DEPP, MoENR MAMR Department of Agriculture, Department of Environmental Health Services Department of Lands and
Outcome 2.1: Effectiveness of SLM and regenerative climate-smart agriculture practices demonstrated in target islands with the results documented and disseminated to key stakeholders for replication.				

Project Output	Stakeholder engagement activity	Methodology	Timing	Stakeholder involved
Output 2.1.1: Degraded areas rehabilitated across 10,000 hectares of productive landscapes through demonstration and implementation of restorative nature-based solutions for uptake by farmers/stakeholders.	? Activity 2.1.1.1 Conduct National Assessment of Land Degradation (LD). ? Activity 2.1.1.2: Conduct needs assessment for planting materials ? Activity 2.1.1.3 Establish demonstrations of restorative nature-based solutions on selected farms and degraded sites ? Activity 2.1.1.4: Establish Plant Propagation Facilities ? Activity 2.1.1.5: Conduct Plant Propagation Certification Training Course ? Activity 2.1.1.6: Design composting facilities and operational arrangements ? Activity 2.1.1.7: Establish composting facilities ? Activity 2.1.1.8: Develop a framework for soil and water quality sampling and analyses (including periodic sampling and analyses) ? Activity 2.1.1.9: Create, review and revise AFOLU carbon methodologies and tools for all forest carbon accounting and support agricultural methodologies.	2.1.1.1: Focus Group Discussions, Consultation meetings 2.1.1.2: Focus Group Discussions, Consultation meetings 2.1.1.3: Training sessions, workshops 2.1.1.4: Training sessions, workshops 2.1.1.5: Training sessions, workshops 2.1.1.6: Training sessions, workshops 2.1.1.7: Training sessions, workshops 2.1.1.8: Focus Group Discussions, Consultation meetings 2.1.1.9: Focus Group Discussions, Consultation meetings	2.1.1.1: PY 1 2.1.1.2: PY 1 2.1.1.3: PY 1-2 2.1.1.4: PY 1-2 2.1.1.5: PY 1 2.1.1.6: PY 1 2.1.1.7: PY 1 2.1.1.8: PY 1 2.1.1.9: PY 1,3,4	Farmers Farmer groups Extension officers Community groups DEPP MAMR Department of Physical Planning Department of Agriculture Forestry Unit University of the Bahamas
Outcome 2.2: Farmers and community producer groups trained and supported to adopt SLM and regenerative climate smart agricultural practices.				

Project Output	Stakeholder engagement activity	Methodology	Timing	Stakeholder involved
Output 2.2.1: Suite of at least 10 SLM-LDN, restorative climate-smart agriculture, integrated waste management tools, practices, approaches, technologies and capacity building to support expanded adoption of SLM and regenerative climate-smart agriculture practices across 17,300 ha by at least 700 farmers.	? Activity 2.2.1.1 Develop and Implement Education/Awareness Training Program for Farmers. ? Activity 2.2.1.2 Develop Education/Awareness Training Materials and Short Videos. ? Activity 2.2.1.3 Develop an online version of the Education/Awareness Training Program. ? Activity 2.2.1.4 Identify and upscale the most effective SLM-LDN regenerative CSA models. ? Activity 2.2.1.5 Conduct Train the trainer Workshops on upscaling SLM-LDN regenerative CSA models. ? Activity 2.2.1.6 Develop and implement online climate-smart agricultural systems and sustainable land management short courses. ? Activity 2.2.1.7 Prepare and distribute land conservation/sustainable land use, composting and pollution control Training Manuals. ? Activity 2.2.1.8 Develop and distribute training videos.	2.2.1.1: Consultation meetings, workshops, training sessions, extension support 2.2.1.2: Consultation meetings, workshops, training sessions, extension support 2.2.1.3: Consultation meetings, workshops 2.2.1.4: Consultation meetings, workshops 2.2.1.5: Consultation meetings, workshops, training sessions, extension support 2.2.1.6: Consultation meetings, workshops 2.2.1.7: Consultation meetings, workshops, training sessions, extension support 2.2.1.8: Consultation meetings, workshops	2.2.1.1: PY 1 2.2.1.2: PY 2 2.2.1.3: PY 2 2.2.1.4: PY 2 2.2.1.5: PY 2 2.2.1.6: PY 2 2.2.1.7: PY 2 2.2.1.8: PY 2	Ministry of Agriculture BAMSI BAIC Department of Forestry CARDI IICA Farmers Farmer groups

Project Output	Stakeholder engagement activity	Methodology	Timing	Stakeholder involved
Outcome 3.1: Communities contribute to develop, operationalize and, replicate gender sensitive business investment plans and market access mechanisms to support livelihood enhancement.				
Output 3.1.1: Communities contribute to develop, operationalize and, replicate gender sensitive business investment plans and market access mechanisms to support livelihood enhancement.	? Activity 3.1.1.1: Develop and deliver certificate-based gender sensitive training curriculum: SLM Methods; Climate Smart Agriculture; and Market Access ? Activity 3.1.1.2: Develop business investment plan templates ? Activity 3.1.1.3: Develop and deliver training program to facilitate farmers and associated farmers? ability to access a grant mechanism ? Activity 3.1.1.4 Conduct gender analysis to assess artisan clientele affected by downturn of markets during Covid-19	3.1.1.1: Inter-departmental meetings, Consultation meetings, workshops 3.1.1.2: Inter-departmental meetings, Consultation meetings, workshops 3.1.1.3: Consultation meetings, workshops, training sessions 3.1.1.4: Consultation meetings, workshops	3.1.1.1: PY 1 3.1.1.2: PY 1 3.1.1.3: PY 2 3.1.1.4: PY 1-4	Farmers Farmer Groups Women Groups University of The Bahamas BDB BAMSI BAIC BAIC BAIC
Output 3.1.2: *Grant mechanism made available to support eco-social business ventures[1] accessed by farmers and community groups.*	? Activity 3.1.2.1: Design the grant mechanism to finance SLM and climate-smart agribusinesses ? Activity 3.1.2.2 Roll-out grants to farmers ? Activity 3.1.2.3: Monitor and assess performance of farmers awarded grants	3.1.2.1: Inter-departmental meetings, Consultation meetings, workshops 3.1.2.2: workshops, training sessions 3.1.2.3: Extension support Inter-departmental meetings	3.1.2.1: PY 2 3.1.2.2: PY 2-3 3.1.2.3: PY 2-4	BAMSI BAIC Farmers Farmer Groups University of The Bahamas BDB BDB BDB

Project Output	Stakeholder engagement activity	Methodology	Timing	Stakeholder involved
Outcome 4.1: Enhanced evidence-based decision-making to support evaluation toward land degradation neutrality and agricultural production resilience and contribution to GEBs in productive agricultural landscapes.				
Output 4.1.1: National Environmental-Agricultural Production Information System developed and accessible through multi-stakeholder operational platforms for use to improve decision making by technical professionals, farmers, practitioners and other stakeholders.	? Activity 4.1.1.1: Conduct the National Environmental-Agricultural Production Information System Requirements Analysis ? Activity 4.1.1.2: Design, develop and test National Environmental-Agricultural Production Information System Implement/install, and configure National Environmental-Agricultural Production Information System ? Activity 4.1.1.3: Implement/ install, and configure National Environmental-Agricultural Production Information System ? Activity 4.1.1.4: National Environmental-Agricultural Production Information System Key Stakeholders Capacity Building	4.1.1.1: Inter-departmental meetings, Consultation meetings, workshops 4.1.1.2: Workshop, Focus Group Discussion, inter-departmental meetings 4.1.1.3: Workshop, Focus Group Discussions, inter-departmental meetings 4.1.1.4: training sessions, Workshop, Focus Group Discussions	4.1.1.1: PY 1 4.1.1.2: PY1 4.1.1.3: PY 3 4.1.1.4: PY 3	DEPP UB MAMR Ministry of Environment and Natural Resources

Project Output	Stakeholder engagement activity	Methodology	Timing	Stakeholder involved
Output 4.1.2: Low-cost environmental/ agrometeorological systems for land resource degradation and agro-climatic assessment and accompanying capacity building designed and pilot-tested in six of the target islands by researchers, students, technical professionals and relevant community stakeholders for monitoring trends in land degradation, food system resilience and GEBs at multiple scales.	? Activity 4.1.2.1: Conduct the Environmental-Agrometeorological System Requirements Analysis ? Activity 4.1.2.2: Design, develop and test Environmental-Agrometeorological System ? Activity 4.1.2.3: Field Equipment Procurement, Installation and capacity building ? Activity 4.1.2.4: Implement, test and validate Environmental-Agrometeorological System	4.1.2.1: Inter-departmental meetings, Consultation meetings, workshops 4.1.2.2: Workshop, Focus Group Discussion, inter-departmental meetings 4.1.2.3: inter-departmental meetings 4.1.2.4: meetings, workshops	4.1.2.1: PY 1 4.1.2.2: PY 1 4.1.2.3: PY 2 4.1.2.4: PY 2	University of The Bahamas MAMR Ministry of Environment and Natural Resources The Bahamas Department of Meteorology
Outcome 4.2: Increased understanding and awareness of relevant environmental issues among decision makers, farmers, the general public, facilitate mainstreaming and scaling-up of project approaches and interventions.				

Project Output	Stakeholder engagement activity	Methodology	Timing	Stakeholder involved
Output 4.2.1 Knowledge Management Strategy and Plan and Communication Plan for the systematization, publication and dissemination of best practices / lessons learned, and enhancement of awareness using innovative technologies and digital tools to support the scaling up and mainstreaming of interventions by target beneficiaries including policy and technical support professionals, practitioners, other beneficiaries.	? Activity 4.2.1.1 Develop and Implement a Knowledge Management Strategy and Knowledge Hub ? Activity 4.2.1.2 Develop and implement a Communications Plan	4.2.1.1: Workshop, Focus Group Discussion, inter-departmental meetings 4.2.1.2: Workshop, Focus Group Discussion, inter-departmental meetings	4.2.1.1: PY 1 4.2.1.2: PY 1	DEPP NGOs Farmers Farmer Groups
Output 4.2.2: Suite of at least 15 specific public awareness resources, media outputs developed and made accessible for use by policy and technical support professionals, practitioners, other beneficiaries and wider civil society	? Activity 4.2.2.1 Develop and implement a series of five (5) high quality short videos documenting implementation of SLM technologies. ? Activity 4.2.2.2 Develop and implement a three (3) set poster series. ? Activity 4.2.2.3 Develop three (3) sets of knowledge documentation on the specific experiences of Bahamian farmers. ? Activity 4.2.2.4 Throughout the project?s lifetime, five (5) appearances on radio programs.	4.2.2.1: Meetings, Workshops, Focus Group Discussion 4.2.2.2: Meetings, Workshops, Focus Group Discussion 4.2.2.3: Community Meetings, Workshops, Focus Group Discussion 4.2.2.4: meetings	4.2.2.1: PY 2 4.2.2.2: PY 2 4.2.2.3: PY 2 4.2.2.4: PY 1,2,3,4	DEPP NGOs Farmers Farmer Groups

Project Output	Stakeholder engagement activity	Methodology	Timing	Stakeholder involved
Output 4.2.3: Series of at least 10 knowledge-sharing events for exchanging lessons learned, information dissemination and networking organized and facilitated for participation among policy and technical support professionals, practitioners and other beneficiaries.	? Activity 4.2.3.1 Organize and implement ten (10) knowledge sharing events. ? Activity 4.2.3.2 Document the information shared at these exchanges and use them to produce information for the knowledge hub. ? Activity 4.2.3.3 Produce one (1) synthesis type video capturing the general information shared at the ten events	4.2.3.1: Inter-departmental meetings, workshops 4.2.3.2: meetings 4.2.3.3: meetings	4.2.3.1: PY 1,2,3,4 4.2.3.2: PY 1,2,3,4 4.2.3.3: PY 4	UB IICA DEPP NGOs Citizen Science Groups
Output 4.2.4: Project monitoring and evaluation system operating providing systematic information on progress in meeting project outcome and output targets	? Activity 4.2.4.1 Project Management ? Activity 4.2.4.2 Mid-Term Review ? Activity 4.2.4.3 Terminal Evaluation ? Activity 4.2.3.4 Project Final Report		4.2.4.1: PY 1-4 4.2.4.2: PY 3 4.2.4.3: PY 4 4.2.4.4: PY 4	DEPP PMU
Project Management				
Management arrangements	1. Inception Workshop 2. Project Steering Committee meetings 3. Contracts/MoUs	1. Workshop 2. Meetings incl. minutes; reports 3. Contract/MoU negotiations	1. Inception Phase 2. Bi-annually 3. Need-based	All stakeholders All PSC members Project partners
Work planning	Annual Workplan preparation	? Review and planning workshop ? PSC meeting	Annually	All stakeholders PSC members

Project Output	Stakeholder engagement activity	Methodology	Timing	Stakeholder involved
Budgeting	1. Annual Budget preparation 2. Budget revisions	? Review & planning workshop ? Exchange of formal approvals	1. Annually 2. Need-based	All implementers
Monitoring & evaluation	1. Process monitoring 2. Impact monitoring 3. Mid-term & Terminal Evaluation	1. Implementation & financial monitoring 2. Tracking Results Framework indicators 3. External evaluation	1. Continuous 2. Midterm & project end 3. Midterm & project end	PMU & Partners PMU & Partners All stakeholders
Reporting	1. Quarterly Financial Reporting 2. Half Annual Progress Reporting 3. GEF Project Implementation Review 4. Annual Co-financing report	Reports	1. Quarterly 2. Annual 3. Annual 4. Annual	PMU PMU PMU
Establishment of partnership	1. Signing of MoUs 2. Due diligence procedures for Project partners	1. MoUs 2. UNEP partnership procedures	On need basis	Collaborators Project partners
Communication	1. Internal Communication 2. External Communication	1. Internal Communication 2. External Communication	Continuous	Project implementers All stakeholders
*For the purposes of this project, ?rehabilitation? is seen as the effort required to maintain, and enhance, if possible, ecosystem services; whereas ?restoration? is the return as close as possible to the original functional ecosystem with its biodiversity and sustainable state. To the extent possible, both will be attempted by the project				

[1] Businesses with ecological focus with social benefits

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) No

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

The achievement of gender equality is a key developmental goal for The Commonwealth of The Bahamas. The proposed project, Integrated Landscape Management for Addressing Land Degradation, Food Security and Climate Resilience Challenges in The Bahamas, provides an opportunity for advancing gender equality and women?s empowerment by applying the strategy of gender mainstreaming throughout the components of the project. However, to exploit this opportunity effectively, would require the implementing ministry to address the need for gender mainstreaming as a matter of policy, not merely as a requirement of the project, to ensure sustainability. Further, given the comprehensive nature of the Integrated Landscape Management project, the implementing ministry would also seek to ensure that gender mainstreaming is institutionalized throughout the government system, which would mean, at the least, that officers directly associated with the project be sensitized to gender issues including training in gender analysis. As part of the project preparation phase a gender strategy and action plan was developed (Appendix 18 of the UNEP Project Document) that focused on integrating gender sensitivity through all components of the project, including at the level of the government ministries participating in the project, and at the farming community level to ensure that both training and opportunities for accessing grants and other outputs are share equally. The strategy hinges on understanding why gender matters. This would be the first step in shifting the narrow understanding of gender from participation ? numbers of women and men in the project ? to a broadened understanding of diversity factors. Differences in age, gender, nationality, values, abilities, impairment, skill, levels of education, life experiences and more.

Enhanced understanding of gender and diversity would enable insights into the reality that women and girls, boys and men are affected differently by the outcomes of land degradation. Priorities will differ so therefore, responses to these diverse needs and strengths must be designed into the project. Gender-

sensitive information gathering on aspects such as rights and responsibilities of women, girls, men, boys, who are exposed to risks, who participates in decision making, who has access to and control over resources, are essential to effective analysis that distills out the different needs, priorities, capabilities, knowledge and information that resides within the communities, with respect to addressing food security and the attendant aspects such as agri-business development. Further, such understanding enables the strengthening of climate resilience.

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

Yes

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

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

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

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

The project will strengthen opportunities for public-private private sector partnerships. Private sector and government entities with responsibility for enterprise development, including *inter-alia*, The Bahamas Development Bank, the Small Business Development Centre, The Bahamas Chamber of Commerce, BAIC, BAMSI, producer associations and other relevant organizations was consulted during the project preparation phase to define the activities and outputs particularly under Components 2 and 3 of the project.

The private sector has traditionally taken a transactional approach to working with the agribusinesses sector in The Bahamas which has tended to limit the ability of farmers to translate gains into reliable sustained production in terms of quality and quality. While the sector; food stores, hotels, wholesalers and retailers will embrace collaboration with local agribusinesses, purchasing what farmers can produce, or when local demand exceeds their import supply, local quality and quantity inconsistencies have often resulted in unwillingness among private sector interests to make long-term and/or fixed contractual commitments. Notwithstanding those constraints, wholesale buyers such as Sysco Bahamas (Bahamas Food Service) has a relationship with farmers throughout the archipelago. The ongoing government buy-local campaign has garnered commitment from retail supermarkets like Super Value, Solomons Fresh Market and the Budget Meats chains. Atlantis Resort and Baha Mar Resort, the two largest resorts in the Caribbean region maintain keen interest in engaging and supporting farmers as a part of their corporate social responsibility.

Through recent engagements with the private sector, the Ministry of Agriculture, Marine Resources and Family Island Affairs and IICA are promoting a national ?*Buy Fresh, Buy Local, Buy Bahamian*? campaign geared at encouraging higher local purchase to reduce the country?s heavy import bill. This campaign is being executed in collaboration with the Tourism Development Corporation (TDC) and the Bahamas Agricultural and Industrial Corporation (BAIC), both entities with wide private sector representation. This effort is against the backdrop of stimulating economic growth and building resilience in the post-COVID-19 pandemic recovery through economic diversification. Cultivating this

and other ongoing interventions, the relationship between the private sector and agribusinesses has great potential to make the transition needed to solidify the supply and demand relationship in such a way that allows agribusinesses to scale up and consistently meet the needs of the private sector.

The project will build on these initiatives to expand opportunities to support successful connections and engagement between agri-entrepreneurs and private sector and to strengthen buy-in to the environmental and climate resiliency approaches supported under the project that demonstrate benefits, which can be upscaled into wider business practice in the country. To help achieve this, the project will actively create avenues through existing and new partnerships, to showcase and incentivize participating retailers, wholesalers, hoteliers and other private sector, in expanding awareness and widening buy-in.

Advisory support anticipated from the private sector in the project execution will include guidance on required approaches to expand commodity market access for products that are produced under improved environmental management regimes (for example under a brand or label), identification of constraints to investment in climate-smart agriculture, and measures the project needs to consider in order to remove constraints. In addition, the private sector is expected to provide advice on opportunities and potential partnerships to build on existing credit and financial mechanisms to maximize the benefits from the grant awards to recipients that will be facilitated under the project.

On the side of Government, conditions will be enabled to enhance access to land that can be collateralized, recognize a local certification/brand for agribusiness products that aspire to environmental standards, and create agribusiness-friendly policies that encourage the use of locally grown and produced products which may include percentage of sales of related products in some industries. Support will also be offered, under Component 3 in building capacity (training) and helping to establish the mechanism to get local products certified and connect them to markets.

5. Risks to Achieving Project Objectives

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.(table format acceptable):

Table 15: Assessment of Risks Associated with the Project and Proposed Mitigation Measures.

Risk	Risk level	Mitigation Measures

Risk	Risk level	Mitigation Measures
Limited policy level buy-in in respect to perceived priority and other competing national priorities.	Medium	In design of the project, clear rationale for investment has been provided on the basis that the project will contribute to enhancing resilience in productive sectors to climate change, through application of integrated landscape management, SLM and nature-based solutions. During the PPG stage, meetings were held with the government institutions with a responsibility within the agricultural sector to not only inform about the potential project implementation but also to discuss the value of sustainable land management applications to address the challenges farmers on the Family islands face. Through ?Train the Trainer? programs and the formation of groups to provide technical advice throughout the lifetime of the project and thereafter, it is anticipated that there would be improved working relationships between farmers and government institutions, with meaningful technical information imparted to farmers, as the farmers survey showed that they depended on social media and Google searches to address their technical farming questions.

Risk	Risk level	Mitigation Measures
Climate change and climate variability and natural disaster occurrence associated with major hurricane, drought and extreme weather events, with disruption of institutional and project delivery processes, loss or compromise of field investments.	Medium-high	The string of catastrophic hurricanes to affect The Bahamas in recent years has necessitated the strengthening of resilience of administrative and business continuity processes. Data management systems are being built with redundancy and recovery measures in place. The same approach will be adopted by the project in keeping with best practices. In terms of on-site investments, the project will rely on local experience in reducing impact through hurricane-resistant construction methods and where possible, employ designs that can be quickly dismantled and stored for safety. The project will be adaptively managed should natural disasters occur. In the event of a hurricane striking the country, the project will, through the monitoring and evaluation resources assess impacts to local project sites and determine recovery measures. Drought risk associated with changing climate could also have impacts on the success of field vegetative restoration measures and the establishment of climate-smart measures within existing and new cultivations. Future precipitation projections from global climate modelling for the region of The Bahamas, suggest a tendency toward decreasing precipitation in more of the model scenarios. There is also risk associated with the projected predisposition to more intense rainfall events as projected by climate models [51]. Using the CCORAL climate screening tool it is determined that adaptation to climate change is of high priority. However, notwithstanding that conclusion, it is also determined that climate risks can be mitigated by using short and long-term measures and activities, including integrated pest management, utilization of more resilient crop varieties and improved cropping and livestock management systems. To ensure the sustainability of agricultural systems in the Bahamas, more climate change resilient plant material must be used to rehabilitate landscapes by integrating agroforestry and intercropping systems into cultivation suitable for the anticipated (projected) impacts of climate change. Some examples of plant species that are more resilient to climate change impacts such as droughts, increased salinity, and higher temperatures are root crops that develop horizontally (e.g., coconuts and mangoes). In addition, some heat resistant varieties of lettuce and other crops be introduced to resist adverse conditions associated with climate change. Climate-resistant agricultural systems can also be achieved through more efficient pesticide use, and biological control measures such as integrated pest management and beneficial predators. A reduction in the use of pesticides also benefits the country?s economy through reduced reliance on imported pesticides.

Risk	Risk level	Mitigation Measures
Imposition of COVID19 transmission mitigation measures (if crisis situation persists) and associated disruptions; challenges potentially related to post-pandemic economic recovery in terms of changing policy and priorities, personnel and material deployment.	To be determined	One major potential impediment to executing this project would have been the imposition of local and international travel restrictions and resulting implications for moving human resources/expertise. The pandemic has had implications for resource deployments at the government level, along with the other project partners in response to the economic fallout, that could have prolonged impacts in terms of implementation and co-financing commitments. The GEF COVID19 guidance on project design will be followed in assessing and designing to account for critical issues including *inter-alia,* possible reinstatement of COVID-19 containment measures, change in the capacity of stakeholders, changes in the baseline, change in conditions of beneficiaries and processes for stakeholder engagement. Travel and other domestic health restrictions, due to ongoing concerns of COVID-19 and its variants remain an ongoing concern, although the risk has been subsiding, with relaxing of some of the protocols that were previously in place. While a vaccine is available, restriction requirements continue. However, for Component 3, this is considered to be a low risk ? all agencies to be engaged are located within The Bahamas, and have sub-locations in many family islands, or have affiliates on the other islands. Additionally, these agencies have migrated to digital spaces prior to or during the pandemic, and hence they are currently offering their programs and engaging their participants virtually - all having the capacity to readily make shifts as necessary. The project will employ an adaptive management approach in execution, that will be in step with the wider management protocols at the national level. It should be noted that the government has made and will continue to make available to farmers and fishers, a small grant funding programme that will keep them financially afloat if COVID-19 restrictions continue. Attention will be paid to challenges in preparing grant applications and ensuring that some of the more vulnerable segments of the farming community are provided with the tools and training that will allow them to overcome the identified hurdle of proposal preparation. This will lend assurance in reducing project execution risk.

Risk	Risk level	Mitigation Measures
Limited buy-in of farmers, producers, practitioners and local communities to adopt tools, methodologies and practices	Medium	The project will encourage uptake of innovation and utility of approaches using means such as live demonstration and personal testimony. Experiences will be drawn from local expertise within The Bahamas and from technical support agencies and practitioners from other countries. There will be close collaboration with intended beneficiaries so that solutions are tailored to their needs. The capacity building under the project will be key to advancing adoption of practices. Wide awareness-raising to all stakeholders will be a critical element to gain buy-in. Demonstration plots, knowledge days, will be organized to provide farmers with opportunities to share their knowledge and challenges, and the development of partnerships with local NGOs all to improve buy-in among members of the farming sector and local communities.
Lack of private sector participation	Medium	The project will establish working relationships with private sector groups and cooperatives to gain inputs in the project design and to maintain buy-in and active participation over the course of the project. Farmer?s cooperatives have been identified as major benefactors in the project, and discussions with members of these have occurred during the PPG phase. These groups will benefit directly through the implementation of targeted SLM and CSA training activities.
Insecurity of land tenure /access that may hamper authorization for on-site investment and continued investment post project.	High	Land tenure concerns are still unresolved and could pose challenges in instances where the land is not owned by the farmer/occupier. However, if the land in question is part of Crown lands, under the Ministry of Agriculture Incorporation Act (1993), it may be leased for a period not exceeding 21 years, thereby providing collateral leverage and opportunities for award of business loans to applicants. While the risk of land insecurity is deemed high, the project could, as part of the effort to increase land accessibility and facilitate business investments, assess prospective farms, to determine their status and make recommendations for policy changes that would enable extended tenure periods. Also, discussions will be held with MOA, Department of Physical Planning and Lands and Surveys, and all other agencies to be involved in the conveyance of farmlands to farmers. While this may not be possible for every farmer, those that have potential to access funding levels to meet project and national goals, must be a consideration
Potential cost over-runs associated with technology investment alternatives.	Low	Various systems were reviewed, and a decision was taken to use open-source free source. More importantly those systems can run on the existing platform used by other government departments. What this means is that other than the initial, upfront investment, there is no recurring licensing fees or maintenance cost.

Risk	Risk level	Mitigation Measures
Non-agreement on data management and data sharing protocols.	Low-medium	The DEPP and the Government and Public Policy Institute (GPPI) at UB will support framing and executing the required policy actions to facilitate data sharing and access. The cooperation model between UB, Department of Forestry and Cat Island Conservation Institute (CICI) and the Department of Environmental Planning and Protection is a proof of concept that may be emulated.

[51] World Bank Climate Knowledge Portal
https://climateknowledgeportal.worldbank.org/country/bahamas

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.

Project Implementing Agency ? The United Nations Environment Program (UNEP) is the GEF?s Implementing Agency for this project. UNEP 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.

Project Executing Agency: *Institutional project structure, monitoring, evaluation and coordination:* The project Executing Agency will be the Department of Environmental Planning and Protection (formerly the BEST Commission). A Project Cooperation Agreement (PCA) will be issued by UNEP to the DEPP to establish this executing function, with provision of financial resources. A Project Steering Committee (PSC) comprising of relevant agencies will oversee the project implementation. The Chair of the PSC will be the Director of the DEPP or designate. A Project Management Unit (PMU) will be established under the supervision of the Director of the DEPP to undertake day-to-day management of the project and will be responsible for all technical and financial reporting.

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 DEPP, the executing agency. Members of the TAC will include the Project Coordinator and senior technical officers from the Ministries of key ministries of government, 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

at least 3 representatives from non-government institutions, one of which should be the Bahamas Network for Rural Women Producers. 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 UNEP Social & Environmental Safeguards, and those of the Government of The Bahamas;

? 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;

OVERSIGHT MECHANISMS

The project?s superior governing body is the **Project Steering Committee (PSC).** The PSC is responsible for ensuring that the project meet the 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 DEPP to modify implementation strategies, annual work plans and resources allocation budget and, when necessary, to adjust the project?s Result Framework in consultation with UNEP. This committee will meet every six months, either physically or virtually. The PSC shall be chaired by the DEPP and will include the Permanent Secretaries or their delegate from the Ministries with responsibility for (1) Ministry of Agriculture, Marine Resources and Family Island Affairs (MAMRFIA); (2) Forestry Unit; (3) Department of Agriculture; (4) Department of Gender and Family Affairs; (5) The Bahamas Development Bank; (6) BAMSI and (7) The University of the Bahamas. The UNEP Task Manager, as well as IICA and CARDI 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 The Bahamas 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 PMU is responsible for the fiduciary oversight and reporting of the project, including financial management and procurement consolidation according to the project?s 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 PMU will be staffed with a Project Coordinator, a Sustainable Agriculture Specialist, and an Administrative Assistant.

UNEP in its capacity as the Implementing Agency will have a seat on the PSC and be the recipient of substantive technical reports (half-year, and annual Project Implementation Review (PIR) reports) and quarterly financial reports. The PSC shall appoint as required, technical working groups (based on agreed TORs) to oversee and ensure technical quality of outputs. Given that the project will be delivering outputs over multiple islands, it will likely be necessary to designate focal points for each island. The PMU will ensure annual financial audits of expenditure conducted and contribute to the conduct of a mid-term review and terminal evaluation, with engagement of the PMU and beneficiary stakeholders.

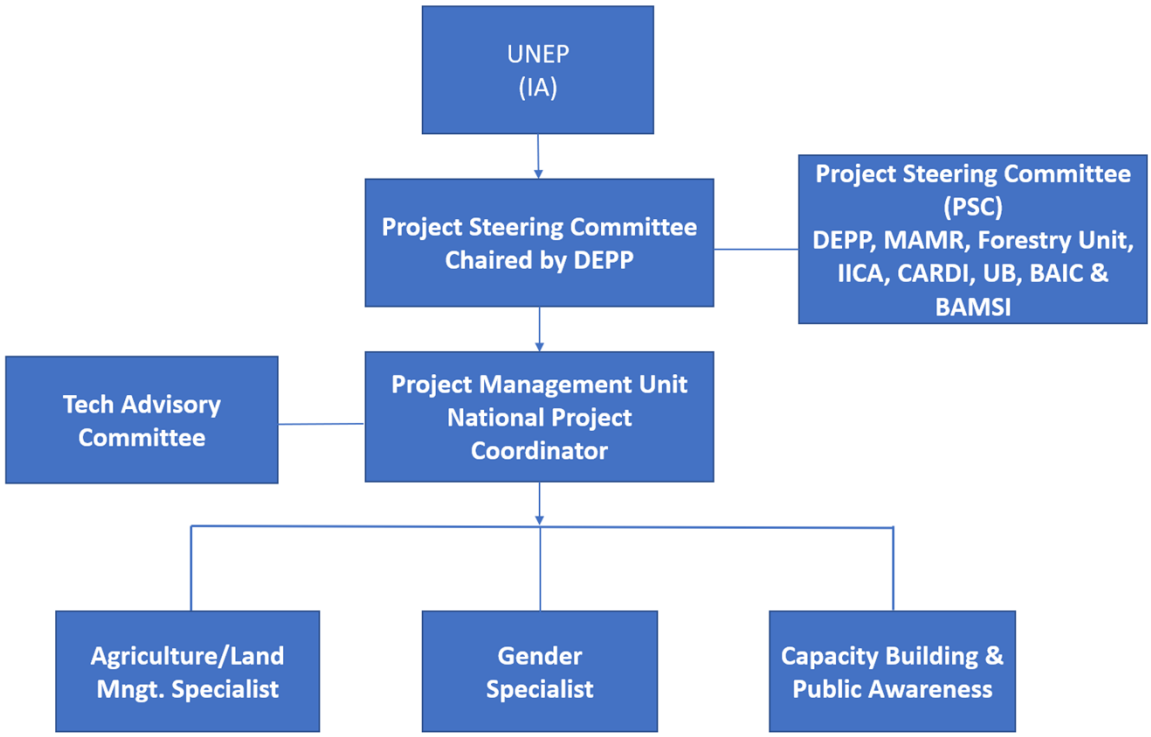

Figure 5: Project Institutional and Implementation Structure

DEPP 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

? Data and Information Technology

? Knowledge Management & Public Awareness

Coordination with other relevant GEF-financed projects and other initiatives:

(1) *Bahamas Pine Islands (BPI) ? Forest/Mangrove Innovation and Integration (Grand Bahama, New Providence, Abaco and Andros):* This project which commenced in 2016, seeks to integrate biodiversity considerations and ecosystem services into forest management and land use planning in the northern islands; Grand Bahama, New Providence, Abaco and Andros. The project is contributing to institutional systemic support to development of land use plans for Andros and New Providence that incorporate conservation ecosystem considerations, expansion and improved management of the forestry sector through upgrade of forestry management plans, completion of condition status assessment and formal gazettement of the Forest Estate. It will provide models for sustainable land and forestry management and contribute to sustainable livelihoods through expansion of silvertop palm and cascarilla production.

(2) *Meeting the Challenge of 2020 in The Bahamas:* The project which commenced in 2020 and will run to 2025, will strengthen management of marine protected areas in The Bahamas and that they are integrated into broader landscape planning to reduce pressures on ecosystem services and biodiversity from competing resource uses. The project will contribute to integration of natural resource management within management of marine protected areas and adjacent landscapes, the enhancement of protected area management within 5 MPAs; Moriah Harbour Cay National Park, Lucayan National Park, Exuma Cays Land and Sea Park, Andros West Side National Park and Bonefish Pond National Park. It will engage local communities that derive direct economic benefits, in enhanced environmental stewardship of the MPAs and surrounding areas.

(3) *Implementing Land, Water and Ecosystem Management (IWEco) in The Bahamas:* The project which commenced in 2018 aims to develop a model of integrated land, water and ecosystem management for The Bahamas and other Small Island Developing States in coordination with the main GEF-IWEco Project. The project will implement innovative solutions for maintenance of ecosystem health in East Grand Bahama, strengthen environmental monitoring and evaluation systems, and the policy, legislative and institutional enabling environment in support of natural resource management and enhance knowledge exchange and best practices.

(4) The Bahamas is not part of the GEF-CSIDS-SOILCARE Phase 1 Project: *Caribbean Small Island Developing States (SIDS) multi-country soil management initiative for Integrated Landscape Restoration and climate-resilient food systems*, but through the Executing Agency, the Partnership Initiative for Sustainable Land Management and the FAO, linkages will be established to ensure there is cross-collaboration through the supporting agencies, both of which are anticipated partners under the project.

(5) The *GEF-Small Grants Programme of the Bahamas*: Recently completed and ongoing projects funded by the GEF-SGP that could provide valuable lessons as their core objectives are aligned with those this Integrated Land Management Project. They include (a) the recently completed *Cat Island United Capacity*

Development and Waste Management Demonstration Project which aims to reduce waste and build environmental awareness on Cat Island, through various initiatives to recycle and reduce waste, composting and to conduct water quality testing of drinking wells and salt ponds especially where they occur in proximity to waste disposal sites. (b) the Increasing the resiliency of infrastructure in an *Eco-School Environment to combat threats of climate change Project* is ongoing and being implemented by a school in Grand Bahama. The project aims to effectively demonstrate the implementation of vermicomposting and aquaculture. (c) *The Hope Town Zero Waste Demonstration Project - Phase 2* on the Abaco Islands has the primary objective of developing a waste diversion model and to produce a template that can be replicated in other islands and different scales.

(6) The DEPP will ensure there is policy and technical coherence between the projects on shared themes and this will be done via internal planning meetings among the managers of each project, and as needed, participate within the PSCs of the projects depending on decision and advisory support needs. For stakeholder communications and outreach the DEPP may capitalize on synergies between the projects in line with the broader mandates of the Department. The project will augment existing programs, notably *Sustainable Agriculture Systems in the Aftermath of Hurricane Dorian* funded by the New Zealand High Commission, that is being undertaken in collaboration between the IICA, the Ministry of Education and the Ministry of Agriculture, Marines Resources and Family Island Affairs.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

UN Convention to Combat Land Degradation (UNCCD): The Bahamas became a signatory to the UNCCD on 10 November 2000, and the Convention came into force in The Bahamas on 8 February 2001. The country developed its National Action Programme in 2006[52] where it defined the vision as to set The Bahamas on a course of sustainable growth and development, through the responsible use of its land, coastal, marine and freshwater resources, to secure prosperity for present and future generations. Since then, there have been consecutive calls for affected country Parties to strengthen and/or update their NAPs in a process call alignment. Accordingly, by decision 3/COP.8, the Conference of the Parties (COP) urged affected country Parties to align their action programmes with The Strategy, and other relevant implementation activities relating to the Convention. Furthermore, at the seventh session of the Committee to Review the Implementation of the Convention, Parties recommended improving the alignment of action programmes. Also, by Decision 2/COP.12 invites affected country Parties to establish national baselines and national-level voluntary LDN targets within their National Action Programmes (NAPs). NAPs are considered the main instruments for the implementation of the Convention. Embedding LDN into NAPs will strengthen NAP implementation and increase its impact by providing measurable and verifiable baselines and targets. The project will establish a functional relationship with the NAP National Co-ordinating Body, to assure appropriate guidance during the project development process and under implementation. The project will contribute to the update of the NAP and the voluntary LDN target setting

process. In line with the COP 9 recommendation, there is an obligation to have at least one (1) Civil Society Organisation (CSO) active in the SLM activities, on the NCB.

The project will contribute significantly to the three Tiers of Programme Planning, addressing key elements that include development of science-based assessments of land conditions, formalisation of exchange of information between stakeholders to ensure better understanding of conditions leading to land degradation, identify existing data gaps, promotion of awareness of the causes and effects of land degradation, development and execution of initiatives programmes to combat land degradation, facilitation of capacity-building initiatives, development and implementation of an enabling strategic framework and strengthen support policies and legislation.

National Action Plan for Adaptation (NAPA) under LDCF/UNFCCC: Although the Bahamas? contribution to global greenhouse gas emissions is fairly negligible, its vulnerability to climate change is very high, and increasing. The Bahamas? vulnerabilities are due to and exacerbated by the island?s location, topography, limited resources and economic dependence on primary production and the service/tourism industry. The country?s response to climate change mitigation and adaptation is outlined in The Bahamas National Policy for Adaptation to Climate Change. In the Intended Nationally Determined Contribution (INDC) submitted to the UNFCCC in November 2015, the country intends to adapt to the impacts of climate change while pursuing a low carbon pathway in conformity to global commitment to reduce GHG emissions. The project will contribute to adaptation measures articulated in the INDC in respect to enhancing resilience through investment in SLM and climate-smart agriculture that will support enhancement of food security and sustainable food production. Through the integrated landscape management approach additional co-benefits will be realized in terms of water conservation and pollution mitigation offsetting impacts from sea level rise, saltwater intrusion, flooding and storm surges.

National Biodiversity Strategies and Action Plan (NBSAP) under UNCBD: UN Convention on Biological Diversity (CBD): The Bahamas ratified the Convention in 1993 and formulated its National Biodiversity Strategy and Action Plan (NBSAP) in 1999. Recommendations of the NBSAP follow the integrated ecosystem management approach to biodiversity conservation. Among the recommendations most aligned to this project is the recommendation related to Sustainable Use of Natural Resources which called for the development of a comprehensive plan for sustainable agriculture including conservation and improvement of agricultural soils, programmes of integrated pest management, agricultural systems that are environmentally friendly and? evaluation and adoption of new product technologies.

United Nations Cooperation Framework: The United Nations coordinated support to The Bahamas is under a *UN Multi-Country Sustainable Development Framework (MSDF)*. The 2017-2021 UN MSDF in the Caribbean [53] includes Priority Area 4 ?A Sustainable and Resilient Caribbean? which is relevant to the objectives under this project. Under this priority area the UN system will support coherent efforts to strengthen the resilience of the Caribbean and its peoples by mitigating the effects of climate change, disasters and environmental degradation in the context of sustainable development, livelihoods, and the economies. The anticipated relevant outcome is ?Inclusive and sustainable solutions adopted for the conservation, restoration and use of ecosystems and natural resources.

The Office of the UN Resident Coordinator with responsibility for The Bahamas covers the wider northern Caribbean sub-region that includes Jamaica, Bermuda, The Cayman Islands and Turks and Caicos Islands. The UN Country Team is based in Jamaica and includes within the network, UNEP?s Caribbean Sub-Regional Office (CSRO). UNEP participates in the UNCT and works to ensure UNEP-led initiatives align with the Country Implementation Plan and the relevant Multi-Country Sustainable Development Framework (MSDF). During the course of project implementation, UNEP?s CRSO will be kept in close communication to facilitate as relevant and necessary, avenues for building synergies between related initiatives. The CSRO will be furnished with key reports that will include *inter-alia*, annual progress implementation reviews, mid-term reviews and terminal evaluation reports for feedback particularly related to ensuring coherence with wider UN-led initiatives within the Caribbean region. The UN Resident Coordinator's Office has been advised in parallel with the formulation of the project and feedback will be

incorporated into further drafts of the project documentation and appropriately incorporated into governance arrangements at implementation.

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[52] https://www.unccd.int/sites/default/files/naps/bahamas-eng2006.pdf

[53] https://unsdg.un.org/sites/default/files/cf-documents/9bea30e0-f553-49d6-ac99-3c50989acaa6_UN-MSDF-2017.pdf

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

Guidance for development of the Knowledge Management Strategy and Communication Plan for the project has been prepared (See UNEP Project Document, Appendices 19 and 20) for capturing lessons learnt throughout the project and organize these via a knowledge hub that will be easily accessed by beneficiaries.

The strategy is based on the following strategic objectives which propose practical measures for operationalizing this strategy at an institutional and project level, creating the foundation for a strong KM baseline in The Bahamas, guided by principles of transparency, collaboration, relevance and cost-effectiveness. The strategic objectives are as follows:

1. To standardize KM tools to ensure their applicability to the UNCCD and GEF.

2. To enhance the KM capacity of The Bahamas by sharing data, information, and knowledge gathered associated with the project.

3. To support institutional arrangements for knowledge management in The Bahamas.

The specific actions for each objective were defined, cognizant of the overall objective and scope of the Project and the available timeline for project implementation. These actions will include the standardized data collection and reporting formats; standardized definitions of common terminologies to be used with respect to SLM, LDN, climate change, and CSA for KM and Communications and the training key personnel in their use; the sharing of farmer experiences and systematization of these experiences and lessons learned throughout the project.

Also incorporated in the KM strategy guidance is the use of opportunities to build local and regional partnerships where possible, and maximizing the use of UN designated days of awareness related to land degradation; World Water Day, World Environment Day, World Day to Combat Desertification and Drought, World Soil Day etc.

The implementation of the Knowledge Management Strategy and Knowledge Hub will commence in the second and third quarters of the first year of the project. All publications developed under this project will comply with the communications policies of the GEF and its partner Agencies, as well as be multifaceted enough to serve the purpose of being applicable to UNCCD and WOCAT knowledge management platforms.

9. Monitoring and Evaluation

Describe the budgeted M and E plan

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

The project M&E plan is consistent with the GEF Monitoring and Evaluation policy. The Project Results Framework presented in Annex A includes SMART indicators for each expected outcome as well as mid-term and end-of-project targets. These indicators along with the key deliverables and benchmarks included in Appendix 6 will be the main tools for assessing project implementation progress and whether project results are being achieved. The means of verification and the costs associated with obtaining the information to track the indicators are summarized Costed M&E Plan below and are fully integrated in the overall project budget.

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-?-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 Manager to inform UNEP 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 UNEP concerning the need to revise any aspects of the Results Framework or the M&E plan. Project oversight to ensure that the project meets UNEP and GEF policies and procedures is the responsibility to the Task Manager in UNEP-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-?-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 UNEP. 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.

In line with the GEF Evaluation requirements and UNEP?s Evaluation Policy, GEF Full-Sized Projects and any project with a duration of 4 years or more will be subject to an independent Mid-Term Evaluation or management-led Mid-Term Review at mid-point. All GEF funded projects are subject to a performance assessment when they reach operational completion. This performance assessment will be either an independent Terminal Evaluation or a management-led Terminal Review.

In case a Review is required, the UNEP Evaluation Office will provide tools, templates, and guidelines to support the Review consultant. For all Terminal Reviews, the UNEP Evaluation Office will perform a quality assessment of the Terminal Review report and validate the Review?s performance ratings. This quality assessment will be attached as an Annex to the Terminal Review report, validated performance ratings will be captured in the main report. However, if an independent Terminal Evaluation (TE) of the project is required, the Evaluation Office will be responsible for the entire evaluation process and will liaise with the Task Manager and the project implementing partners at key points during the evaluation. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP staff and implementing partners. The direct costs of the evaluation (or the management-led review) will be charged against the project evaluation budget. The TE will typically be initiated after the project?s operational completion. If a follow-on phase of the project is envisaged, the timing of the evaluation will be discussed with the Evaluation Office in relation to the submission of the follow-on proposal.

The Evaluation Office will monitor compliance with this plan every six months for a total period of 12 months from the finalisation of the Recommendations Implementation Plan. The compliance performance against the recommendations is then reported to senior management on a six-monthly basis and to member States in the Biennial Evaluation Synthesis Report. The project?s M&E Plan is presented below.

Table 16 Costed M&E Plan

Type of M&E Activity	Responsible Parties	GEF Budget (USD)	DEPP Co-finance in kind (USD)	Time Frame
Inception Workshop	? DEPP	20,000	2,000	Within 2 months of project start-up
Inception Report	? DEPP	5,000	1,000	1 month after project inception meeting
Measurement of project indicators (outcome, progress and performance indicators, including baseline data collection	? DEPP	20,000		Outcome indicators: start, mid and end of project Progress/performance indicators: annually
Standard semi-annual progress reporting and monitoring to UNEP	? DEPP	20,000		Within 1 month of the end of reporting period i.e. on or before 31 Jan. and 31 Jul.

Type of M&E Activity	Responsible Parties	GEF Budget (USD)	DEPP Co-finance in kind (USD)	Time Frame
Monitoring by the Project Steering Committee and advisory technical group of environmental and social risks, and corresponding management plans as relevant	? DEPP ? Ministry of the Environment and Natural Resources	20,000	4,000	Once a year minimum for 4 years
Audit	? DEPP	28,000		Within 3 months of the financial year
Project Implementation Review (PIR)	? DEPP	7,000	2,000	Annually, part of reporting routine
Mid Term Review/ Evaluation	? UNEP	35,000		At mid-point of project implementation
Terminal Evaluation	? UNEP	45,000		Within 6 months of end of project implementation
Project Final Report	? DEPP	7,000	2,000	Within 2 months of the project completion date
Co-financing report	? Ministry of Natural Resources and the Environment ? DEPP	7,000	4,000	Within 1 month of the PIR reporting period, i.e., on or before 31 July
Total M&E Plan cost		**186,000**	**15,000**	

10. Benefits

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

This project makes a significant contribution to the implementation of The Bahamas 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.

This project will impact productive Bahamian agricultural landscapes using sound ILM approaches. Primary objectives are to enhance climate-resilient food production using CSA; and achieve LDN by the judicial implementation of SLM Approaches and Technologies (AT).

The activities being implemented will contribute to expanded livelihood opportunities through uptake of gender-sensitive business investment plans and market access mechanisms, giving rise to business development services and capacity building to facilitate enhanced production of agricultural and other value-added products from restored landscapes. It will contribute to the desired impacts of improved and sustainable crop yields and healthy, resilient and productive ecosystems toward improved livelihoods and well-being and expanded global environmental benefits.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate	Medium/Moderate		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

https://documentcloud.adobe.com/link/review?uri=urn:aaid:scds:US:b28a301f-4be8-450a-8c73-01a02db7792c

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted

Title	Module	Submitted
GEFID10694_Review Sheet - PIF Bahamas LD_UNEP 28Oct	Project PIF ESS	
GEF 7 PIF_Bahamas LD project_V7_Resubmission (submitted)	Project PIF ESS	
GEF 7 PIF_Bahamas LD project_V6_Resubmission (submitted)	Project PIF ESS	
GEFID10694_Review Sheet - PIF Bahamas LD_UNEP 22Oct	Project PIF ESS	
EX-ACT_Carbon calculations_Bahamas LD project_PIF submission	Project PIF ESS	
GEFID10694_Review Sheet - PIF Bahamas LD_UNEP	Project PIF ESS	
GEF 7 PIF_Bahamas LD project_Resubmission (submitted)	Project PIF ESS	
GEF 7 PIF_Bahamas LD project_V4 (submitted)	Project PIF ESS	
Safeguards_Bahamas LD project_rev	Project PIF ESS	

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/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Project Objective: To enhance climate-resilient food production across productive agricultural landscapes through sound Integrated Landscape Management and Land Degradation Neutrality approaches in The Bahamas.						
Component 1: Strengthening the enabling environment for the achievement of land degradation neutrality through improved policy and governance						
Outcome 1.1: Three lead agencies with responsibility for land management in the Government of The Bahamas adopt an enhanced ILM decision making framework to achieve LDN in the longer term.	(i) Number of national policy position statements on LDN endorsed by government and stakeholders; (ii) Number of national agencies that formally adopt an Inter-sectoral coordination mechanism on LDN.	0 0	1 1	1 3	? Cabinet memorandum ? National policy position statement on LDN ? Strategy and Inter-Sectoral operational Framework documentation ? Agency cooperation agreements ? Consultation documents	Government officials endorse project?s innovative approaches and champion development of enabling policy environment Stakeholders receptive to incorporating project results into policy formulation processes and value importance of inter-institutional coordination Partner organizations willing to share information and recognize usefulness of
Output 1.1.1: *Advisory and support services, including capacity building, to develop and implement an Integrated Land Management Strategy, and Inter-Sectoral Operational Framework to achieve LDN in The Bahamas provided to selected personnel from at least 3 lead national agencies with responsibility for agricultural/rural land management*	(i) number of capacity building sessions on the operationalization of the ISOF convened (ii) number of trainees from 3 lead agencies (50% female and 50% male)	0 0	2 8	4 20	? Training reports ? Stakeholder feedback	

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Output 1.1.2: *Studies and recommendations conveyed in at least 5 policy papers to upgrade relevant land development policies, regulatory instruments and incentive regimes and specify how the LDN target-setting process will be integrated, to encourage investments in the agricultural sector towards LDN, made available to key audiences*	(i) number of policy papers on topics that advances the updating of land policies and identifies incentive regimes to support ILM and promote SLM practices aimed at revising and updating of land policies.	0	3	5	? Consultation documents ? Policy papers ? Updated UNCCD National Action Programme (includes LDN Voluntary Targets) ? Revised Agricultural Land Policy ? Briefing notes to Cabinet	data and knowledge generated Land tenure /access arrangements secure The GoB is able to mitigate and manage impacts of the COVID-19 pandemic so that business continuity is maintained within mandated protocols.
Outputs under Component 1 **Output 1.1.1:** Advisory and support services, including capacity building, to develop and implement an Integrated Land Management Strategy and Inter-Sectoral Operational Framework to achieve LDN in the Bahamas provided to selected personnel from at least 3 lead national agencies with responsibility for agricultural/rural land management. **Output 1.1.2:** Studies and recommendations conveyed in at least 5 policy papers to upgrade relevant land development policies, regulatory instruments and incentive regimes and specify how the LDN target-setting process will be integrated, to encourage investments in the agricultural sector towards LDN, made available to key audiences.						
Component 2: Demonstration of regenerative agriculture and resilient food production systems, practices and technologies						

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Outcome 2.1: Effectiveness of SLM and regenerative climate-smart agriculture practices demonstrated in Abaco, Andros, Cat Island, Eleuthera, Grand Bahama, Long Island and New Providence. Results documented and disseminated to key stakeholders for replication	Number of assessments of the efficacy of the SLM/CSA restorative measures based on nature-based solutions over 10,000 ha of productive landscapes that serve as demonstrations, reviewed and accepted by scientific agencies and stakeholders (at mid-term and project end)	0	1	2	? Mid-term assessment report ? End of project assessment report	Extreme events will not result in disruption of institutional and project delivery processes, loss or compromise of field and relevant adaptive mechanisms will be effected. Farmer Groups, producers, practitioners,

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Output 2.1.1: *Degraded areas rehabilitated across 10,000 hectares of productive landscapes through demonstration and implementation of restorative nature-based solutions for uptake by farmers/ stakeholders. Target islands: 2500 ha Abaco; 3500 ha Andros; 500 ha Cat Island; 700 ha Eleuthera; 2100 ha Grand Bahama; 600 ha Long Island; 100 ha New Providence. Three composting facilities were established one each on Abaco, Grand Bahama and Eleuthera. Ten plant propagation nursery facilities established*	(i) area (ha) of degraded land treated with restoration measures across the 7 targeted islands (ii) number of SLM and CSA best practices demonstrated. (iii) number of project sites across the targeted islands treated with SLM and CSA best practices (iv) number of propagation facilities established or refurbished (v) number of composting facilities established and operational (vi) number of soil/water sampling protocols developed and applied in monitoring (LDN indicators: land productivity and carbon stocks) (vii) Metric tons CO_2 directly mitigated as a result of project interventions on SLM. CSA and forest restoration	0 0 0 0 2 0 0 0	5,000 6 20 sites on 4 islands 6 3 4 50% (end of project target) value	10,000 10 40 sites on 7 islands 10 3 7 3,927,880 tCO2-eq within 4 years	? Field assessment studies, inventory surveys ? Training reports ? Signed contracts for establishment/ refurbishment and operation of propagation facilities ? Signed contracts for establishment/upgrade and operation of composting facilities ? Construction completion reports ? Soil and water sampling and analysis reports ? Carbon sequestration report measuring emissions mitigated	local communities participate in training provided, adopt tools, technologies, methodologies and practices and realize desired outcomes. The GoB is able to mitigate and manage impacts of the COVID-19 pandemic so that business continuity is maintained within mandated protocols.

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Outcome 2.2: Farmers and community producer groups trained and supported to adopt SLM and regenerative climate smart agricultural practices	Increase in adoption of SLM and climate-smart measures by farmers and stakeholders (including at least 50% women) within landholdings based on ?eld assessment surveys.	0	50% of target farmer population	100% of target farmer population	? Results from field assessment surveys.	Built-in mechanisms to enhance institutional memory KM systems so that project contributions are not lost with the departure of key personnel post-project. Extreme events will not result in disruption of institutional and project delivery processes, loss or compromise of field and relevant adaptive mechanisms will be effected. SLM practices introduced by project produce sufficient returns to be competitive. Land tenure /access arrangements secure.
Output 2.2.1*: Suite of at least 10 SLM-LDN, restorative climate-smart agriculture, integrated waste management tools, practices, approaches, technologies and capacity building to support expanded adoption of SLM and regenerative climate-smart agriculture practices across 17,300 ha by at least 700 farmers*	(i) Number of training tools - graphic training manuals with accompanying video media (ii) number of farmers (at least 50% female) trained on SLM & CSA approaches and technologies. (iii) number of extension staff and demo farmers (at least 50% female) trained on SLM & CSA practices (iv) area (ha) of landscapes under SLM practice across the 7 targeted islands	0 0 0 0	2 300 25 7,500	3 700 40 17,300	? Proceedings of virtual training programs ? Social media engagement analytics ? Training reports Training registration forms, and participant lists.	

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Outputs under Component 2 **Output 2.1.1:** Degraded areas rehabilitated across 10,000 hectares of productive landscapes through demonstration and implementation of restorative nature-based solutions for uptake by farmers/ stakeholders. Target islands: 2500 ha Abaco; 3500 ha Andros; 500 ha Cat Island; 700 ha Eleuthera; 2100 ha Grand Bahama; 600 ha Long Island; 100 ha New Providence. Three composting facilities established one each on Abaco, Grand Bahama and Eleuthera. Ten plant propagation nursery facilities established. **Output 2.2.1:** Suite of at least 10 SLM-LDN, restorative climate-smart agriculture, integrated waste management tools, practices, approaches, technologies and capacity building to support expanded adoption of SLM and regenerative climate-smart agriculture practices across an additional 17,300 ha by at least 700 farmers.						
Component 3: Incentivizing uptake and replication of SLM and climate-resilient agriculture						
Outcome 3.1: Communities contribute to develop, operationalize and, replicate gender-sensitive business investment plans and market access mechanisms to support livelihood enhancement.	(i) % Increase in number of agricultural-based investments that have access to markets that incorporate SLM and climate-smart approaches (assessed at inception). (ii) % Increase in productivity/ yield of farms participating in the programme (assessed at inception)	0 0	25% above baseline 25% above baseline	More than 50% above baseline More than 50% above baseline	? Farm production records ? Purchase agreements/sales records ? Project progress reports	Built-in mechanisms to enhance institutional memory KM systems so that project contributions are not lost with the departure of key personnel post-project. Extreme events will not result in disruption of institutional and project delivery

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Output 3.1.1: *Gender-sensitive business investment plans (inclusive of market access mechanisms), business development services and capacity building to facilitate enhanced production of agricultural and other value-added products.*	(i) Number of business investment plan templates developed (separate for farmers and agro-processors) (ii) Number of gender-sensitive business investment plans (inclusive of market access mechanisms) developed (iii) number of training events for agri-entrepreneurs/award grantees	0 0 0	2 8 5	2 14 10	? Business investment plan templates ? Approved business plans ? Documented markets ? Certification of CSA attainment ? Training curriculum ? Training reports	processes, loss or compromise of field and relevant adaptive mechanisms will be effected. Private sector internalizes value of new farming practices and invest in building out value-chain linkages with investments in commodities that integrate SLM & CSA approaches. SLM practices introduced by project produce sufficient returns to be competitive. Land tenure /access arrangements secure.
Output 3.1.2: *Grant mechanism made available to support eco-social business ventures accessed by farmers and community groups*	(i) Number of agri-business small grants awarded (ii) Cumulative value of grants disbursed (US$) (iii) % grants awarded to women	0 0 0	8 $300,000 50%	14 $700,000 50%	? Grantee profile documentation ? Grant agreement/signed financing instruments ? Disbursement vouchers/equivalent from financial institution ? Portfolio performance reviews	
Outputs under Component 3: **Output 3.1.1:** Gender-sensitive business investment plans (inclusive of market access mechanisms), business development services and capacity building to facilitate enhanced production of agricultural and other value-added products. **Output 3.1.2:** Grant mechanism made available to support eco-social business ventures accessed by farmers and community groups						

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Component 4: Enhancing monitoring and knowledge management systems for land degradation neutrality assessment and agricultural production system resilience assessment and tracking related GEB Indicators.						
Outcome 4.1: Enhanced evidence-based decision-making to support evaluation toward land degradation neutrality and agricultural production resilience and contribution to GEBs in productive agricultural landscapes	(i) Change (%) in availability and utilization of new data products in national level reporting, research efforts and decision-making (via user uptake survey) (ii) LDN monitoring system operational (iii) Lessons learned on ILM and LDN mainstreamed in land use related decision making and policies (number of policy references)	0 0 0	25% inc. in user uptake over baseline 1 5	75% inc. in user uptake over baseline 1 8	? Inter-agency cooperation/data sharing agreements/protocol ? User uptake surveys on data use and availability ? Policy statements ILM and LDN; associated technical reporting	Built-in mechanisms to enhance institutional memory KM systems so that project contributions are not lost with the departure of key personnel post-project. Partner organizations willing to share information and recognize usefulness of data and knowledge generated. Government

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Output 4.1.1: *National Environmental-Agricultural Production Information System accessible through multi-stakeholder operational platforms.*	(i) Number of agencies formally collaborating and actively contributing/using NEAPIS and the environmental agro-met system (ii) Number of UNCCD/LDN-specific reporting products generated (iii) Number of professionals trained across key agencies on operation and management of NEAPIS and environmental/ agro-met field systems	0 0 0	3 Target tbd at system design 20	5 Target tbd at system design 45	? Inter-agency cooperation/data sharing agreements/protocol ? Database design study ? System test/assessment reports (formats for UNCCD/LDN reporting) ? Data access logs ? System-generated reports ? User feedback survey	officials endorse project?s innovative approaches and champion development of enabling policy environment. Extreme events will not result in disruption of institutional and project delivery processes, loss or compromise of field and relevant adaptive mechanisms will be

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Output 4.1.2: *Low-cost environmental/agrometeorological systems for land resource degradation and agro-climatic assessment and accompanying capacity building.*	(i) Number of low-cost environmental/ agri-met field systems for land resource degradation and agro-climatic assessment installed and operational *(LDN indicators: land cover change, land productivity and carbon stocks)* (ii) Number of users accessing/logging into the agri-met systems (iii) Number of community members/students trained (50-50 gender parity) under citizen science programme	0 0 0	4 Target tbd at system design Target tbd at system design	6 Target tbd at system design Target tbd at system design	? System design study ? Inter-agency cooperation/data sharing agreements ? Consultation meeting minutes ? System test/assessment reports ? Service/Operational logs ? User feedback surveys ? Training resources ? Training reports	effected. Knowledge developed and piloted will influence behavior change.
Outcome 4.2: Increased understanding and awareness of relevant environmental issues among decision makers, farmers, the public, facilitate mainstreaming and scaling-up of project approaches and interventions	(i) % Increase in the level of awareness among target beneficiaries (by community survey) (ii) Extent of replication of tools and approaches (by practitioner survey)	0 0	20% over baseline 20% over baseline	50% over baseline 50% over baseline	? Stakeholder awareness surveys ? Practitioner survey ? Progress Reports	Partner organizations willing to share information and recognize usefulness of data and knowledge generated. Extreme events will not result in

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Output 4.2.1: *Knowledge Management Strategy and Plan and Communication Plan for the systematization, publication and dissemination of best practices / lessons learned, and enhancement of awareness using innovative technologies and digital tools to support the scaling up and mainstreaming of interventions by target beneficiaries including policy and technical support professionals, practitioners, other beneficiaries.*	(i) Project Communications Plan under implementation (ii) Project KM Strategy under implementation	0 0	1 1	1 1	? Knowledge Management Strategy and Plan. ? Communications Plan. ? Population of data on the Knowledge Hub.	disruption of institutional and project delivery processes, loss or compromise of field and relevant adaptive mechanisms will be effected. Government officials endorse project?s innovative approaches and champion development of enabling policy environment. Knowledge developed and piloted will influence behavior change.
Output 4.2.2: *Suite of at least 15 specific public awareness resources, media outputs developed and made accessible for use by policy and technical support professionals, practitioners, other beneficiaries and wider civil society.*	(i) Number of specific public awareness resources, media outputs produced	0	7	15	? Radio appearances with the inclusion of farmers ? Media event reports ? User feedback ? Social media engagement analytics	
Output 4.2.3: *Series of at least 10 knowledge sharing events for exchanging lessons learned, information dissemination and networking organized and facilitated for participation among policy and technical support professionals, practitioners and other beneficiaries*	(i) Number of knowledge sharing events for exchanging lessons learned, information dissemination and networking produced	0	5	10	? Event proceedings ? Participant feedback surveys ? Social media engagement analytics ? Media reports	

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Output 4.2.4*: Project monitoring and evaluation system operating providing systematic information on progress in meeting project outcome and output targets*	(i) M&E system is established and approved by UNEP	0	1	1	? Project management reports ? M&E records; Half-year progress reports, PIRs ? Mid-term Review and Terminal Evaluation	M&E system established early in project implementation

Outputs under Component 4
Output 4.1.1: National Environmental-Agricultural Production Information System accessible through multi-stakeholder operational platforms.
Output 4.1.2: Low-cost environmental/agrometeorological systems for land resource degradation and agro-climatic assessment and accompanying capacity building.
Output 4.2.1: Knowledge Management Strategy and Plan and Communication Plan for the systematization, publication and dissemination of best practices / lessons learned, and enhancement of awareness using innovative technologies and digital tools to support the scaling up and mainstreaming of interventions by target beneficiaries including policy and technical support professionals, practitioners, other beneficiaries.
Output 4.2.2: Suite of at least 15 specific public awareness resources, media outputs developed and made accessible for use by policy and technical support professionals, practitioners, other beneficiaries and wider civil society.
Output 4.2.3: Series of at least 10 knowledge sharing events for exchanging lessons learned, information dissemination and networking organized and facilitated for participation among policy and technical support professionals, practitioners and other beneficiaries
Output 4.2.4: Project monitoring and evaluation system operating providing systematic information on progress in meeting project outcome and output targets

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 Council Comments (Germany)

GEF Council Comments	Responses
Germany welcomes the proposal of integrated landscape management approach under the framework of land degradation neutrality (LDN) and acknowledges the broad stakeholder engagement that has already taken place, the consideration of land rights as well as the link to international networks and programmes, e.g. WOCAT, trends earth, and TEEB.	Noted

Ensure that the respective ministries, institutions, and private investors responsible for the conversion of productive agricultural lands into commercial and residential uses are actively involved in the project as important actors regarding trade-offs between environmental and development goals.	The consultation process has been fairly extensive during the project development phase. All the relevant key government agencies have been consulted and provided inputs, and the DEPP has actively engaged high-level policymakers up to the minister level. The Minister of Agriculture has expressed strong support for the project which should drive the national policy reforms needed across multiple sectors, both within the public and private sectors.
Develop a comprehensive Capacity Development and Knowledge Management Strategy as a basis for long-term institutional learning and behavioural change. This should also be reflected in the theory of change.	The PPG phase has resulted in the formulation of critical guidance in the shaping of the project?s knowledge management strategy that will be fully elaborated as a core project output during implementation (refer to Appendix 20 of the UNEP project document). This will be supported by a Communications Plan, also to be shaped as an output in project implementation. Guidance on the development of the communications plan has been provided as an output in the PPG phase (Appendix 19 of the UNEP project document). Capacity building is given extensive and explicit treatment across all the project components backed up by quantifiable gender-sensitive metrics that will assure that learning and results from the project will have sustainability and trigger behavioural change. This is captured in the drivers and assumptions within the project theory of change.
Refer to and use international key documents and guidelines, especially Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT); soil sampling according to internationally agreed standards and guidelines under FAO and UNCCD.	The recommendations are welcomed, and the project design has taken on these and makes explicit reference to the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT) in the narrative under Component 1. During the project implementation the global standard guidelines for soil sampling and land degradation assessment methodologies, for example, FAO?s *Standard operating procedure for handling and preparation of soil samples for chemical and physical analyses*, and the range of other assessment methods available on the FAO Soils Portal. These references have been included in the narrative under Output 4.1.2 for emphasis.

Link to specialized ongoing global initiatives, especially to: the LDN Initiative of the Group on Earth Observations (GEO-LDN) and the new FAO Task Force on Restoration (for addressing trade-off analysis as well as the existing gap between on-the-ground monitoring of restoration or SLM measures and national reporting network); consider applying the Economics of Land Degradation (ELD) 6+1 approach to communicating economic benefits of investing in SLM (to deal with the risk of limited policy buy-in); consider linking IICA's AgriEx App with mobile apps for citizen science like the Land Potential Knowledge System (LandPKS).	The recommendations are very much welcomed, and the project design has noted these linkages to the relevant work that can potentially be incorporated into the project upon implementation. In this regard, specific references have been included in the documented narrative, specifically under Outputs 3.1.1 and 4.1.2. Already IICA as a key project partner has been advancing the work with the AgriEx tool and has been accounted for in the baseline and value-added the organization will bring to the project. The project will indeed explore cooperation and inputs from citizens and schools under Component 4, where most feasible methods will be evaluated and implemented.
Clarify the proposal?s targets of 10,000 ha or 20,000 ha (both numbers are mentioned).	This has been clarified by the field assessment during the PPG phase that concluded that the number of hectares over which SLM/CSA practices can be extended over is 27,300 ha; 10,000 ha will be restored under Component 2, Output 2.1 in line with GEF Core Indicator 3.1 and an additional 17,300 ha to be placed under improves SLM practice in alignment with GEF Core Indicator 4.3.

STAP Comments

Minor issues to be considered during project design

UNEP?s proposal ?Integrated Landscape Management for Addressing Land Degradation, Food Security and Climate Resilience Challenges in The Bahamas? aims to address land degradation, and in tandem, enhance food production through integrated landscape management, climate-smart agricultural interventions and nature-based solutions. The project will implement climate resilient measures and develop Land Degradation Neutrality interventions to achieve this objective.

The project proposes to demonstrate the application of integrated landscape management approaches through a strengthened planning process, to then translate it to a demonstration of good practice within landscape areas that are subject to degradation, supported by strengthened monitoring and assessment tools for decision making. Climate-smart agricultural systems to be piloted will incorporate climate resilient crops and agroforestry systems will generate multiple benefits that will include maintaining and mitigating further biodiversity loss, enhancing carbon sequestration and soil carbon storage along with moisture retention that will contribute to soil health and productivity.

STAP is pleased the project identifies the interlinkages between land degradation, food security and healthy ecosystems, that the project will contribute to The Bahamas identification of LDN targets; and those interventions will explore new business models, will target changes in behaviour and will include women and youth as a focus for capacity development. STAP congratulates the team for the inclusion of academic institutions as agents for knowledge management and sharing.

Given the strong focus on LDN, the project developers may wish to consider STAP?s Land Degradation Neutrality (LDN) Guidelines and UNCCD?s Scientific Conceptual Framework on LDN when designing LDN interventions, and recent literature on market-based instruments for LDN.

STAP also welcomes the theory of change narrative and preliminary diagram. As the project is designed, consider the level of complexity between variables, along with the important assumptions underlying each outcome. These actions will ensure that the causal pathways are not oversimplified, or the reverse ? that simple intervention are over-complicated.

Additionally, as the theory of change, and activities, are developed, STAP recommends reflecting on whether the actions are necessary and sufficient to reach the project objective, and deal with long-term changes. These changes include the climate risks and COVID-19 shocks described in the PIF. One, or two, additional simple pathways should be developed to deal with different levels of plausible change.

With many international agencies working with the Government of The Bahamas to address similar environmental issues (as described in the project baseline) a well-planned coordination and co-operation mechanism amongst these actors and agents of change is essential to the success of this project.

Below, STAP offers recommendations for improving the project design.

Part I: Project Information B. Indicative Project Description Summary	**What STAP looks for**	**STAP Response**	**UNEP Responses**
Project Objective	Is the objective clearly defined, and consistently related to the problem diagnosis?	Yes, the objective is defined clearly, and consistently linked to the problem statement.	n/a

Project components	A brief description of the planned activities. Do these support the project?s objectives?	Yes, the activities support the project objective.	n/a
Outcomes	A description of the expected short-term and medium-term effects of an intervention. Do the planned outcomes encompass important global environmental benefits/adaptation benefits?	Yes, the outcomes focus on global environmental outcomes.	n/a
	Are the global environmental benefits/adaptation benefits likely to be generated?	Yes, potentially. The benefits are likely to be generated with a good theory of change, and careful monitoring of interventions. In preparing the PPG, STAP recommends attention be paid to identifying indicators (and associated metrics) to provide the evidence base of achieving the stated GEBs.	There are indicators and metrics in the results framework that project to the immediate state level toward the evidence of attainment of GEBs in terms of assessment of uptake of SLM practice and policy and action toward land degradation neutrality, along with the assessment of mitigation of CO2 emissions.
Outputs	A description of the products and services which are expected to result from the project. Is the sum of the outputs likely to contribute to the outcomes?	The outputs are likely to contribute to the outcomes to a great extent. It will be important the PPG revises and improves the good theory of change (e.g., Include the risks as external factors, develop alternative pathways to respond to those external factors as they may arise), and the assumptions underlying the causal connections between activities, outputs, and outcomes.	ToC was updated risk mitigation is associated with the assumptions captured in the intervention logic and key assumptions section of the UNEP project document.
Part II: Project justification	A simple narrative explaining the project?s logic, i.e. a theory of change.	The project has a good narrative of the Theory of Change, complemented by a graphic. Pg 17 describes the assumptions that frame the project and identify critical aspects for those assumptions to hold.	An updated TOC diagram was developed that integrates the drivers and assumptions along the causal pathways.

1. Project description. Briefly describe: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)	Is the problem statement well-defined?	Yes, the problem is well-defined. The PIF describes the socio-economic and policy context of the country; the impact of climate change, including natural hazards (e.g., hurricanes) on livelihoods and agricultural sector; the impact of COVID-19 on livelihoods; the drivers of degradation (e.g. shifting cultivation combined with slash and burn; deforestation; unregulated mining; groundwater pollution in part due to increased use of agrochemicals;	The problem statement remained valid in the project design
	Are the barriers and threats well described, and substantiated by data and references?	Yes, the barriers are well-described. The theory of change, or causal pathway, should include the barriers described in the PIF as well as others that are identified by stakeholders during the project design (e.g., for ?fragmentation of planning? identify key ?agents? that can need to be engaged in the design and implementation of the intervention, when should they be involved, what should they be doing). The barrier to lack of fiscal incentives may require thinking in the ToC on a set of levers around education, behavioural interventions, fines, incentives, etc. Also, recommend is to identify the enablers of change in the causal pathways.	The four TOC/causal pathways are addressing four specific barriers that have remained valid in consultation with stakeholders during the project design stage. Addressing the barrier in lack of incentives has been elaborated; a mechanism for the management of the project grant resources via existing agri-business enterprise development mechanisms that are already in practice by BAMSI, BAIC, BDB will be advanced under the project. This will be supported via capacity building, education, screening and fostering, all to assist behaviour change and building economic resilience. The ToC incorporates this and is reflected in the results framework with quantifiable indicators.
2) the baseline scenario or any associated baseline projects	Is the baseline identified clearly?	Yes, the PIF includes a narrative baseline, describing ongoing and future initiatives on land management, waste management from agriculture, post-hurricane response measures, climate-smart agriculture, among others. One of those future initiatives is CSIDS-SOILCARE	n/a

	Does it provide a feasible basis for quantifying the project?s benefits?	In addition to the GEF core indicators, identify indicators to monitor the sustainability and climate resilience of the targeted livelihoods.	Income generation is a metric in the results framework.
	Is the baseline sufficiently robust to support the incremental (additional cost) reasoning for the project?	Yes, the baseline is sufficiently robust at this stage. However, recommend identifying environmental and social indicators (when developing the theory of change) that complement the GEF?s core indicators, and which track progress towards achieving sustainable landscape management and climate resilient livelihoods.	Yes, the results framework includes a suite of direct outcome indicators that complement the GEF core indicators. Includes tracking of beneficiary income changes and environmental status changes (landscape, soil and water monitoring). The area of landscape restored and change in the adoption of SLM are captured within the project indicators. Number of farmers (gender-disaggregated) and areas they operate will be captured in the indicator set.
	are the lessons learned from similar or related past GEF and non-GEF interventions described; and	Yes, some complementary initiatives are described	n/a

	how did these lessons inform the design of this project?	Lessons from past or ongoing initiatives need to be described in the baseline section (e.g. describe links to the CSIDS-SOILCARE project). This information appears missing in the PIF.	The CSIDS-SOILCARE Project is expected to commence in 2022, hence ?lessons? from implementation are not yet available for the benefit of this project. The SOILCARE project will assist countries in monitoring and evaluating LDN by providing them with necessary tools for adopting policies, measures and reforming legal and institutional frameworks to achieve LDN and climate resilience. The project will seek to mainstream SLM and SSM strengthen KM and enhance training and capacity development. The information generated from these initiatives will be fed into the SLM regional Knowledge Hub that will be established and provide an opportunity for disseminating lessons learned. UNCCD indicators land cover (assessed as land cover change), land productivity (assessed as NPP) and carbon stocks (assessed as SOC) will be shared with other countries, including The Bahamas.

3) the proposed alternative scenario with a brief description of expected outcomes and components of the project	What is the theory of change?	A theory of change diagram is provided in Annex H. The preliminary theory of change for the project is: ?The project?s theory of change is underpinned by the desired intermediate state of attaining reduced vulnerability to land degradation across productive landscapes in the country through (a) the institution of policy, planning and development processes that foster LDN integration, (b) the reduced potential for land degradation over some 10,000 hectares through the installation of SLM, nature-based solutions and climate resilient agriculture systems and (c) the enhancement of evidence-based decision-making on LDN among stakeholders. In this regard the project seeks to deliver intended outcomes under four project components that will contribute to the desired intermediate state and ultimately the desired impacts of improved and sustainable crop yields and healthy, resilient and productive ecosystems toward improved livelihoods and well-being and expanded global environmental benefits.? Pg 17 describes the assumptions.	Revised ToC with 4 causal pathways has been prepared with the set of assumptions and drivers positioned in relationship and influence to the outputs and direct outcomes, intermediate states. The UNEP project document explains the intervention logic and key assumptions and project?s logical pathways (section 3.4).
	What is the sequence of events (required or expected) that will lead to the desired outcomes?	See above.	See above
	What is the set of linked activities, outputs, and outcomes to address the project?s objectives?	See above.	See above
	Are the mechanisms of change plausible, and is there a well-informed identification of the underlying assumptions?	To an extent. The key assumptions that underlie the success of the project are described. During the project design, STAP suggests articulating further the nuanced relationships between the activities, outputs and outcomes. The description should also identify the important assumptions that need to be validated to meet each outcome. Links between outcomes should also be identified.	As per above

	Is there a recognition of what adaptations may be required during project implementation to respond to changing conditions in pursuit of the targeted outcomes?	The project acknowledges the impact of COVID on the economy, and the impacts of increasing climate-related extremes events. Given the increased frequency of natural disasters in the target area, and the impact of unforeseen (and foreseen) risks and shocks (e.g. COVID-19), STAP recommends building one, or two, simple scenarios for plausible futures. Such exercise (conducted as part of the PPG) will benefit from inputs of ongoing work of FAO with the Ministry of Agriculture and Marine Resources to assess the impact of the COVID-19 pandemic in the Agriculture and Fisheries Sector of the region including the Bahamas, and other relevant assessments (ongoing) related to climate change that are mentioned in the PIF. Building, and accounting for, these scenarios of plausible futures will assist in ensuring that the outcomes endure beyond the project lifetime (anticipate and being ready for external shocks). Several sources for building multiple pathways include STAP?s theory of change primer (table 2), and RAPTA: https://www.stapgef.org/theory-change-primer https://www.stapgef.org/rapta-guidelines	The project has been designed with considerations of adaptation and resilience to shocks such as is being experienced with the impacts from the COVID19 pandemic and the potential influence of adverse extreme events as conveyed in the risk and assumptions statements in the ToC. The RAPTA methodological approach is well noted and indeed is a recommendation that will be brought to into consideration on the detailed design phases of the project outputs on implementation.
5) incremental/ additional cost reasoning and expected contributions from the baseline, the GEF trust fund, LDCF, SCCF, and co-financing	GEF trust fund: will the proposed incremental activities lead to the delivery of global environmental benefits?	Yes, with a good theory of change (see earlier comments), careful monitoring (through well defined indicators and associated metrics), and identification of several causal pathways that are necessary and sufficient to reach the project objective.	Indicators have been defined with appropriate metrics that track toward the realization of the direct outcomes and the intermediate impacts.
6) global environmental benefits (GEF trust fund) and/or adaptation benefits (LDCF/SCCF)	Are the benefits truly global environmental benefits/adaptation benefits, and are they measurable?	Yes, the global environmental benefits are articulated clearly. Indicators will be provided in the final project document, and STAF encourages the project team to acquaint with the LDN indicators (see LDN scientific conceptual framework), STAP LDN guidelines, and relevant papers of a special issue on LDN that deal with indicators and metrics for the LDN baseline determination and monitoring LDN. During the project design, STAP recommends addressing the following issues:	Indicators defined in the context of the LDN indicators. Guideline documents available from the GEF/STAP and UNCCD were referred to for guidance on setting core indicators particularly with respect to land area targeted for agriculture and forestry management interventions.

		In component 1, project developers can rely on STAP?s LDN guidelines for developing land use planning interventions based on systems thinking. Trade offs between environmental benefits should be identified in the project document, as well as strategies for managing leakage of deforestation, and shifting agriculture. Additionally, project developers should apply the LDN hierarchy (avoid, reduce, reverse) when designing SLM, rehabilitation and restoration interventions. The STAP guidelines provide steps on how to pursue LDN planning, including conducting preparatory assessments to identify land potential and resilience. Refer to https://www.unccd.int/publications/scientific-conceptual-framework-land-degradation-neutrality-report-science-policy	The STAP guidance is welcomed, and the approaches have been followed in project design and will be followed in project execution as recommended particularly to guide Component 1. In addition, the UNCCD publication, Land Degradation Neutrality Transformative Projects and Programmes: Operational Guidelines for Country Support will be a resource to assist stakeholders, practitioners and national agencies to develop a thorough understanding of Land degradation neutrality (LDN) and the process for implementing LDN-transformative projects (LDN-TP).
		In component 2, pay careful attention to farmers? values, norms, culture, gender, and other social structures that can influence their motivations, and shifts in behaviour towards pro-environmental sustainability. Currently, the project has an inherent assumption that farmers? behaviour will change and be enduring to achieve long-lasting outcomes. This assumption should be defined in the theory of change.	The assumption is made that farmers/ attitudes and socio-culture values are adequately understood as reflected in the project ToC that will trigger best practice uptake by framers, producers and other community groups. The partners engaged in the project formulation during the PPG phase have been working for several years in delivery of support services to the farming community and the project design has been built on these experiences.

		In addition to monitor and evaluating progress, component 4 should also look to foster reflection and innovation for scaling and transformational change. Refer to STAP?s primer (table 2) for steps on monitoring, evaluation and learning.	A knowledge hub will be fostered by the project, that is intended to extend the efforts of the lead partner the DEPP in integrating the knowledge outputs from the suite of GEF projects under execution in The Bahamas. The project has defined an approach for knowledge management that will incorporate the learning from the project. Further the project will feed to the work of the PISLM in the Caribbean in meeting obligations of the UNCCD and attaining LDN. These linkages have been elaborated in the project narrative.
	Is the scale of projected benefits both plausible and compelling in relation to the proposed investment?	Possibly. Recommend developing a theory of change with various causal pathways to encourage adaptability in the face of abrupt and foreseen change. Additionally, monitoring and evaluation of progress, and encouragement of adaptive management as needed, should be undertaken. STAP acknowledges the project?s mention of PPP and encourages the team to explore market based instruments for LDN interventions (see for instance ?Synergies between Land Degradation Neutrality goals and existing market-based instruments? https://doi.org/10.1016/j.envsci.2019.01.012)	The updated ToC attempts to account for adaptability. The project M&E framework through the period progress reporting provides a robust framework for stakeholders and the project management team to assess and make adaptive management decisions. The project anticipates to actively promote market-based approaches by the very design of Component 3. The reference provided by the STAP is well noted and will be among the guidance to be followed in project execution.
	Are the global environmental benefits/adaptation benefits explicitly defined?	Yes, the global environmental benefits are defined.	n/a

	Are indicators, or methodologies, provided to demonstrate how the global environmental benefits/adaptation benefits will be measured and monitored during project implementation?	In addition to the GEF?s core indicators, STAP encourages the use of UNCCD?s three land-based indicators and associated metrics, related to LDN: land cover (assessed as land cover change), land productivity (assessed as NPP) and carbon stocks (assessed as SOC). Moreover, appropriate indicators/metrics for locally-relevant ecosystem services that are not covered by SOC, NPP or land cover change should be identified and included in the proposed monitoring systems.	These metrics are noted specific reference under narrative under Output 4.1.2 and have been conveyed in the indicators in the results framework.
	What activities will be implemented to increase the project?s resilience to climate change?	The PIF states that landscape restorative measures, such as tree planting, SLM, and nature-based solution will be pursued for climate resilience purposes. STAP recommends defining these activities further in the project document.	Further elaboration is made in the project narrative under component 2 and information is provided in the mapping in Appendix 17 of the UNEP project document. The technical expertise to be procured project execution will develop detailed guidance on local site interventions.

7) innovative, sustainability and potential for scaling-up	Is the project innovative, for example, in its design, method of financing, technology, business model, policy, monitoring and evaluation, or learning?	Yes, the project will embed landscape management across policy and planning sectors; it proposes to explore PPPs, and to work in component #1 for an enabling mechanism for LDN that enhances/strengthen governance. A degree of innovation is brought in the learning and knowledge management through the consideration of academic institutions as enablers of this. Further innovation in design can be achieved by using participatory spatial land use planning; by considering assessments of resilience and land potential prior to design LDN interventions, and by considering the use of geospatial technologies more broadly in the different project components (e.g. coupling with wireless sensors for collection of data on soil conditions; for building scenarios that are spatially explicit, for target setting). Innovation in financing could be considered through PES, and ?carbon farming through environmental plantings, and other measures that promote soil carbon sequestration? initiatives that align very well with the vision and objectives of LDN interventions and climate resilient responses.	The possibilities for innovation as offered by the STAP on innovation related to spatial land assessments and financing for improved landscape management are well noted. This has been captured in the narrative, shaped by multi-stakeholder engagement in the project design. The topics offered are noted and will be reviewed for uptake in project inception. The proposed low-cost environmental /agri-met systems and their design and operation will introduce new capabilities that currently do not exist and will present opportunity for learning and innovation for advancing the science that will support LDN target setting. TEEB principles will be applied as the basis from ecosystem benefit perspective for incentivization of the SLM/CSA measures that are to be supported under the grant mechanism to be executed under Component 3.
	Is there a clearly-articulated vision of how the innovation will be scaled-up, for example, over time, across geographies, among institutional actors?	Partially. There is an assumption that strengthening technical capacity will lead to innovation and scaling. Recommend defining these assumptions in the theory of change. Additionally, STAP recommends relying on the theory of change, and its monitoring, to identifying opportunities for scaling and transformative change. The theory of change also should be used to address barriers, and enablers, of scaling. STAP recommends learning from other projects conducted in SIDS that provide indication of potential and barriers for scaling (e.g. ?how feasible is the scaling out of livelihood and food system adaptation in AP islands?	The updated ToC takes into account the assumptions around the innovation and upscaling and addresses each of the key barriers associated with the causal pathways. The recommendation of learning from other projects from SIDS is well noted and will be factored in with detained design of the investments.

	Will incremental adaptation be required, or more fundamental transformational change to achieve long term sustainability?	Incremental change is recognized, and it is possible that more transformational change may be needed ? especially in relation to continuing impacts from climate change and further effects from COVID-19 on livelihoods and the health of ecosystems of The Bahamas.	The project is underpinned by a ToC that seeks to enhance transformational change in the agricultural and agri-business sector that bolsters economic resilience considering how the country was affected by economic losses in the heavily-dependent vulnerable tourism sector.
1b. Project Map and Coordinates. Please provide geo-referenced information and map where the project interventions will take place.		STAP recommends following its guidance on maps in its Earth Observation document as some key elements appear missing from the maps. STAP guidance can be found at: https://www.stapgef.org/earth-observation-and-gef	Recommendation noted and guidelines provided were mostly followed. The maps in contained in Appendix 17 of the UNEP project document have added elements further to the submission at PIF in keeping with the guidance. The project will however develop further detailed mapping products at inception.

2. Stakeholders. Select the stakeholders that have participated in consultations during the project identification phase: Indigenous people and local communities; Civil society organizations; Private sector entities. If none of the above, please explain why. In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.	Have all the key relevant stakeholders been identified to cover the complexity of the problem, and project implementation barriers?	The key stakeholders have been identified. Suggest reflecting whether there are other stakeholders that need to be involved during the project development, and implementation. STAP also recommends the theory of change identify stakeholders that are relevant to overcome each of the implementation barriers.	The stakeholder identification was already extensive at PIF stage and did not change substantially during the PPG phase. The lead agencies, the Ministry of Agriculture and IICA facilitated good coverage of the stakeholder analysis that was incorporated into the FSP document; the roles of stakeholders in addressing the barriers were captured as per the project output/component alignment.

	What are the stakeholders? roles, and how will their combined roles contribute to robust project design, to achieving global environmental outcomes, and to lessons learned and knowledge?	Suggest elaborating further on stakeholders? roles, particularly at the outcome level.	The results framework provides outcome level assessment of stakeholder roles/use and interaction with outputs to drive change realized as direct outcomes. These include the entrenchment of inter-sectoral collaborative mechanisms for enhanced decision-making and achieve LDN in the longer term. In addition, provisions have been made for stakeholder participation on the PSC or TAC, as data sources, providing technical expertise and knowledge enhancement through the institutionalization of project results and lessons learned to allow for up-scaling, replication, and sustainability.

3. 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). Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes/no/ tbd. If possible, indicate in which results area(s) the project is expected to contribute to gender equality: access to and control over resources; participation and decision-making; and/or economic benefits or services. Will the project?s results framework or logical framework include gender-sensitive	Have gender differentiated risks and opportunities been identified, and were preliminary response measures described that would address these differences?	The project developers will rely on gender planning to identify strategies, tools, approaches, and design interventions. Disaggregated data to monitor the project?s progress. STAP acknowledges the project use of the Manual for Gender-Responsive Land Degradation Neutrality Transformative Projects and Programmes that provides guidance on integrating gender issues and promoting gender equality in the design of transformative LDN projects. Other relevant source of knowledge can be on the paper Moving towards a twin-agenda: Gender equality and land degradation neutrality	A gender plan is included (Appendix 18 of the UNEP project document). Disaggregated data collection (male/female ratios) to monitor the project?s progress are emphasized across the project results framework. In seeking to address the twin agenda of gender equality and LDN opportunities are proposed for women to obtain equal access to grants as well training in areas that would allow for female-led and family-based household enterprises to upgrade from cottage-based agro-processing initiatives to commercial production standards.

	Do gender considerations hinder full participation of an important stakeholder group (or groups)? If so, how will these obstacles be addressed?	Unsure as the gender analysis will be done during the project design. STAP recommends considering how a gender analysis may hinder the full participation of an important stakeholder group.	The gender analysis was carried out and is contained in the UNEP ProDoc. During formulation of the project in the PPG phase, integrating gender considerations was not shown to hinder full participation of stakeholders but rather served as an important complement.

5. Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design	Are the identified risks valid and comprehensive? Are the risks specifically for things outside the project?s control? Are there social and environmental risks which could affect the project? For climate risk, and climate resilience measures: ? How will the project?s objectives or outputs be affected by climate risks over the period 2020 to 2050, and have the impact of these risks been addressed adequately? ? Has the sensitivity to climate change, and its impacts, been assessed? ? Have resilience practices and measures to address projected climate risks and impacts been considered? How will these be dealt with? ? What technical and institutional capacity, and information, will be needed to address climate risks and resilience enhancement measures?	The PIF describes a series of risks to the project, including: climate change risks, COVID-19 risks, limited buy-in for policies, limited engagement from the private sector, among others. STAP recommends for these risks to include in a revised theory of change so they are dealt with during the project implementation. Not acknowledging the risks will undermine the causal logic of the interventions. For climate change, STAP recommends taking into account the questions to the left, and relying on its climate risk screening guidance: https://www.stapgef.org/stap-guidance-climate-risk-screening	The updated ToC acknowledges the risk factors and directs attention to maintain focus on these factors during implementation. The project addresses at the core increasing resilience to the impacts of climate risks and will contribute positively in the long range out to 2050. Already the country has been collaborating with partners to build resilience in the sector (and others) and these considerations have been factored into the design across all components. The STAP guidance is also augmented by the UNEP Safeguard Risk Identification screening that is included in Appendix 15 of the UNEP project document that was considered in the project design.

6. Coordination. Outline the coordination with other relevant GEF-financed and other related initiatives	Are the project proponents tapping into relevant knowledge and learning generated by other projects, including GEF projects?	Yes, the project will build on the knowledge of other projects based on the baseline projects listed in the PIF and described in the coordination section. The Project will have a Project Steering Committee, and STAP recommends that it also establish a ?Scientific and Technical Advisory Panel or Committee?, with representatives of academic and research institutions that will support the project (e.g. IICA, University of Bahamas, BAMSI, leading government agency). LDN is an evolving theme, with many countries implementing different practices and technologies, and is nature-based solutions. Experts could provide technical briefs that within an operating framework of ?adaptive management? could be embraced in design and implementation.	The project will establish a TAC as proposed which will bring together relevant expertise comprised of: ? DEPP ? Chair ? MAMRFIA ? Forestry Unit ? Department of Agriculture ? Dep of Gender and Family Affairs ? BDB ? BAMSI ? U of B. ? UNEP Task Manager ? IICA, ? CARDI and PISLM
	Is there adequate recognition of previous projects and the learning derived from them?	See above.	

	Have specific lessons learned from previous projects been cited?	Partially. STAP recommends elaborating further on the lessons learned from other projects ? GEF and non-GEF that are relevant to this project. For example, ?mining? the GEF database to explore lessons from previous projects in KM and technology transfer to small island developing states with a focus on organic waste management (related to barrier #2).	The recommendation is well noted. The detailed design phase of the on-ground interventions will need to be supported by best-case examples that demonstrate the proof-of-concept. Information sources will be sought from Caribbean SIDS in the first instance and then across global SIDS. IICA, one of the core development partners have been already working extensively with organic waste conversion for application in agriculture with relevant experience within the hemisphere. This has been emphasized in the Output 2.1.1 narrative.
	How have these lessons informed the project?s formulation?	See above.	
	Is there an adequate mechanism to feed the lessons learned from earlier projects into this project, and to share lessons learned from it into future projects?	Yes, component 4. Additionally, the theory of change should be linked to the monitoring system.	The design of Component 4 assures an adequate mechanism to feed in relevant lessons for dissemination into future initiatives. The project is the first of its kind to be supported by GEF, however there has been deep engagement of partners such as CARDI, IICA and the University of the Bahamas in the country upon which learning will be built. The project results framework includes indicators and metrics for monitoring efficacy of uptake of lessons.

8. Knowledge management. Outline the ?Knowledge Management Approach? for the project, and how it will contribute to the project?s overall impact, including plans to learn from relevant projects, initiatives and evaluations.	What overall approach will be taken, and what knowledge management indicators and metrics will be used?	The PIF identifies several knowledge management efforts and approaches the project will rely on. As the project stakeholders develop the knowledge management plan, consider indicators of success. Additionally, suggest using component 4 and the theory of change to manage knowledge and learning, and to revise proposed indicators so that evidence of learning (not only of dissemination of information) can be gathered during the project and for the terminal evaluation.	There are indicators for KM, lessons uptake and dissemination. These will be facilitated through training, but more importantly their actual use of the system as evidence by their willingness to access information that can be used in decision-making. The evidence of learning will be incorporated across all capacity building opportunities under the project components.
	What plans are proposed for sharing, disseminating and scaling-up results, lessons and experience?	The PIF describes several methods for scaling knowledge, including by engaging stakeholders in Universities, disseminating lessons to UNCCD?s knowledge portal, WOCAT and Trends.Earth, as well as linking up with other platforms and regional initiatives in the Caribbean.	This approach has been elaborated further in the project design.

ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: **150,000**			
Project Preparation Activities Implemented	***GETF/LDCF/SCCF Amount ($)***		
	Budgeted Amount	***Amount Spent To date***	***Amount Committed***
Expert assessment on landscape management, climate-resilient food production, productive agricultural landscapes and communciation/KM	125,000	125,000	0
Consultation process meetings, travel and miscellaneous	25,000	25,000	0
Total	150,000	150,000	0

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.


Grand
Bahamas
Abaco
Southwest
Point
Freeport
Cherokee
Sound
The Current
The Bluff
Bar Bay
Settlement
Alice Town
Gregory
Town
Eleuthera
North Atlantic Ocean
Red Bay
Nicolls
Town
New
Providence
NASSAU
Tarpum Head
Coakley Town
Hard Bargain
Free Town
Bannerman
Town
Arthurs Town
Cat Island
ANDROS
Kemps Bay
Rolleville
Moss Town
Simms
Millers
George Town
Galloway Landing
Long Island
Pitts Town
Snug Corner
Pirates Well
Abrahams
Bay
Caribbean Sea

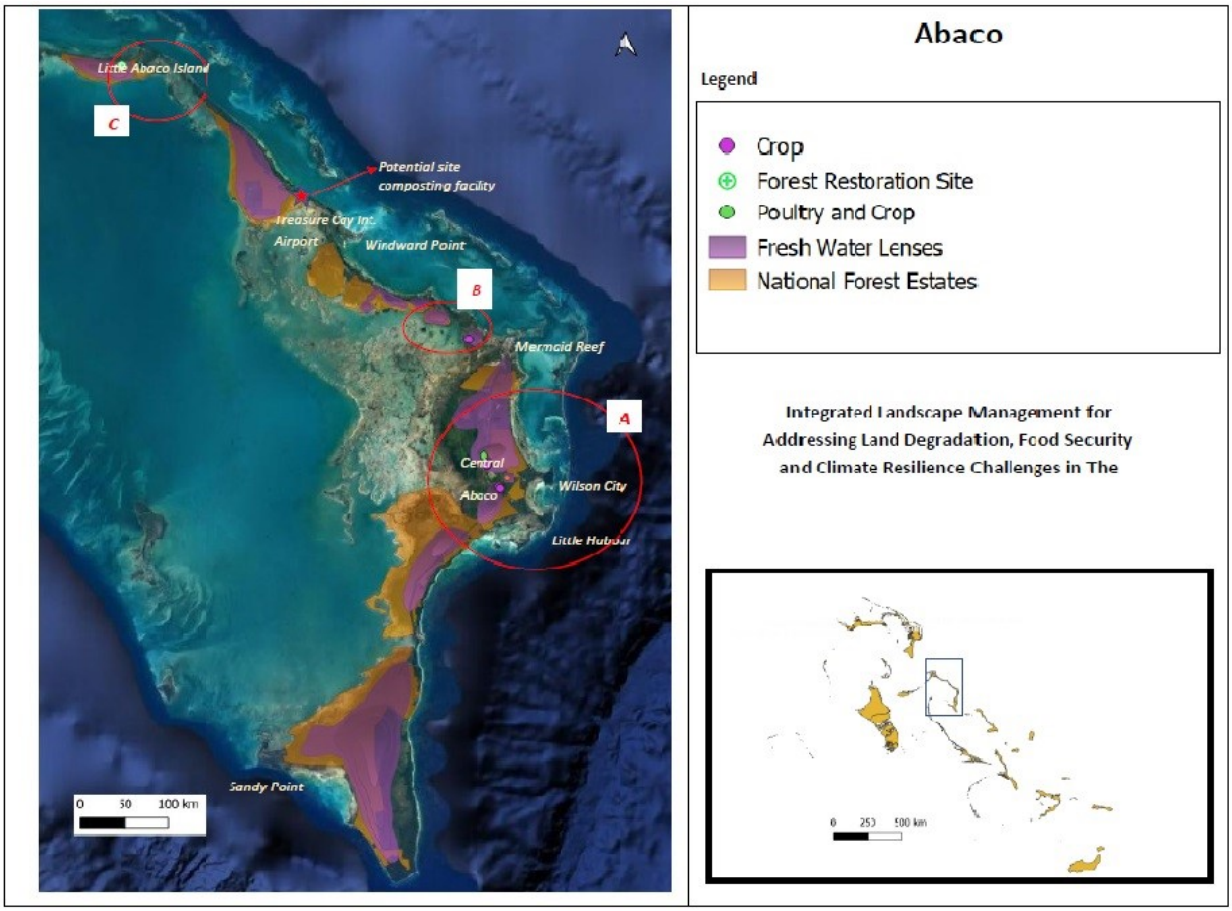

Figure 1: Map of Abaco with proposed sites for project interventions (A) Central Abaco (B) Treasure Cay (C) Little Abaco

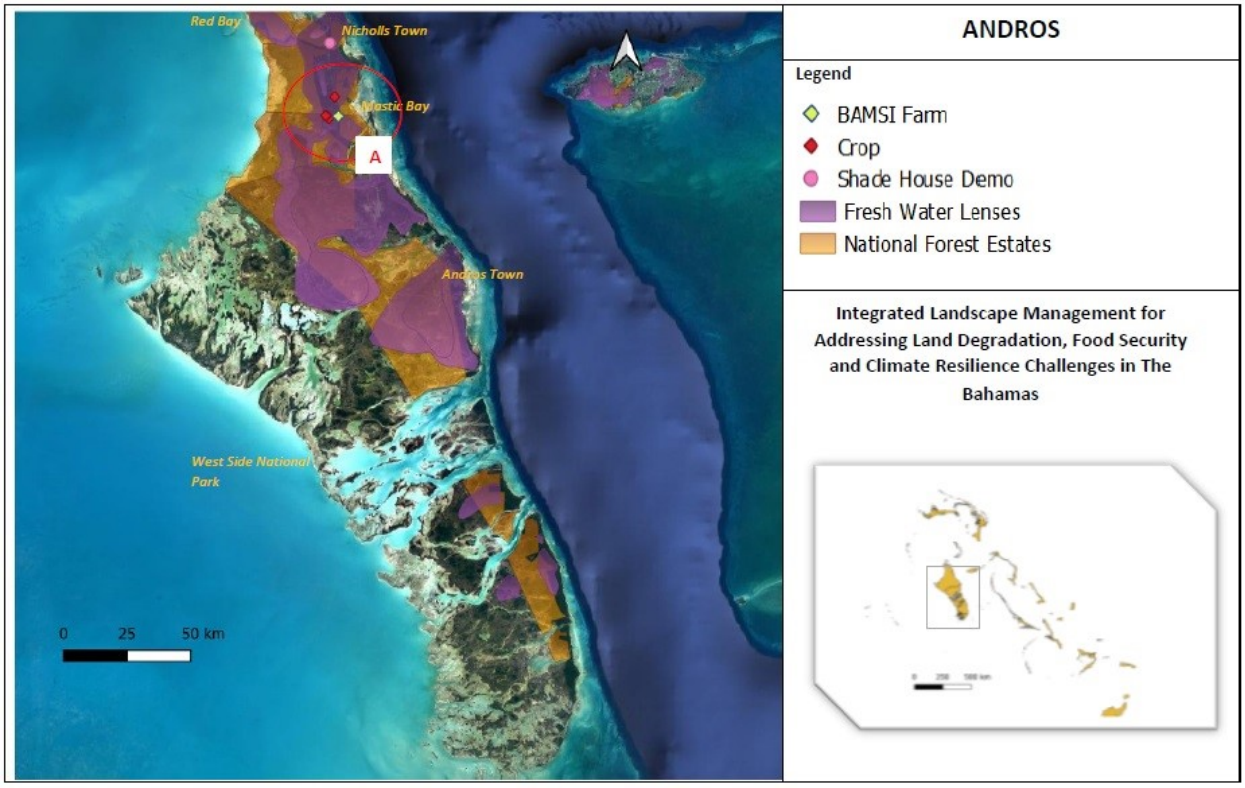

Figure 2 Map of Andros showing (A) the general location of BARTAD Farmlands and BAMSI farm that are targeted for pilot demonstration plots on techniques to improve soil quality and crop productivity and location of the shade house demo

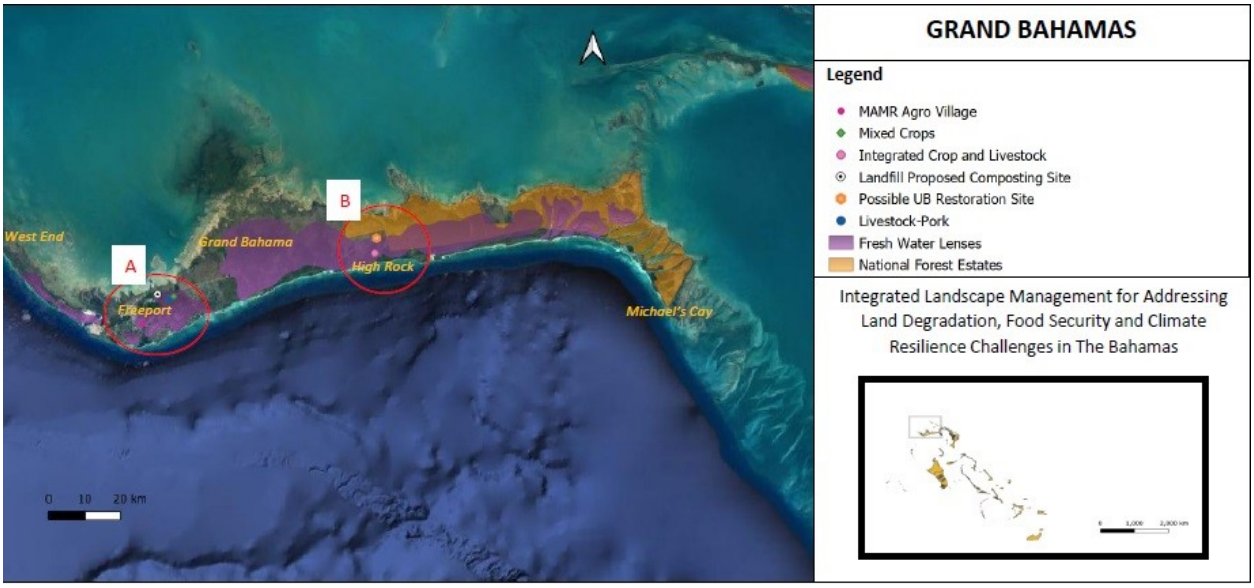

Figure 3: Selected sites on Grand Bahama with the spatial distribution of freshwater lenses and National Forest Estate Boundaries. The relative location of the Forest restoration site and integrated livestock farm is clearly shown

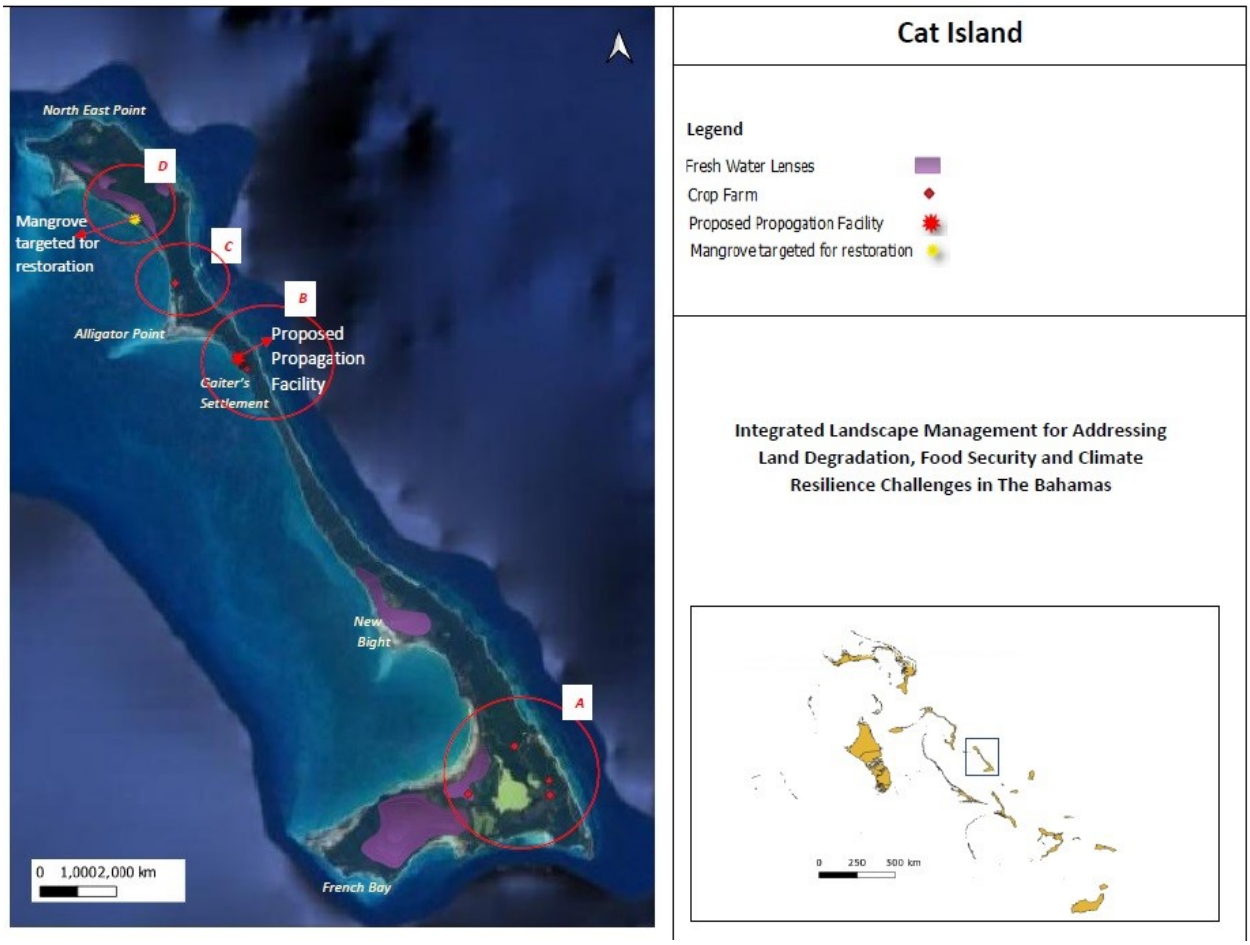

Figure 4: Map of Cat Island with proposed locations A B and D and demonstration sites and C proposed location for a plant propagation facility

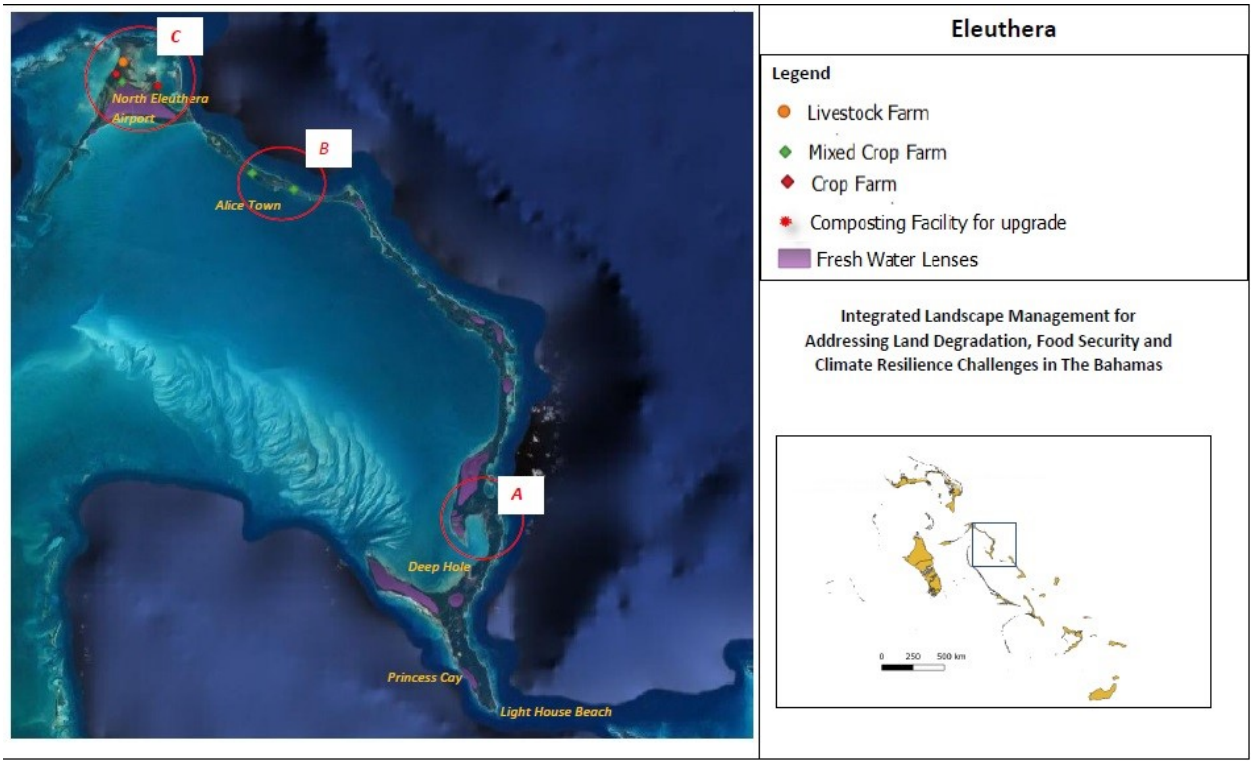

Figure 5: Map of Eleuthera indicating sites (A, B and C) for pilot demonstrations and a proposed composting facility targeted

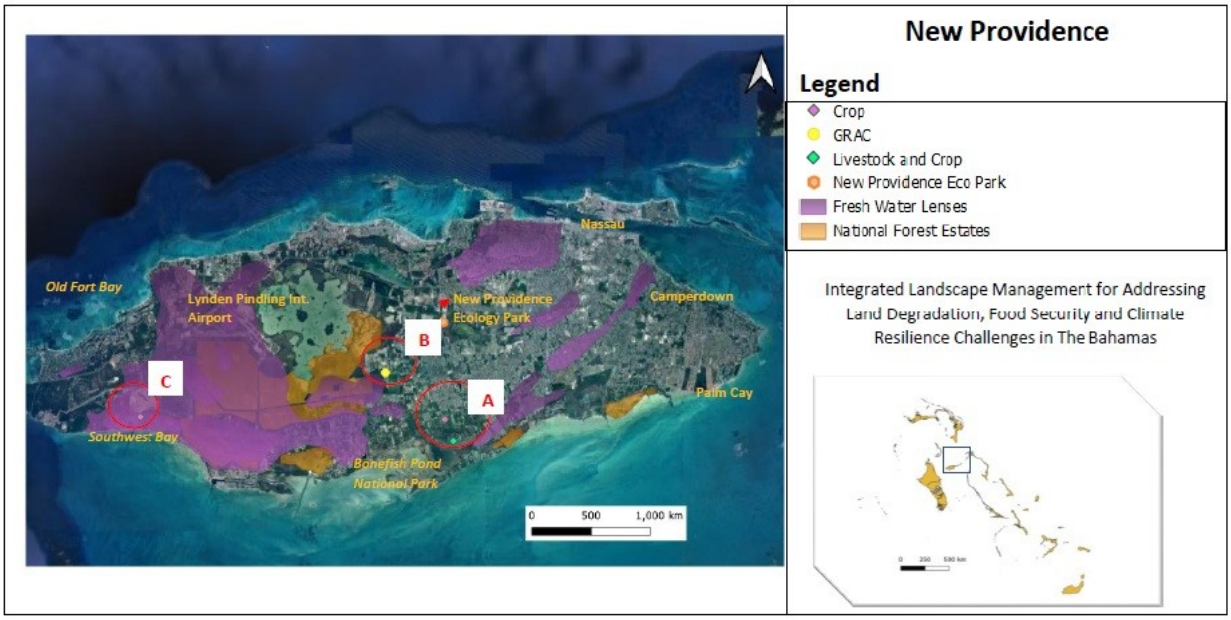

Figure 6: Map with proposed sites for project interventions on New Providence (A) section of land south of Cowpen Road and bordering the Bonefish National Park (B) The GRAC and (C) Mango Farm, Adelaide Village.

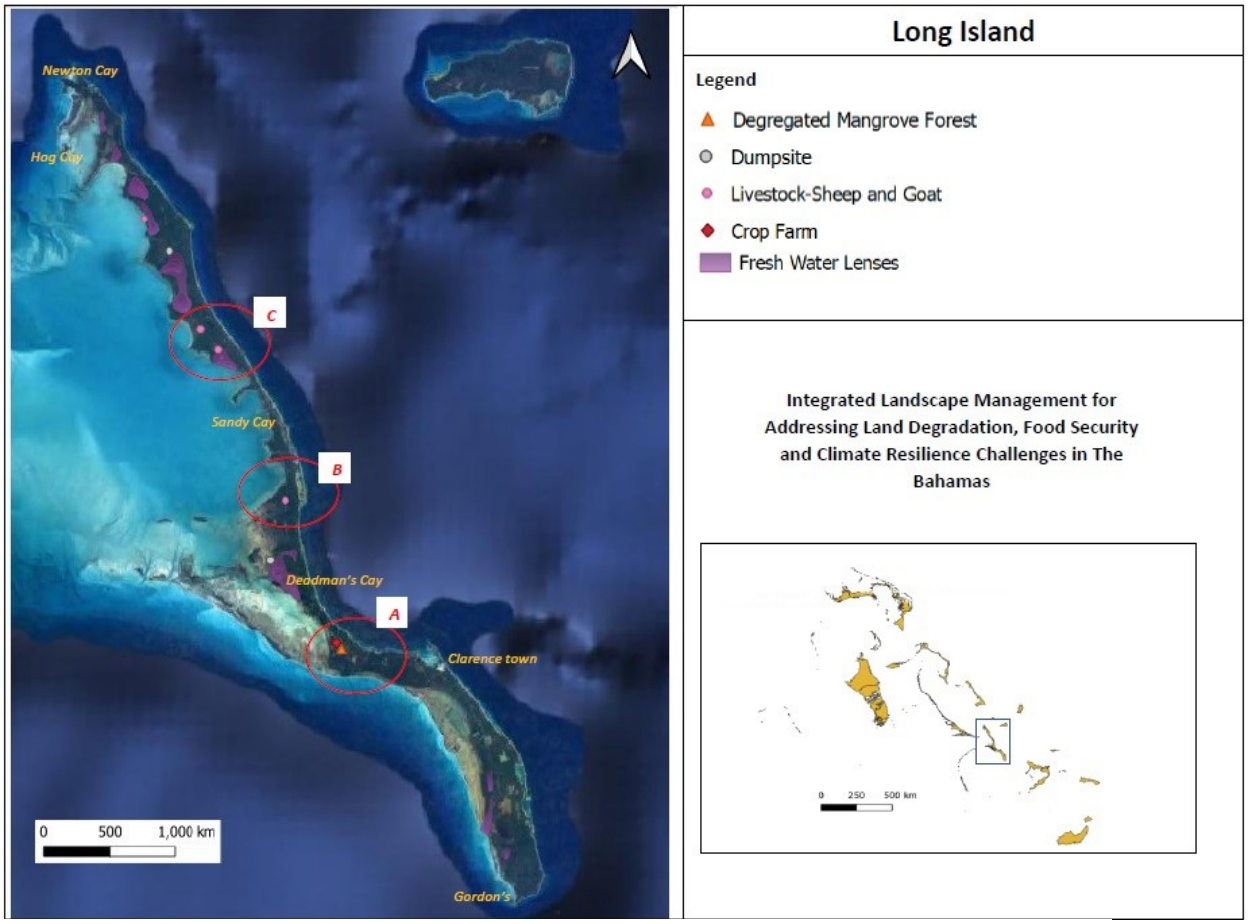

Figure 7 Map showing proposed demonstration sites on Long Island

ANNEX E: Project Budget Table

Please attach a project budget table.

Appendix A: Indicative Project Budget Template - Integrated Landscape Management for Addressing Land Degradation, Food Security and Climate Resilience Challenges in The Bahamas

Expenditure Category	Detailed Description	Component (USDeq.)									Total (USDeq.)	GEF	Co-Financing	Total Financing	Responsible Entity
		Component 1	Component 2		Component 3	Component 4		Sub- Total	M&E	PMC					
		Outcome 1.1	Outcome 2.1	Outcome 2.2	Outcome 3.1	Outcome 4.1	Outcome 4.2								
Works	2.1.1.4 Establish Plant Propagation Facilities		350,000.00					350,000.00			350,000.00	350,000.00		350,000.00	DEPP
Goods								0.00			0.00	0.00		0.00	
Equipment	4.1.2.3 Establish Weather Stations and Data Management System					328,400.00		328,400.00			328,400.00	328,400.00		328,400.00	DEPP
	Computer equipment	5,000.00	5,000.00				5,000.00	15,000.00			15,000.00	15,000.00		15,000.00	DEPP
								0.00			0.00	0.00		0.00	
Vehicles								0.00			0.00	0.00		0.00	
								0.00			0.00	0.00		0.00	
Grants / Sub- grants								0.00			0.00	0.00		0.00	
Revolving funds/ Seed funds / Equity								0.00			0.00	0.00		0.00	
Sub-contract to executing partner/ entity								0.00			0.00	0.00		0.00	
Contractual Services – Individual															
Contractual Services – Company															
CARDI	2.1.1.2 Establish demonstrations of restorative nature-based solutions on selected farms and degraded sites		338,461.00					338,461.00			338,461.00	338,461.00		338,461.00	DEPP
	2.1.1.2 Establish demonstrations of restorative nature-based solutions on selected farms and degraded sites		720,000.00					720,000.00			720,000.00	720,000.00		720,000.00	DEPP
University of Bahamas	4.1.1.1: Conduct the National Environmental-Agricultural Production Information System requirements Analysis													155,000.00	DEPP
	4.1.1.2: Design, develop and test National Environmental-Agricultural Production Information System													0.00	DEPP
	Activity 4.1.1.3: Implement/install, and configure National Environmental-Agricultural Production Information System					155,000.00		155,000.00			155,000.00	155,000.00		0.00	DEPP
	4.1.1.4: National Environmental-Agricultural Production Information System Key Stakeholders Capacity Building													0.00	DEPP
	4.1.2.1: Conduct the Environmental-Agrometeorological System Requirements Analysis													35,000.00	DEPP
	4.1.2.2: Design, develop and test Environmental-Agrometeorological System					35,000.00		35,000.00			35,000.00	35,000.00		0.00	DEPP
	Activity 4.1.2.4: Implement Environmental-Agrometeorological System					35,000.00		35,000.00			35,000.00	35,000.00		35,000.00	DEPP
	4.1.2.5: Environmental-Agrometeorological System Key Stakeholders Capacity Building					4,000.00		4,000.00			4,000.00	4,000.00		4,000.00	DEPP
	4.2.1.1 Develop and Implement a Knowledge Management Strategy and Knowledge Hub.						26,000.00	26,000.00			26,000.00	26,000.00		26,000.00	DEPP
	4.2.3.1 Organize and implement ten (10) knowledge sharing events.						114,800.00	114,800.00			114,800.00	114,800.00		114,800.00	DEPP
	4.2.3.2 Document the information shared at knowledge exchanges and use them to produce information for the knowledge hub.						4,000.00	4,000.00			4,000.00	4,000.00		4,000.00	DEPP
IICA	2.1.1.1 Conduct National Assessment of Land Degradation (LD)		19,000.00					19,000.00			19,000.00	19,000.00		19,000.00	DEPP
	2.1.1.6 Determine the number and location of composting facilities and their operational arrangements		12,000.00					12,000.00			12,000.00	12,000.00		12,000.00	DEPP
	2.1.1.7 Establish composting facilities		858,000.00					858,000.00			858,000.00	858,000.00		858,000.00	DEPP
	2.1.1.8 Develop a framework for soil and water quality sampling and analyses		86,000.00					86,000.00			86,000.00	86,000.00		86,000.00	DEPP
	2.2.1.5 Conduct Train the trainer Workshops on upscaling SLM- LDN regenerative CSA models.			13,250.00				13,250.00			13,250.00	13,250.00		13,250.00	DEPP
	2.2.1.6 Develop and implement online climate smart agricultural systems and sustainable land management short courses.			98,100.00				98,100.00			98,100.00	98,100.00		98,100.00	DEPP
	2.2.1.7 Prepare and distribute land conservation /sustainable land use, composting and pollution control Training Manuals.			30,750.00				30,750.00			30,750.00	30,750.00		30,750.00	DEPP
	1.1.1.2: Revise, update and align the NAP and UNCCD	32,000.00						32,000.00			32,000.00	32,000.00		32,000.00	DEPP
BAMSI	3.1.1.1: Develop and deliver certificate-based gender sensitive training curriculum: SLM Methods; Climate Smart Approaches; and Market Access, inclusive of certification, low carbon, water, and minimal agrochemical footprint, and branding. (BAMSI)				70,000.00			70,000.00			70,000.00	70,000.00		70,000.00	DEPP
BAIC	3.1.1.2: Develop business investment plan templates (BAIC).				15,000.00			15,000.00			15,000.00	15,000.00		15,000.00	DEPP
	3.1.1.3: Develop and deliver training program to facilitate farmers and associated farmers' ability to access a grant mechanism.				75,000.00			75,000.00			75,000.00	75,000.00		75,000.00	DEPP
BDB	3.1.2.1: Establish and manage a grant mechanism to finance SLM and climate-smart agribusinesses.				700,000.00			700,000.00			700,000.00	700,000.00		700,000.00	DEPP
International Consultants															
	1.1.1.4: Revision and Upgrading of Land Policies	0.00						0.00			0.00	0.00		0.00	
Local Consultants															
	1.1.1.1: Develop and operationalize a strategy and Inter-Sectoral Operational Framework	76,000.00						76,000.00			76,000.00	76,000.00		76,000.00	DEPP
	1.1.1.2: Develop an Inter-sectoral cooperation training programme and conduct strategy and intr-sectoral operational training for the three lead national agencies	38,000.00						38,000.00			38,000.00	38,000.00		38,000.00	DEPP
	1.1.2.1: Revision and updating of Land Policies	75,000.00						75,000.00			75,000.00	75,000.00		75,000.00	DEPP
	2.1.1.3 Conduct needs assessment for planting materials		6,000.00					6,000.00			6,000.00	6,000.00		6,000.00	DEPP
	2.1.1.4 Establish Plant Propagation Facilities Infrastructure/Agricultural Engineer		5,400.00					5,400.00			5,400.00	5,400.00		5,400.00	DEPP
	2.1.1.5 Conduct Plant Propagation Certification Training Course		6,000.00					6,000.00			6,000.00	6,000.00		6,000.00	DEPP
	2.1.1.9 Review and Modify the Current Carbon Accounting Procedures		20,000.00					20,000.00			20,000.00	20,000.00		20,000.00	DEPP
	2.2.1.4 Identify and upscale most effective SLM-LDN regenerative CSA models.			5,000.00				5,000.00			5,000.00	5,000.00		5,000.00	DEPP
	3.1.1.4: Manage the mainstreaming of gender sensitivity throughout all project activities and use gender disaggregated data and gender analysis to strengthen farming communities affected by downturn of markets during Covid-19 (gender specialist)				72,000.00			72,000.00			72,000.00	72,000.00		72,000.00	DEPP
	4.1.1.2: Design, develop and test National Environmental-Agricultural Production Information System					0.00		0.00			0.00	0.00		0.00	DEPP
	4.1.1.3: Implement/install, and configure National Environmental-Agricultural Production Information System					0.00		0.00			0.00	0.00		0.00	DEPP
	Communication Specialist														
	2.2.1.1 Develop and Implement Education/Awareness Training Program for Farmers.			40,500.00				40,500.00			40,500.00	40,500.00		40,500.00	DEPP
	2.2.1.2 Develop Education/Awareness Training Materials and Short Videos.			16,000.00				16,000.00			16,000.00	16,000.00		16,000.00	DEPP
	2.2.1.3 Develop online version of the Education/Awareness Training Program.			21,200.00				21,200.00			21,200.00	21,200.00		21,200.00	DEPP
	4.1.2.6: Design, Develop and Operationalise a Framework for Citizen Science Initiative					12,000.00		12,000.00			12,000.00	12,000.00		12,000.00	DEPP
	4.2.1.2 Develop and Implement a Communications Plan.						24,000.00	24,000.00			24,000.00	24,000.00		24,000.00	DEPP
	4.2.2.4 Throughout the project's lifetime, five (5) appearances on radio programs.						4,700.00	4,700.00			4,700.00	4,700.00		4,700.00	DEPP

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

N/A

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

N/A

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).

N/