



# GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL-SIZED PROJECT

TYPE OF TRUST FUND: GEF TRUST FUND

## PART I: PROJECT IDENTIFICATION

Project Title:	Conserving biodiversity and reducing land degradation using an integrated landscape approach.		
Country(ies):	Jamaica	GEF Project ID: <sup>1</sup>	9862
GEF Agency(ies):	UNDP	GEF Agency Project ID:	6109
Other Executing Partner(s):	Natural Environmental and Planning Agency. Responsible Party: Forestry Department	Submission Date:	August 29, 2017
GEF Focal Area(s):	Multi-Focal Area - Biodiversity and Land Degradation	Project Duration (Months)	72 months
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>		Corporate Program: SGP <input type="checkbox"/>
Name of parent program:	NA	Agency Fee (\$)	589,954

### A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
BD-4 Program 9	GEF TF	4,066,115	28,754,191
LD-3 Program 4	GEF TF	2,143,931	15,161,156
<b>Total Project Cost</b>		<b>6,210,046</b>	<b>43,915,347</b>

### B. INDICATIVE PROJECT DESCRIPTION SUMMARY

**Project Objective:** To enhance conservation of biodiversity and ecosystem services through mainstreaming of biodiversity into planning policies and practices into Jamaica's productive landscapes and key sectors.

Project Component	Type	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
1. Systemic and institutional capacity for integrated landscape management at national level	TA	Strengthened governance frameworks that mainstream biodiversity into sectoral planning and national land use planning, resulting in increased connectivity and improved management of 55,000 ha, including Jamaica's 3 KBAs (2 of which are within a KBA corridor) and 82 threatened species of national and global significance	<p><b>1.1 Regulatory, coordination, and planning framework strengthened</b>, integrating biodiversity (BD) conservation, ecosystem services (ES) and connectivity in the productive mountain landscape and frameworks of key sectors (agriculture, forestry, tourism and mining) to improve connectivity and management of Jamaica's landscapes and biodiversity of global significance.</p> <p><b>1.2 Decision-making tools developed and implemented with strengthened institutional capacities</b> for informed land-use planning that enhances biodiversity conservation and productive activities and reduces degradation in ecologically sensitive areas, supported by a centralized multi-institutional information management database and monitoring system (developed and operationalized). Decision making tools implemented including spatial mapping, environmental sensitivity index and map, economic valuation of biodiversity and ecosystem goods and services, baseline terrestrial</p>	GEF TF	1,834,643 BD: 1,436,806 LD: 397,837	12,973,923

<sup>1</sup> Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

		<p><i>As measured by the BD tracking tool.</i></p> <p>Strengthened systemic and institutional capacity for promoting BD mainstreaming, evidenced by: (i) strengthened cross-sectoral collaboration for land use planning and management; (ii) operationalization of an integrated landscape level land use plan (iii) development of a Development Order covering the target landscape, and (iv) decision making tools in place and operational.</p> <p><i>As measured by UNDP capacity scorecard. Baseline and target to be confirmed during PPG phase.</i></p>	<p>biodiversity/ecological assessments, baseline environmental accounts for the mining sector, including a Land Use and Biodiversity Monitoring and Tracking Tool, with monitoring programmes developed and initiated.</p> <p><b>1.3 Biodiversity conservation and land use planning and management capacities strengthened</b> at the national, parish and local levels through training of government personnel from NEPA, Forestry Department, Agriculture, Parish Municipal Corporations, and other key stakeholders (government collaborators in BD, research, land use planning, tbd) in BD conservation / assessment (40), land use planning and management (35), remote sensing interpretation (10), GIS (15) and other, based on capacity needs assessment for BD and environmental planning to be carried out. EIA curriculum standardized and institutionalized within tertiary educational institution (tbd).</p> <p><b>1.4 Financial support systems for incentivizing conservation oriented integrated landscape management, including sustainable land management (SLM), climate smart agriculture, forest restoration, and sustainable tourism strengthened / established / operationalized.</b> This will include review of existing (national, regional) and development of new sectoral microcredit schemes and related certification of sustainable products (linked to Component 3), with private sector financial institutions engaged. Barriers to effectiveness of current tax incentive to declare private lands as Private Protected Area assessed and addressed.</p> <p><b>1.5 Local participation in land use planning strengthened and local coordination mechanisms developed at the Parish and community levels,</b> with stakeholders engaged, particularly with Maroon populations and relevant statutory bodies (i.e. Rural Agricultural Development Authority). Mechanisms to ensure local level coordination capacities and effective participation in plot sites' planning and management implemented. All project interventions with Maroons in the project area will be carried out based on the principle of free prior and informed consent (FPIC).</p>		
2. Application of landscape planning and management in key biodiversity areas		<p>BD compatible integrated landscape level land use planning and implementation, improving sustainable land management in over 55,000 ha (indicative) and safeguarding 3</p>	<p><b>2.1 Landscape level land Use Plan developed for target area</b> that (i) incorporates environmentally sensitive areas, BD consideration, climate change impacts, land degradation with proscriptions of land uses in the identified environmentally sensitive areas and (ii) is harmonized with Parish Level Local Sustainable Development Plan and supported by Development Order with dedicated inter-sectoral landscape coordination platform / committee in place.</p> <p><b>2.2 Biodiversity mainstreamed INRM</b></p>	<p>2,464,779</p> <p>BD: 1,363,384</p> <p>LD: 1,101,395</p>	17,430,101

	<p>KBAs (2 of which are within a KBA corridor): indicated by: (i) increased areas under SLM practices to 2,500 ha; (ii) enhanced ecosystem services with reduced threats (<i>Indicated by at minimum 15% reduction in sedimentation, reduced loss of native forest</i>) and (iii) active management of environmentally sensitive areas (riparian zones, native forest, critical habitat of species of global significance), with improved conservation of at minimum 4 species of global significance with conservation and recovery plans developed and initiated. <i>Baseline # ha native forest conservation, critical habitat of globally significant species and riparian area in ecologically sensitive area to be identified during PPG phase.</i></p> <p>SLM, CSA and techniques and technologies covering 2,500 ha (indicative), resulting in threats to ecosystem functions (degradation, pollution, sedimentation) are reduced in landscapes surrounding the Cockpit Country Forest Reserve <i>Baseline # ha for sustainable production,</i></p>	<p><b>implemented in Cockpit Country-North Coast Corridor</b> through: (i) implementation of sustainable forest and land management practices in riparian zones (i.e. appropriate setback and species, with flood mitigation); (ii) implementation of BD / CC / SLM compatible agriculture and agroforestry (including irrigation techniques and storage, fertilizer use, other), targeting smallholder farmers; (iii) Drought mitigation through water management / irrigation (i.e. rainwater harvesting, field ponds, solar pumps; (iv) introduction of alternatives to slash and burn agriculture, reducing soil loss and fire risk; (v) Management of BD of global significance and habitats in KBAs identified; (vi) increased planting of forests on private lands supporting a voluntary Forestry Dept. programme and promotion of private lands declared as protected areas strengthening connectivity, and (vi) development/updating of 8 Community Resource Use Plans integrating BD and ecosystem services considerations.</p> <p><b>2.3 Biodiversity conservation integrated with forest and ecological restoration initiatives in Cockpit Country Corridor</b>, supporting biodiversity, ecosystem services and forest connectivity using native species, with restoration plan developed and implemented, ensuring BD supported through; (i) establishment of 5 priority connectivity zones, (ii) restoration of degraded broad leaf forest in identified priority buffer zones of Cockpit Country Forest Reserve covering 400 ha, (iii) restoration of 200 ha of mined out lands for BD, with options for agriculture and agroforestry explored, (iv) techniques for production / restoration with native species on different land types explored, and (v) upgrading of (3) existing nurseries.</p> <p><b>2.4 Capacities for development, implementation and management of productive systems and SLM strengthened</b>, supporting government extension and conservation officers (Forestry, Agriculture, NEPA, Local Community Mgt. Committees, others), producers (at minimum 100) of smallholder farms, and communities and Maroon populations in the target area to implement resource management practices that generate BD and LD benefits and integrate Maroon traditional practices, including; (i) development of (6, based on Output 1.3 capacity needs assessment) integrated SLM / CSA / BD training modules for extension agents, to be institutionalized within tertiary educational institutions; (ii) integrated training modules (6) for producers to support BD- and LD-compatible production, and (iii) integrated modular and field training for Local Community Management Committees, Maroons, communities and producers to implement environmentally sensitive management practices (linked to Output 3.1) through model farms (4), community level nurseries (3) for climate resilient production, and demonstration sites (6) for SLM techniques.</p>			
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3. Sustainable livelihoods mainstream BD compatible practices		<p>BD compatible production systems and livelihoods mainstreamed in agriculture, forestry, tourism and mining, with agroforestry, sustainable forest and land management and tourism practices, resulting in reduced land degradation and soil erosion.</p> <p><i>Indicated by (1) reduction in sediment, (2) reduced levels of soil erosion in steep upland areas, (3) increased area of BD compatible production system and land management. Target and baseline indices to be determined during PPG phase</i></p> <p>BD compatible micro-enterprises in place.</p>	<p><b>3.1 Sustainable livelihoods promoted and implemented in pilot areas</b>, supported by capacity building (Component 2.4) and financial support mechanisms (Component 1.4), and integrating Maroon cultural values. This will include; (i) farmer field schools in (4) pilot sites promoting SLM and BD-compatible production, <del>(ii) six (6) demonstration sites for SLM techniques (i.e. slope stabilization)</del>, (ii) four (4) eco-tourism enterprises operational, demonstrating environmental sustainability and livelihood potential through nature-based tourism, and (iii) eight (8) small business development support (i.e. traditional Maroon goods and crafts, apiculture, agro-processing, other) that includes training, marketing, creating supply chain initiatives that can also serve as models for replication. Livelihood assessment carried out.</p> <p><b>3.2 Women and target population livelihoods promoted.</b> Assessment of gender and vulnerable population carried out, identifying target populations for enhancing sustainable livelihoods. Women's participation supported at the local level, promoting participation through capacity building, enhanced livelihood income generation, community level planning and decision making.</p>	<p>1,147,575</p> <p>BD: 705,291</p> <p>LD: 442,284</p>	8,115,280

4. Knowledge management for SLM, CSA and biodiversity conservation	Knowledge and experiences captured, including Maroon ITK, shared and encourage widespread adoption of SLM and BD mainstreamed sector practices.  Monitoring and evaluation of project implementation, outcomes and outputs ensure project effectively reaches outlined goals and objectives.  <i>Baseline and target will be confirmed during PPG phase.</i>	<p><b>4.1 Technical knowledge captured (including Maroon ITK), experiences and lessons learned disseminated</b> via technical and training reports / manuals / guides, lessons learned notes, based on experience codified (EV, ESI, spatial mapping, SLM, biodiversity assessment, land use mapping, other), and incorporated in institutional strengthening and capacity building initiatives, for continued institutional and private sector learning and activity implementation (national and local level). Knowledge management systems supported for informed planning activities, both within and across different production sectors at different levels (local / sub-regional, national). Maroon and local community awareness incorporated into access and benefit sharing. A Biodiversity and Cultural Center supported in Cockpit Country to disseminate BD, SLM and ITK knowledge of the Maroons. South-south cooperation mechanisms implemented.</p> <p><b>4.2 Media products promote outreach and increased public awareness / environmental education of biodiversity conservation, mainstreaming of BD into productive sectors, integrated land use planning, CSA and SLM,</b> disseminated through videos, photo essays, fact sheets, web platform, television, radio (ABENG FM) exchange site visits by communities and producers involved, also dissemination at regional events.</p> <p><b>4.3 Monitoring and evaluation of project implementation</b> conducted, including through periodic field visits, tracking tool assessments, mid-term and final evaluations of project.</p>	467,333  BD: 367,010  LD: 100,323	3,304,837
			5,914,330	41,824,141
Project Management Cost: (including Direct Project Cost: \$95,890)			295,716	2,091,206
<b>Total Project Costs</b>			<b>6,210,046</b>	<b>43,915,347</b>

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
Recipient Government	Ministry of Economic Growth and Job Creation	Grant/Loan	7,587,882
Recipient Government	Forestry Department	Grant	5,500,000
Recipient Government	National Environment Planning Agency	Grant	13,500,000
UN Agency	United Nations Development Programme	Cash	300,000
Recipient Government	National Environment Planning Agency, Forestry Department, United Nations Development Agency; Ministry of Economic Growth and Job Creation, Planning Institute of Jamaica, Ministry of Tourism	In-kind	3,500,000
Government of Japan	Japan Embassy	Grant	166,000
Recipient Government	Tourism Enhancement Fund	Grant	1,361,465
United States Agency for International Development	Jamaica Rural Economy and Ecosystems Adapting to Climate Change II	Grant	12,000,000
Total Co-financing			43,915,347

**D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS <sup>a)</sup>**

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing	Agency Fee (b) <sup>b)</sup>	Total (c)=a+b

					(a)		
UNDP	GEFTF	Jamaica	Biodiversity	n/a	4,066,115	386,281	4,452,396
UNDP	GEFTF	Jamaica	Land Degradation	n/a	2,143,931	203,673	2,347,604
<b>Total GEF Resources</b>					<b>6,210,046</b>	<b>589,954</b>	<b>6,800,000</b>

#### E. PROJECT PREPARATION GRANT (PPG)<sup>2</sup>

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

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

<b>Project Preparation Grant amount requested:</b> \$ 182,648					<b>PPG Agency Fee:</b> 17,352		
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee (b)	Total c = a + b
UNDP	GEFTF	Jamaica	Biodiversity	n/a	119,591	11,361	130,952
UNDP	GEFTF	Jamaica	Land Degradation	n/a	63,057	5,991	69,048
<b>Total PPG Amount</b>					<b>182,648</b>	<b>17,352</b>	<b>200,000</b>

#### F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	55,000 ha
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	2,500 ha

#### PART II: PROJECT JUSTIFICATION

##### 1. PROJECT DESCRIPTION

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

##### Country Overview and Context:

1. Jamaica is the third largest island in the Caribbean that lies 145 km south of Cuba and 161 km west of the island of Hispaniola and has a total land area of 10,981km<sup>2</sup> and 2.8 million inhabitants. Most of the island's population (60%) is concentrated within 2km of the coast, including the island's main urban center of Kingston, with 90% of the island's GDP generated in coastal areas. The island is rugged with mountains and plateaus: much of the land is above 300 m, with 26 watershed management units. Jamaica's mountain ecosystems and are impacted by a variety of threats due to competing land uses, as are its watersheds and coastal resources. A limestone plateau covers two-thirds of the country, so that karst formations dominate the island, with sinkholes, caves and caverns, disappearing streams and terra rosa (residual red) soils.

2. Biodiversity: Jamaica is a small island developing state (SIDS) with very rich biodiversity and natural resources, both terrestrial and marine. It has a diverse physical environment, with a wide range of microclimates, soils, and physical features that support a great variety of forest types. The country is divided in 26 watershed management units, with steep slopes at elevations up to 2,256m (Blue Mountains in eastern Jamaica) in the island's mountainous interior. Jamaica's terrestrial biodiversity is characterized by over 3,175 vascular plant species, 600 species of ferns, 136 species of butterflies (with 38% endemism, with a new species and genus) and 256 known bird species. It is also an important refuge for long-distance migratory birds from North and Central

America. Jamaica has 417 IUCN Red Listed species and very high levels of endemism in several vertebrate (100 per cent for amphibians) and invertebrate taxa (there are over 500 endemic species of snails), as well as bird species with 36 restricted-range species that define the endemic bird area (EBA), and 30 breeding species confined to Jamaica. Five of the species endemic to Jamaica represent four endemic genera and 48 species are endemic to the island at the genus, species or subspecies level. Sixteen (16) IUCN listed globally threatened bird species (excluding 2 vagrants) occur on Jamaica, of which 2 are Critically Endangered and their persistence uncertain (Jamaica Petrel *Pterodroma caribbaea* and Jamaica Poorwill *Siphonorhis americana*), 1 Endangered (Jamaican Blackbird, *Nesopsa nigerrimus*) found only in Cockpit Country and 6 vulnerable. Thirteen (13) seabird species nest on Jamaica, of which 50% of the Caribbean population of Masked Booby *Sula dactylatra*, 30% of Sooty Tern *Sterna fuscata*, and 30% of Brown Noddy *Anous stolidus* are found on Jamaica. Thirty-two (32%) of all vascular plants are endemic (over 900), including 7 endemic plant genera, 62 endemic species of orchid (29 per cent of the total), and 26 bromeliads. Much of the island's endemism is centered around the Cockpit Country located in the northwest central part of the island. Among Jamaica's IUCN Red-listed species are 61 Critically Endangered, 85 Endangered and 165 Vulnerable. At least six species of Jamaica's terrestrial vertebrates are thought to have become extinct in Jamaica in the last 150 years. Four endangered species of sea turtle are documented nesting on Jamaica's beach, a fifth recorded in Jamaica's waters. Jamaica's irregular coastline is 795 km long and has diverse ecosystems including sandy beaches, rocky shores, estuaries, wetlands, seagrass beds and coral reefs. Mangroves cover approx. 2% of Jamaica's land, with red and black mangroves being the more predominant. The island's rich marine biodiversity consists of 65 species of corals and 38 species of gorgonians, and there are over 3,502 different plants and animals (not including bacteria, viruses and fungi) in the shallow, shore and shelf waters.

3. Socio-economic Context: Jamaica is a SIDS that has maintained a low GDP growth rate that has shown growth of 1.7%, in 2016 and projections of 2% in 2017<sup>3</sup>. The country has a relatively diversified economic structure. Contributions to the economy predominantly driven by the service industry, accounted for 79% in 2015 of GDP. Agriculture contributes 6.6% to goods production, with mining and quarrying contributing only 2.3%<sup>4</sup>. Agriculture employs the highest number of skilled workers at 25% compared with the forestry and tourism sector. The country was hit particularly hard by the 2008 financial crisis and went into a full-scale recession, which resulted in unemployment rates increasing to 12.4% in 2010, later exacerbated by Hurricane Sandy in 2012. In 2016, 13.3% of the Jamaica population (between ages 14 to 65) were reportedly unemployed. The project target site, Cockpit Country north to the North Coast Forest, spans portions of 3 parishes (St Elizabeth, Trelawny and St James). The majority of the project site is in Trelawny Parish, which comprises 38 communities and accounts for the 2<sup>nd</sup> largest share of domestic crops covering 6,811 ha (2015). Of communities sampled with populations less than 3000, there was mean average household size of 3.41 (range 2.4 - 4.4) of which a mean 58% of households were headed by person without academic qualifications and 28% were unemployed persons<sup>5</sup>. Maroons: The largest village of Maroons of Jamaica in Cockpit Country (please refer to Cultural Context / Maroons, below) is Maroon Accompong in St. Elizabeth Parish with a population of nearly 788 persons and of 202 households. Sixty-seven percent (67%) of these households were headed by males, of which 47% were without academic qualifications<sup>6</sup>. The age distribution of the population consisted of half males, with the greatest percentage of males and females between 25-29 years (39% and 37%, respectively). The majority of houses (83%) were owned by occupants with only 51% having flush toilets. Six percent (6%) of residents receive water from public sources and 70% from private sources, though 88% use electricity for lighting.

4. Cultural Context / Maroons: The Maroons of Jamaica are recognized by the Government of Jamaica as a historical local community with special rights. They were escape slaves that formed their own communities in interior Jamaica as early as 1655. The two treaties signed with the Maroons in 1739 gave them legal recognition and land in Jamaica. Jamaica's Maroons consist of two major groups, the Leeward Maroons in Cockpit Country (western Jamaica) and the Windward Maroons in the Blue Mountains (eastern Jamaica). The Jamaican Maroons are to a significant extent autonomous and separate from Jamaican society. The physical isolation has today led to their communities remaining among the most inaccessible on the island. Accompong in St. Elizabeth Parish, Cockpit Country, is the largest village at about 830 persons and is promotes its cultural heritage to visitors. Smaller historic communities include Charles Town and Scotts Hall (both in Portland Parish) and Moore Town (declared 2005 a UNESCO Masterpiece of the Oral and Intangible Heritage of Humanity site).

<sup>3</sup> [www.worldbank.org/en/country/jamaica/overview](http://www.worldbank.org/en/country/jamaica/overview)

<sup>4</sup> Planning Institute of Jamaica. 2016. Economic and social survey – Jamaica. Government of Jamaica. 384 pp.

<sup>5</sup> Social Development Commission, Jamaica. 2009. <http://sdc.gov.jm/communities/accompong-summary-profile/>

<sup>6</sup> Ibid.

Accompong's autonomy was ratified by the government of Jamaica when the island gained independence in 1962. Conservation of biodiversity and forests align with Maroon cultural and traditional values, indicated in consultations with the Maroons during project formulation.

### Productive Sectors

5. Land Use Patterns: Early colonial demand in Europe for sugar led to the development of estates for the cultivation of sugar cane in the lowland areas of the island, which later expanded to agricultural production of crops such as bananas, coconuts, coffee and citrus that required clearing of primary forest. While the main impact of sugar cane and banana cultivation may have been confined to lowland areas, coffee cultivation caused substantial deforestation of the upland areas. Currently, agricultural lands cover less than 40% of total land area, down from 62% in 1968 with losses predominantly to settlement and housing development. Jamaica's remaining forests also cover 40% of total land area, and are classified as closed (or undisturbed) broadleaf forest, disturbed broadleaf, tall open dry forest, short open dry forest, swamp and mangrove. Broadleaf forest (closed/undisturbed and disturbed), noted for its stratification and high levels of biodiversity, accounted for almost 59% (263,000 ha) of total forest cover (440,000 ha), though remaining undisturbed natural forest or "closed broadleaf forest" accounted for only 7.7%. Along with an annual decline in Broadleaf forests (0.2%) and Open Dry Forests (7.2%) there is also an increase in the number of hectares of secondary forests. Interspersed within this forested and mixed-use landscape is intensive agriculture, bauxite mining, and development. The discovery of commercial deposits of bauxite in the 1950s triggered a major change in the pattern of resource exploitation. Large areas of vegetation were cleared to allow ore extraction and construction of the necessary physical infrastructure to support mining operations and transport of products. Demand for bauxite mining includes areas of native Limestone Forest, such as in Cockpit Country. Changing coastal land use patterns are significantly impacted by Jamaica's growing sun and sand tourism industry, with infrastructure located primarily in coastal areas. Jamaica hosted 3.7 million visitors in 2015. Targeted by the Government of Jamaica as one of the key industrial clusters deemed capable of driving sustainable economic growth for Jamaica in the long term, Tourism will undoubtedly continue to place enormous pressure on coastal waters and on both marine and terrestrial natural resources.

### 6. Key Economic Sectors

*Agriculture*: Jamaica's agriculture sector comprises both large scale plantation production and small-scale mixed cropping. Plantation production is used primarily for the export market (sugar cane, banana and coffee) whereas smaller farms produce for the domestic market, including yams, potatoes, fruits and vegetables. Small scale farmers with 2 hectares or less account for 77% of the total number of agricultural holdings, of which approximately 80% occurs on slopes, of which half exceed 20°. Overall (2012), the agricultural industry contributed 6.8% to the island's GDP, with banana and sugar cane combined accounted for 87.0% of the value of the traditional export crops sub-industry. However, the value of production and export of traditional agricultural crops, including sugar and bananas, has been declining in recent years, due in part to the impact of natural disasters and the erosion of market preferences. Production of "non-Blue Mountain Coffee" declined by 30% between 2011 and 2015 due to lower return on investment, valued at almost 1/3 that of Blue Mountain Coffee. Constraints on production include high cost of inputs, high cost of and limited access to capital, praedial larceny, an aging work force and use of inappropriate technologies. Limited staffing and resources for extension services further contributes to decreasing production. *Forest*: According to the 2015 Social and Economic Survey, production of timber totaling 580.1 m<sup>3</sup> cubic timber was harvested including 427.4 m<sup>3</sup> of hardwoods valued at JM\$1.4 million, and 152.7 m<sup>3</sup> of Caribbean Pine valued at JM\$0.4million. Jamaica's remaining forests, of which over 50% are Disturbed Broadleaf, are interspersed with varied land uses (i.e. mining, grazing, development) and both subsistence and commercial agriculture. *Mining Sector*: The mining/minerals industry contribution to overall GDP in 2015 was 6.6% in 2015<sup>7</sup>. Bauxite is the most important metallic mineral in the sector, the ore from which alumina and aluminum are derived. The indicator used by the Government of Jamaica for monitoring the sector is the percentage change in export earnings from the bauxite industry. Total production of bauxite in 2006 was 14.9 million tons, the highest level achieved since 1974. The sector also has the highest labour productivity in the Jamaican economy. *Tourism*: Tourism is one of Jamaica's leading industries contributing an estimated 8% of total GDP (2016), directly employing approximately 80,000 persons. Tourism has been growing steadily, from 3.1 million visitors (2011) to 3.7 million (2015). It is also the largest foreign exchange earner for the country (US\$1939.7 million in 2009), a 7% increase between 2013 and 2014. The tourism industry continues to grow. The Medium-Term Framework of Jamaica's Vision 2030 National Development Plan identifies tourism as one of the key industrial clusters deemed capable of driving sustainable economic growth for Jamaica in the long term. Acknowledging the links between natural resources and the sector's performance, new Tourism and

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<sup>7</sup> Planning Institute of Jamaica. 2016. Economic and Social Survey – Jamaica. Government of Jamaica. 384 pp.

Environment Policy is in process of being developed as are new Sustainable Tourism Guidelines for key areas such as Cockpit Country.

7. Protected Areas: Terrestrial protected areas represent approximately 18% of Jamaica's total land area (200,000ha) while marine protected areas account for approximately 15% (180,000ha) of the country's archipelagic waters (1.2% of Jamaica's total marine area). Jamaica has more than 350 declared protected areas under 19 different categories, managed primarily under the jurisdiction of four government agencies, including but not limited to the Fisheries Division, the Forestry Department, the Jamaica National Heritage Trust (JNHT), and the National Environment and Planning Agency (NEPA). The different types of protected areas were established independently during the past century under various acts of parliament. The Protected Area System Master Plan (2013-2017) recognizes that the main ecological gap in the design of Jamaica's protected areas system is connectivity. Both the Blue Mountain-John Crow National Park/Forest Reserve and Cockpit Country Forest Reserve contain the largest and second largest, respectively, contiguous patches of primary Closed Broadleaf Forest (CBLF). Both are Key Biodiversity Areas, and the Cockpit Country Forest Reserve is also part of the larger KBA within 1 of Jamaica's 3 Conservation Corridors. Outside of these sites, the island's remaining CBLF are found within both protected and unprotected lands, with patches of forest separated by the mixed-use mountain landscape. Jamaica's protected areas themselves are under threat from impacts and pressures from surrounding land uses. According to the Protected Area System Master Plan, even though there is a relatively large coverage of protected areas in Jamaica, the existing protected sites do not include all the critical natural processes necessary to maintain Jamaica's significant biological features for the long term, of which connectivity is one.

**Threats to Biodiversity and Ecosystems Services in Jamaica can be categorized as:**

8. Conversion of Natural Habitat and Ecosystems: Most of Jamaica's remaining large tracts of forest ecosystems are primarily found in the higher elevations, where the greatest threats of forest fragmentation, deforestation and degradation are due to expanding agriculture, bauxite mining, charcoal production, yam-sticks, human settlement (planned and informal, including squatting) and infrastructure development, invasive species encroaching on native forests (i.e. bamboo) and forest fires mainly a result of slash and burn agriculture, leading to soil degradation and fire. Bauxite mining continues to result in reduction of forest cover, scarification of landscapes, sediment loads to surface and coastal waters, loss of habitats / biodiversity, relocation of communities and overall landscape alteration. Burning of agricultural waste and setting of fires to clear land also pose a threat to forest ecosystems, including on lands buffering protected areas (for which there are no provisions for buffer zones under the Natural Resource and Conservation Authority Act). Jamaica's remaining mangroves representing only 2% of Jamaica's total surface area, and remain threatened by coastal development, including the Martha Brae Swamps in Trelawny that is currently zoned for development.

9. Degradation of Land and Water Resources and Ecosystem Services: Terrestrial ecosystems in Jamaica are subject to numerous sources of degradation. Forest loss and degradation is linked to agricultural expansion (including coffee cultivation in the uplands), unsustainable/illegal harvesting of trees for yam sticks (prevalent in Cockpit Country), charcoal production and timber, illegal or excessive grazing by livestock, fires, and non-forest uses of land with forest cover, such as mining and illegal settlement. Jamaica's mountain ecosystems that once were dominated with structurally complex and biodiverse primary closed broadleaf forests remain in isolated patches of closed broad leaf forest that are surrounded by disturbed broad leaf forest. Jamaica's agriculture also contributes to environmental degradation through soil erosion from over-cultivation and inadequate soil conservation techniques in hillside farming; use of chemical fertilizers; "slash and burn" clearing, monoculture farming and harvesting of sticks for yam cultivation. The effects of chemical fertilizers and pesticides used in crop production have implications for the viability of non-target populations including crop pollinators and impact surface and ground water and downstream marine ecosystems. Unsustainable bauxite mining and processing continues to result in forest loss and ecosystem degradation, with negative environmental impacts that include dust and noise pollution, deforestation, loss of biodiversity, land and groundwater pollution from red mud disposal, scarification of the landscape and beach erosion. Degradation from forest loss is particularly evident in the mountains where the limestone formations provide little surface water, and removal of vegetation exposes a thin red soil. The range of negative impacts of unsustainable land management on land resources in Jamaica include: sedimentation from clearing of steep slopes for agriculture and consequent sedimentation of watercourses, reducing hydraulic capacities resulting in heightened flood risk downstream; removal of riparian buffers for farming close to riverbanks; fertilizer use contributing to pollutant loading in runoff following rains; use of harmful chemicals and pesticides that negatively impact fresh and coastal waters; burning of agricultural

waste and setting of fires to clear land threaten forest ecosystems; nutrient loss and reduced soil fertility and crop support; and alternation of soil chemical and physical characteristics. Downstream impacts to the marine environment and coral reef ecosystems comes from upstream sources of pollution (wastewater, animals grazing along rivers), nutrient overload (fertilizers) and sedimentation (construction; erosion from agricultural practices).

10. **Climate Change:** As a small island developing state, Jamaica is highly vulnerable to the impacts of climate change. Future climate change forecasts for Jamaica are characterized by increasing temperatures, increase in the intensities of natural hazards, increased drought, sea level rise, and weakened, more fragile ecosystems. Hurricanes, tropical storms and floods have had the greatest impact, with severe landslides experienced during periods of extreme precipitation. Climate projection for 2050 suggest an increase in climate variability and extreme weather events, with a decrease in length of the rainy season, increase in length of dry season, potential temperature increase ranging between 0.7C-1.8C, and an increase in both frequency of intensity of hurricane. Jamaica is already experiencing the impacts of climate change. Between 2001 and 2012 damages and losses cost approximately US\$1billion, of which damages to the productive sector estimated at US\$214 million. A subsequent drought in 2014 also resulted in crop losses totaling nearly US\$1 million. With 80% of small scale farms occurring on slopes of which half exceed 20°, farmers in Jamaica are particularly vulnerable to impacts of increased storm intensity and periods of intense rainfall. Target populations likely most vulnerable to climate change are poor female-headed households likely to have houses that are completely destroyed or severely damaged in a storm.

11. **The long-term solution** is to have in place national integrated landscape-level planning and management framework, as well as sectoral policies and guidelines that mainstream considerations for conservation of biodiversity, maintenance of ecosystem services and sustainable land management. It will entail strengthened institutional capacity for informed land-use planning and decision-making, as well as biodiversity and ecosystem services that are mainstreamed into strengthened multi-sectoral policies, regulations and guidelines. Strengthened capacity to operationalize land use planning and practices with biodiversity mainstreamed will further support sustainability of the mixed-use landscape for biodiversity and ecosystem services and sustainable livelihoods. **Specifically, the project will work to address the following barriers:**

12. **Barrier 1: Lack of sufficient coordinated policy, regulations and capacity for mainstreaming biodiversity into national and sectoral planning.** Jamaica has many policies and legislation governing natural resources, including overarching strategies and goals (i.e. Vision 2030 Jamaica: National Development Plan, National Biodiversity Strategy and Action Plan) that address threats to biodiversity and ecosystem services and the mainstreaming of biodiversity into key sectors (such as agriculture, tourism, forestry and mining). However, there remains inadequate national and sectoral policy and regulatory frameworks that mainstream biodiversity and ecosystem services to effectively address the threats to biodiversity outlined. The many policies, laws and regulations both result in overlaps and gaps in biodiversity considerations and integration of ecosystem services. For example, there is no overarching Environment Policy to guide environmentally sound decision-making, rather numerous legislations guiding practices and approvals, though these also remain insufficient to address the threats outlined. A 1996 Land Use Policy does adequately support use of EIAs, a key tool for land use decision making, does not sufficiently address the potential loss of flora and fauna, nor does it have a system in place that would allow for the identification of critical habitats which would result in modification of development plans. There are also no standardized EIA regulations or certifications in place, nor adequate guidelines for assessing / ensuring quality of completed EIAs submitted to NEPA's Planning Unit. There are also no Strategic Environmental Assessments developed. This is further exacerbated by insufficient interagency coordination, essential for multi-sectoral land use planning. There is currently limited mainstreaming of biodiversity and ecosystem services considerations into sectoral planning, including in the tourism, agriculture and mining sectors that are of particular threat to Jamaica's remaining forests and natural resources. Some advances are in progress, including a new Mining Policy and Tourism and Environment Policy, for which relevant and thorough data is needed, including for associate regulations and guidelines (i.e. Sustainable Tourism Guidelines), being supported by this project. There is also limited comprehensive and accessible data for risk informed decision-making for biodiversity and ecosystem services, resulting in inappropriate land uses in environmentally sensitive areas along with land degradation. There is limited capacity within government to carry out economic valuations of biodiversity, a key tool for economic decision-making related to protection of key biodiversity sites (i.e. Cockpit Country) with competing economic interest. A National Spatial Plan is being developed by the Government, however a lot more work is required for its finalization. In addition, there is no coordinated data system in place for multi-departmental access, and data that exists within the relevant ministries (existing databases within NEPA and Forestry Department and Planning Institute of Jamaica) do not contain comprehensive data for multi-sectoral landscape level land use planning (such as environmental sensitivity indexes, results of economic

valuations of biodiversity and ecosystem goods and services). These often lead to sectoral planning and national and parish level land use decisions made without availability of necessary comprehensive biodiversity and vulnerability data.

13. **Barrier 2. Limited capacity to develop and apply landscape level plans and actions to avoid threats from productive sectors.** There is limited national, parish and local level capacity and experience at both developing land use plans that incorporate concepts of biological and ecological connectivity, and for transferring those plans and associated data to management of environmentally sensitive areas on the ground. Parish level capacity to incorporate biodiversity and ecosystem services consideration into Local Sustainable Development Plans (Parish level planning mechanism) is limited, and adequate knowledge of land management needs for biodiversity and sustainability is lacking as are sufficient capacities to incorporate outputs of decision making tools that address environmental sensitivity into effective planning. Development Orders that guide Parish level land use planning are to be revised every five years but mainly remain dated. The Trelawny Development Order, where the majority of the biodiversity rich Cockpit Country is found, does not take into account forest connectivity and long-term biodiversity planning (such as IBAs and KBAs). This provides an opportunity for this project to support the drafting of a new Development Order (NEPA initiative) for the Cockpit Country Area (project supported). Parish Municipal Corporations and Local Forest Management Committees lack adequate knowledge of biodiversity and ecosystem services, as well as knowledge of INRM and sustainable land management practices. These capacity gaps at both the institutional, parish and local levels include limited knowledge of alternative sustainable agriculture and land management implementation techniques for the mixed use productive landscape that avoid degradation of key ecosystems (i.e. watersheds), support environmentally vulnerable sites (ie. steep slopes, with biodiversity of global or national significance), and increase sustainable biodiversity compatible production and livelihoods.

14. **Barrier 3. Community level livelihoods rely on short term unsustainable land use practices.** Livelihood opportunities for rural communities often do not provide long term sustainable livelihoods. There is inadequate capacity and opportunity to implement sustainable livelihoods that support biodiversity and sustainable land management that provide economic benefits. Alternatives to short term unsustainable land use practices lack sufficient capacity for implementation within many rural communities, as well as access to business planning and credit. There is also limited support for development of alternative livelihoods such as ecotourism, biodiversity compatible agriculture and agroforestry systems. Currently, the Ministry of Tourism provides business development support for ecotourism businesses, but presently more to larger scale ventures than small scale initiatives (to be developed with Ministry of Tourism through this project). Benefits associated with alternative sustainable livelihoods (i.e. climate smart agriculture, sustainable production of yam-sticks, biodiversity friendly agroforestry) are inadequately demonstrated, limiting knowledge for successful alternative ventures. Profitable biodiversity compatible and sustainable activities, such as apiculture in Jamaica, do not have adequate mechanisms in place for training nor for access to small-scale financial loans for business development (national mechanisms addressed in Component 1). An increase in extension support and community capacity, combined with collaborative arrangements with both the private and public sector, is needed develop these sustainable productive practices. Youth and gender engagement in both livelihood generating activities is often dictated by cultural norms, familial responsibilities and time availability, all of which require specific considerations in working with community members, including the Maroons, in livelihood generation activities.

#### **Baseline scenario or any associated baseline projects.**

15. There are a number of Government implemented initiatives that support upscaling the level of biodiversity planning and management, as well as those focusing on mainstreaming biodiversity into sectoral frameworks. The project will build on the following baseline scenario. The recently completed Protected Area System Master Plan (2013-2017), and outputs of the GEF-4 Strengthening the Operational and Financial Sustainability of the National Protected Area System project (2012-2017), provides an essential protected area framework and foundation upon which this GEF-6 project builds connectivity in the mixed-use landscape between these protected sites. This project also developed and operationalized sustainable finance mechanisms, including the National Conservation Trust Fund of Jamaica (NCTFJ), upon which financing mechanisms for biodiversity in the integrated landscape can build. The Adaptation Programme and Financing Mechanism for the Pilot Programme for Climate Resilience (PPCR, 2015-2020, US\$7.9M) Jamaica initiative, through its Investment Project 1: Climate Data and Information Management, will assist the Government of Jamaica in improving information management systems to integrate climate change data into decision-making, providing useful synergies for this GEF-6 biodiversity and ecosystem data management initiatives. The PPCR Component II: Creation of Financial Mechanisms can provide lessons learned in financing climate resilience that can provide synergies with GEF-6 initiative. The Government of

Jamaica has also initiated the National Spatial Plan initiative in 2011 (US\$1.2M), being implemented by the Office of the Prime Minister, to support prioritization of land dependent decision with the goal of balancing national development and environmental protection. Though this initiative is prioritized by NEPA and Jamaica's Vision 2030 Jamaica: National Development Plan, its implementation has been limited to discrete areas, but provides a key baseline framework within which this project's spatial mapping activities provide prioritized contributions. The Building Climate Resilience of Urban Systems through Ecosystem-based Adaptation (EbA) in Latin America and the Caribbean (2017-2021, US\$6M), through the Special Climate Change Trust Fund, will also support restoration and rehabilitation of forest reserve degraded lands, further supporting capacity within the Forestry Department for forest restoration and SLM. In addition, Government of Jamaica's is in the process of policy and regulatory changes to support the mainstreaming of environmental concerns and safeguards into planning, for which the conservative estimate for the current Government of Jamaica's budget for the GEF-6 programme's 6 years is USD1.5M. Key baseline changes include the development of a new Tourism and Environment Policy that incorporates safeguards for areas of biological significance, such as Cockpit Country as well as new Sustainable Tourism Guidelines. Development of a revised Forest Policy has led to the need for an amended Forest Act (in progress), which are supporting the integration of biodiversity and ecosystem consideration. The mining sector is also in the process of developing a new Mining Policy and, recognizing its impact on the environment, environmental considerations will be addressed. This project can provide key information to ensure appropriate safeguards and guidelines are developed for integration into these governance frameworks. This will be further supported by current ACP-EU Development Minerals Programme (2015-2018, US\$842,438, UNDP implemented) which has components that support development of the new Mining Policy as well as mainstreaming environmental considerations into mining and quarrying operations.

### **3) Proposed alternative scenario, GEF focal area strategies, expected outcomes and components of the project.**

16. Despite the foundation provided by this baseline scenario, there remain gaps that limit effective mainstreaming of biodiversity and ecosystem services into the national regulatory and institutional framework for landscape level land use planning as well as key sectors in the mixed-use landscape of Jamaica to avoid further biodiversity loss. A landscape approach is needed to address the linkages between the factors leading to land degradation and biodiversity loss in order to successfully reduce these threats. This project strategy will put in place an approach that integrates strengthened national (systemic) enabling and institutional framework and capacities for effective and informed decision-making with biodiversity and ecosystem services mainstreamed into key sectors threatening biodiversity. It will further strengthen capacities to develop and integrate landscape level land use planning that incorporate tools for informed land use decision-making, and effectively operationalize this planning efforts into management that will support biodiversity and ecosystem services and sustainable productive land management practices that will reduce pressures on biodiversity and key landscapes and help safeguard environmentally sensitive areas (including KBAs). This will further provide connectivity between protected areas and longer term sustainability of biodiversity. Integrated ecosystem management practices will reduce fragmentation and land degradation, while enhancing sustainable biodiversity friendly livelihoods.

Under the alternative scenario enabled by GEF funding, the project will implement a multi-focal landscape approach (LD/BD) with a project strategy that comprises 4 inter-connected components:

#### **17. Component 1. Systemic and institutional capacity for integrated landscape management at national level**

This component will strengthen the enabling environment and institutional framework for mainstreaming biodiversity and ecosystem services into key policy, regulation and planning instruments to systemically address reduction of threats while at the same time support national institutional capacities to implement decision-making tools for informed landscape planning. It will also incorporate sustainable land management and biodiversity considerations and guidelines into land use and sectoral policies and regulations. This component lays the foundation at the national level for the replication and scale up of integrated landscape level land use planning (being piloted under Components 2 and 3).

18. Output 1.1 Regulatory, coordination, and planning frameworks strengthened, integrating biodiversity (BD) conservation, ecosystem services (ES) and connectivity in the productive landscape and frameworks of key sectors (agriculture, forestry, tourism and mining), with improved management of Jamaica's 5 KBAs and threatened species of national and global significance. This will be supported through support for revising or establishing the following frames: (i) Development of a draft Environmental Policy; (ii) Development and integration of biodiversity and ecosystem services considerations into the draft Mining Policy (currently being developed); (iii) Development of Sustainable Tourism Indicators (focusing on the ecologically sensitive Cockpit

Country) for the Tourism and Environment Policy (currently being developed); (iv) Providing technical input to ensure that final Ecotourism Guidelines for Cockpit Country adequately incorporate ecosystem services and BD considerations; (v) Development of Regulations for the amended Forest Act (currently being developed); (vi) Standardized EIA regulations developed and process for adoption supported that mainstream BD and ecosystem goods and services and that integrate use of Economic Valuation (EV) of BD and ecosystem goods and services; and (vii) sector specific SEA guidelines that mainstream BD and ecosystem goods and services.

19. Output 1.2 Decision-making tools developed and implemented with strengthened institutional capacities for informed land-use planning that support biodiversity conservation, productive activities and reduces degradation in ecologically sensitive areas (i.e. PA buffer zones, watersheds, threatened forests, critical habitat of threatened species), supported by a centralized multi-institutional information management database and monitoring system (developed and operationalized) within a land use planning process to support decision making tools. This will include a Land Use and Biodiversity Monitoring and Tracking Tool, with monitoring programmes developed and implemented (using remote sensing and/or drone technology). This database will be housed and managed by NEPA, incorporate outputs of project supported decision-making tools (below, supporting Component 2.1) and incorporate existing multi-institutional spatial data collections (i.e. NEPA, Forestry Department, Windsor Research Center), supporting mainstreaming BD and ecosystem services into land use and sectoral planning. Decision making tools developed and piloted in Cockpit Country - North Coast Corridor will include: (i) Spatial mapping that will be integrated into National Spatial Planning process (in progress), applied in target area. Spatial mapping will incorporate existing institutional data (i.e. Ministry of Tourism data of caves in Cockpit Country of potential high BD significance); (ii) Environmental sensitivity index and map developed that define the importance and sensitivity of different areas in terms of sustaining ecological structure; (iii) Economic valuation (EV) of biodiversity and ecosystem goods and services (including social and cultural values) carried out (also in Stephny John's-Vale Forest Reserve), expanding upon or replacing existing EV for Cockpit Country (deemed incomplete by GoJ) to support land-use decision-making, The target scenario analysis (TSA) approach will be followed with clear policy objectives for the valuation exercise; (iv) Framework for data collection (using accepted international methodology) and baseline for national environmental accounts for the mining sector developed to support GoJ Vision 2030 strategic sectoral planning; (v) Baseline biodiversity / ecological assessments / inventories of fauna and flora of target terrestrial ecosystems (including Martha-Brae wetland in the North Coast Forest) and mixed-use agricultural landscapes, including status and location of threatened / endemic species and status, monitoring, and management of key biodiversity of national and global significance; (vi) Compliance and monitoring strategy to identify land use change using drone technology, remote sensing interpretation (supported by GoJ ESRI Enterprise License agreement that provides updated software and high resolution satellite imagery and software), with enforcement capacities enhanced and supported by local community involvement (i.e. Local Forest Management Committees, Maroons, Windsor Research Centre, Municipal Corporations and other key local community-based organizations).

20. Output 1.3 Biodiversity conservation and land use planning and management capacities improved through institutional strengthening to support existing and new environmental regulations, programs and land use planning (at the national, parish and local levels) that mainstream biodiversity and ecosystem services, including successful implementation of decision-making tools (supporting Component 1.2) to support post project replicability. Institutional capacity will be strengthened to: (1) Carry out economic valuation of biodiversity and ecosystem goods and services, and incorporate results into decision-making (applied to target areas and including private sector training); (ii) Implement techniques to monitor land cover and use change (remote sensing / satellite imagery interpretation, drone technology); (iii) Conduct and review EIAs, ensuring compliance with guidelines (development of EIA guidelines supported in Component 1.1). Training will also be supported for biodiversity compatible and sustainable land management and production measures (demonstration sites, training program, field schools, in collaboration with Rural Agricultural Development Authority (RADA). A capacity needs assessment for BD and environmental planning will be carried out and will inform subsequent training needs, including but not limited to landscape management and planning, spatial mapping, biodiversity conservation, natural resources, INRM, understanding of ecosystem goods and services (identified in stakeholder consultations). Given the increase in capacities developed and to ensure effective application of tools developed under Component 1.1 and 1.2, the project will support an analysis of institutional changes and/or consolidation (i.e. staffing and institutional structure) needs during the PPG phase.

21. 1.4 Financial support systems for incentivizing conservation oriented integrated landscape management, including sustainable land management (SLM), climate smart agriculture, forest restoration, and sustainable tourism strengthened, established and/or operationalized. This will include: (i) Review of existing, and development of new innovative, financial mechanism (sectoral microcredit schemes and related certification

schemes) for BD mainstreamed tourism, agroforestry and climate smart agriculture, through national and local financial institutions (such as the Development Bank of Jamaica, Credit Unions and People Cooperative Banks). These microcredit schemes will follow lessons learned from similarly designed programs, and will be linked to activities supported in Component 3. Micro-credit schemes will include a revolving fund, replenished based payback by small farmers and small tourism ventures, again routed through a financial institution. Financial mechanism will also link to National Conservation Trust Fund Jamaica (GEF-4 NPAS Project output, to be specified during PPG phase). (ii) This project will assess and address barriers to effectiveness of the current financial tax incentive legislated under Forest Act for land owners to declare (gazette) private lands to be declared as protected areas (building on GEF-4 supported NPAS project efforts to promote conservation easements) to expand the PA estate.

22. 1.5 Local participation in land use planning strengthened and local coordination mechanisms developed at the Parish and community levels, with stakeholders engaged, particularly with Maroon populations and relevant statutory bodies (i.e. Rural Agricultural Development Authority), and coordination enhanced with Municipal Corporations, parish development committees and Local Forest Management Committees. Maroons and Maroon communities (such as Maroon Accompong) in Cockpit Country will be engaged in all phases of planning and implementation of project activities. All project interventions with Maroons in the project area land will be carried out based on the principle of free prior and informed consent (FPIC). Site specific pilot areas and communities to be engaged will be determined during PPG phase. Outputs of the existing capacity assessment of the 18 existing Local Forest Management Committees (LFMCs) and the draft Capacity Assessment tool developed by the Forestry Department to assist in analyzing the status, functions and capacities of the LFMCs will be supported and incorporated into project planning.

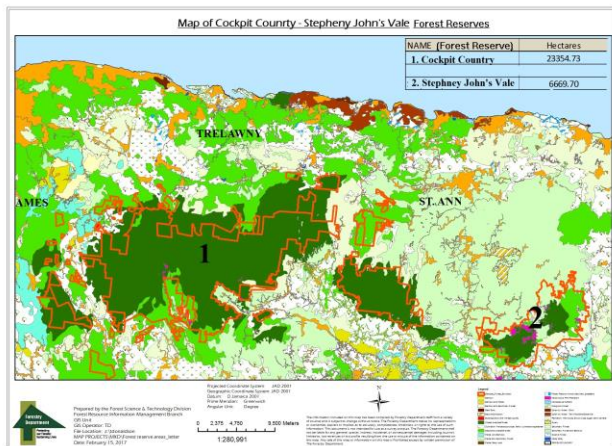
**23. Component 2. Application of landscape planning and management in key biodiversity areas.**

This component will focus on site specific target areas to develop and implement integrated landscape level land use planning and integrated ecosystem management and SLM practices, incorporating outputs of decision making tools (Component 1) that will integrate ecosystem and biodiversity benefits, including biodiversity of global significance (see GEBs, 5 below). This component will support connectivity of biodiversity and key forested areas between PAs in the mixed-use productive landscape within the Cockpit Country KBA by building capacities to develop and implement landscape level planning using BD compatible, climate resilient and sustainable forest landscape management practices. Project support will help reduce deforestation and environmental impacts, reduce erosion, improve ground cover while at the same time providing access to sustainable livelihood opportunities, augmenting existing good practices, testing new innovative practices, and developing and supporting replication of these practices in at least 2500 ha (indicative) of areas involving at minimum 6 communities surrounding Cockpit Country Forest Reserve, and 3 communities in corridor linking Cockpit Country and North Coast Forest KBA.

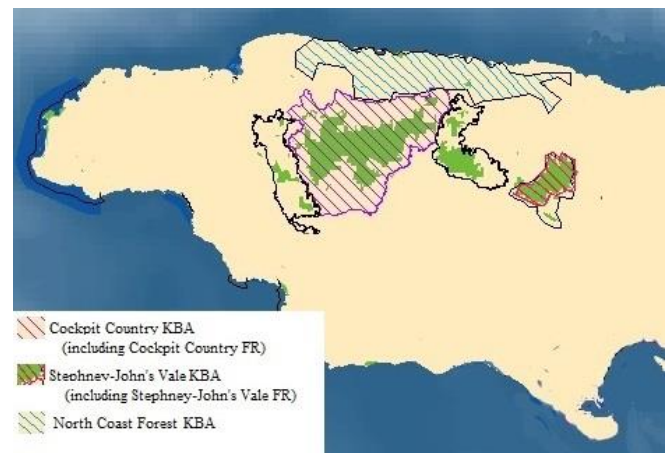
24. 2.1 Integrated Landscape-level Land Use Plan developed for target area (covering 55,000 ha, indicative) that incorporates environmentally sensitive areas, BD consideration, climate change impacts, land degradation with proscriptions of land uses in the identified environmentally sensitive areas (outputs of decision-making tools, Component 1.2). This plan will define priority areas for conservation and connectivity, including buffer zones of existing forest reserves and specific land uses and management appropriate to different on-ground conditions (i.e. slope, riparian zone) in areas of ecological sensitivity. This Integrated Landscape-level Land Use Plan will be harmonized with Parish level Local Sustainable Development Plans (the parishes of Trelawney, St James and St Elizabeth) and supported by Development Orders (new or update of existing) for target Parishes within which the Cockpit Country - North Coast Corridor is located. Dedicated cross-sectoral landscape coordination platform will be established for effective land use planning, management and monitoring, incorporating national, parish and local level government, community, sectoral private sector representatives, community based organizations and technical stakeholders.

25. Cockpit Country-North Coast Corridor. Cockpit Country supports the largest number of globally threatened species of any key biodiversity area in the Caribbean Islands Hotspot, with 59 (including 11 amphibians and 40 plant species). It contains the largest contiguous mesic limestone forest on the island. Its distinctive karst topography comprises thousands of hillocks and valleys, some inaccessible with undocumented biodiversity. Isolation from other forests and the internal isolation of each hillock has led to a high degree of endemism within the Cockpit Country itself, with some of the 101 plant species restricted to a single hillock. Cockpit Country is the source of 40% of the freshwater used by Jamaicans. Maroon communities are located within the environs of the Cockpit Country. Within the Cockpit Country lies the 23,354 ha Cockpit Country Forest Reserve along with other smaller forest reserves totaling over 29,000 ha (Figure 1). The Cockpit Country KBA boundaries (Figure 2)

encompasses 63,935 ha (inclusive of the forest reserves). Efforts to further protect the area beyond the existing forest reserve boundaries has resulted in its boundary disputed for many years. There are proposals to declare the Cockpit Country as a protected area and possibly nominate as a World Heritage site under UNESCO. Proposed renewal of an exploration licence for bauxite mining in 2006 led to severe national opposition, resulting in the withdrawal of the licence by the Government of Jamaica in 2007, though mining pressures continue. The North Coast Forest KBA (Figure 2) with its extensive threatened dry alluvium forests, mesic limestone forest, guano caves, CR *Eleutherodactylus jamaicensis* (and other BD of global significance) is separated from the Cockpit Country Forest Reserve by a mixed-use productive landscape and degraded broadleaf forest.



**Figure 1.** Cockpit Country and Stephney John's Vale Forest Reserves



**Figure 2.** Target KBAs, with forest reserves

26. 2.2 Biodiversity mainstreamed INRM implemented in Cockpit Country-North Coast Corridor (covering 2500 ha) (supported in Component 2.1). These activities will promote biological connectivity in key areas identified for environmental sensitivity and biodiversity of global significance (output of information tools in Component 1.2), as well as sites for demonstration of SLM, climate resilient agricultural practices and BD management (including training and capacity building, 2.4 below). This will include: (i) Implementation of sustainable forest and land management of degraded and threatened riparian zones, using appropriate setbacks and species, with flood mitigation for degraded riverbanks; (ii) Implementation of BD / SLM compatible agroforestry and climate resilient agriculture, including adaptive agricultural practices for short crops, adaptive agroforestry techniques (i.e. multi strata mixed systems for enhanced biodiversity, intercropping), sustainable fertilizer use, water and soil conservation (i.e. organic fertilizers, contour draining), and climate resilient planting techniques; (iii) Drought mitigation, such as water management and irrigation (e.g. solar pumps, gravity flow, drip), drainage, rainwater harvesting and storage (i.e. field ponds), enhanced water stream intakes, reservoirs, irrigation techniques (demonstration for crops traditionally raised) and storage (i.e. field ponds); (iv) Introduction of alternatives to slash and burn land preparation (for soil nutrients, forest fire prevention), including outreach and demonstration; (v) Management of BD of global significance (linked to NEPA, Windsor Research Center data and outputs of BD assessment in 1.2) with (at minimum 4) Conservation and recovery plans developed and implementation initiated; (vi) Community resource use plans (8) developed and implementation initiated that support practices incorporating BD and ecosystem services considerations; (vii) Sustainable eco-tourism initiatives supported that prescribe to outputs of environmental sensitivity outputs of Integrated Landscape Level Land Use Plan. This will incorporate Sustainable Tourism Guidelines and BD indicators for Cockpit Country outlined in Tourism and Environment Policy (Component 1).

27. 2.3 Ecological restoration initiatives implemented in degraded and fragmented areas, supporting biodiversity, ecosystem services and forest connectivity using native species, reducing LD and climate change vulnerability and improving livelihoods. A restoration plan will be developed and implemented, focusing on key sites for intervention identified (such as watersheds, PA buffer zones, areas of environmental sensitivity, and areas for forest connectivity) and incorporating outputs of Landscape-level Land Use Plan (Component 2.1). Restoration efforts will include: (i) Establishing (at a minimum) 2 connectivity zones (through forest restoration and BD compatible production) linking (Cockpit Country Forest Reserve to North Coast Forest KBA/Falmouth Swamp; (ii) Restoration of degraded disturbed broad leaf forest surrounding Cockpit Country Forest Reserve, with areas prioritize based on outputs of BD assessments (and existing data compiled), environmental sensitivity index (Component 1.2), with ground-truthing; and (iii) Restorations of mined out lands to reduce pressures on clearing of forest for cultivation, using lessons learned from GEF-SGP and ensuring techniques enhance biodiversity (use of

native species, mixed forest species and strata). Forest restoration of mined out bauxite lands will scale up ongoing Forestry Department program that is carried out in collaboration with JAMALCo (bauxite mining company), ensuring that exiting protocols incorporate site specific biodiversity considerations. Additional options for use of mined out lands with Jamaica Bauxite Institute will be explored (i.e. appropriate uses of agriculture and/or agroforestry, supporting CARDI initiatives for cultivating crops on bauxite reclaimed soils; and (v) Increased tree planting on private lands (incorporating BD into Forestry Departments Private Planting Program), along with the promotion of declaration of Private Protected Areas will strengthen connectivity (linked to the Forest Act incentive, Component 1.4). Increased restoration effort will be supported by restoration of 3 Forestry Department nurseries with equipment, structural support and irrigation systems (to be defined during PPG phase). Restoration initiative will also incorporate lessons learned from GEF-SGP restoration initiatives (at Stephney-John's Vale, Cockpit Country) and consultations with Jamaica Bauxite Institute.

**28. 2.4 Capacities for development, implementation and management of productive systems and SLM strengthened** for biodiversity friendly production practices that reduce land degradation and for the effective transfer of knowledge into practice through: (i) Integrated training modules for extension officers (6, based Output 1.3 capacity needs assessment), to encourage sustainable land management practices to be institutionalized within tertiary educational institutions; (ii) Integrated training and extension modules (6) for producers (100 farmers targeted), focusing on BD- and LD-compatible production practices; and (iii) Integrated training (linked to output 3.1) for Local Community Management Committees, Maroons, and communities to implement BD compatible and environmentally sensitive resource use management practices. This will be carried out through: (i) Field based demonstrations (4 model farms) serving as regional learning centers for adaptive production techniques and business models for replication; (ii) Community level nurseries (3) with protective structures (shade houses) for climate resilient crops, irrigation / water management / production techniques; (iii) Demonstration sites for SLM techniques (at minimum 6) for native tree propagation, mixed strata agroforestry, irrigation, SLM, riparian zone cultivation to reduce erosion. Training will support Maroon land use traditions into local and parish level planning initiatives, and land use practices ensuring Maroon support. Training modules and capacity development initiatives will be institutionalized (tertiary institutions, training institutes) so as to support institutional and private sector capacity and enhance future replicability and scale up.

### **29. Component 3. Sustainable livelihoods mainstream biodiversity compatible practices**

**3.1 Sustainable livelihoods promoted and implemented in pilot areas**, supported by capacity building (Component 2.4) and financial support mechanisms (Component 1.4), integrating Maroon cultural values. This will include: (i) Extension service support for farmer field schools in (3) pilot sites promoting SLM and BD-compatible production (i.e. ackee trees *Blighia sapida* at higher elevations, breadfruit); (ii) Six (6) demonstration sites for SLM techniques (i.e. slope stabilization); (iii) Four (4) eco-tourism enterprises operational, demonstrating environmental sustainability and livelihood potential through nature-based tourism (in collaboration with Min of Tourism); (iv) Small business (at minimum 8) development supported (i.e. traditional Maroon goods and crafts, apiculture, agro-processing, bamboo products and use, other) that includes technical assistance, marketing, creating supply chain initiatives that can also serve as models for replication and scale up, supporting women, men and children. The project will collaborate with and support community based and producer organizations, who will be further involved in PPG phase consultations to identify livelihood needs and barriers to success. A livelihood assessment will be carried out, with lessons learned and upscaling from other GEF-SGP livelihood initiatives. All project interventions will be carried out based on the principle of free prior and informed consent (FPIC).

**30. 3.2 Women and target population livelihoods promoted**. Women's participation will be supported at the local level, ensuring participation is promoted through capacity building, enhanced livelihood income generation, community level planning and decision making. Assessment of gender and vulnerable population will be carried out, identifying target populations for enhancing sustainable livelihoods. To be further detailed at PPG phase.

### **31. Component 4. Knowledge management for SLM, CSA and biodiversity conservation.**

This component focuses on capturing both technical and educational knowledge and lessons learned during the implementation of the project, and will incorporate institutional strengthening and capacity building initiatives carried out that will support both current and future generations of professionals. This project will be capturing experiences and lessons learnt, and producing outputs for both for institutional and private sector learning and ongoing implementation during and post project. Knowledge and experiences will be captured, shared and disseminated to encourage widespread adoption of biodiversity compatible initiatives, SLM and alternative livelihood opportunities. The project will ensure that experiences and lessons learned generated at the demonstration sites and from implementation of activities are systematically collected, analyzed and disseminated

throughout the country to facilitate awareness, replication and scale-up. Monitoring and evaluation of project implementation, outcomes and outputs will ensure project effectively reaches outlined goals and objectives.

32. 4.1 Technical knowledge captured (including Maroon ITK), experiences and lessons learned disseminated will be supported throughout project implementation and incorporated into work plans, and will include written products such as via technical and training reports / manuals / guides, lessons learned notes, based on experience codified (EV, ESI, spatial mapping, SLM, biodiversity assessment, land use planning, other), and incorporated in institutional strengthening and capacity building initiatives, for continued institutional and private sector learning and activity implementation (national and local level). Knowledge management systems will be supported to ensure informed planning activities, both within and across different production sectors at different levels (local / sub-regional, national). Knowledge management will also incorporate awareness of the Maroons and local communities on access and benefit sharing. Standards will be established for codifying cultural knowledge, practices and their integration into land use planning. A Biodiversity and Cultural Center will be supported in Cockpit Country (in Maroon community, location to be confirmed) to disseminate knowledge of biodiversity and its mainstreaming into the tourism, forestry, agriculture and mining sectors, SLM techniques and benefits. Its uniqueness will be its integration of biodiversity with cultural traditions and knowledge of the Maroons. This Center will also provide a location for training (producers, community groups, woman and youth) both during and post project completion. South-south cooperation mechanisms will be implemented. A socioeconomic and gender monitoring system will also be established, and outputs from the Biodiversity and Ecosystem Monitoring and Tracking Tool incorporated into information disseminated. Training carried out in Components 1 and Component 2 will integrate experiences and lessons captured through KM activities of the project in an iterative way.

33. 4.2 Media products promote outreach and increased public awareness / environmental education of biodiversity conservation, mainstreaming of BD into productive sectors (tourism, mining and agriculture), integrated land use planning, CSA and SLM, disseminated through videos, photo essays, fact sheets, web platform, television, radio (i.e. ABENG FM, Maroon radio) exchange site visits by communities and producers involved, also dissemination at regional events.

34. 4.3 Monitoring and evaluation of project implementation conducted, including through periodic field visits, tracking tool assessments, mid-term and final evaluations of project.

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

**5) Global environment benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF);**

35. The incremental approach can be summarized as follows: The current situation in Jamaica, in spite of Government's commitments to biodiversity conservation, maintaining ecosystem services and SLM and in the face of changing climatic condition, is one where systemic and institutional barriers are preventing the effective and timely implementation of stated national priorities and goals. This baseline situation is one where; 1) there is need for comprehensive and integrated land use planning, 2) existing land use practices continue to degrade land and lead to biodiversity loss, 3) national land use planning does not adequately mainstream biodiversity and ecosystem conservation into decision-making, 4) sectoral practices do not adequately integrate biodiversity and ecosystem considerations, resulting in inappropriate land uses in environmentally sensitive areas and critical ecosystems, including areas of biodiversity of global significance and environmentally sensitive areas (such as watersheds), 4) protected area planning does not incorporate ecosystem connectivity, 5) areas important to represent bioregional habitats and biodiversity will remain unprotected and without land use management that addresses landscape level biodiversity and ecosystem conservation needs. In the alternative scenario enabled by the GEF, systemic and institutional barriers for integrated SLM and biodiversity planning will be addressed by project support for 1) strengthened institutional, legal and regulatory frameworks that incorporate biodiversity conservation and ecosystem services considerations into sectoral and national land use planning, 2) strengthened national capacity for landscape level integrated land use planning with biodiversity mainstreamed, 3) effective operationalization of an integrated landscape level land use plan with biodiversity compatible SLM, CSA and forest restoration in place, 4) effective integrated landscape management supporting key ecosystem service (i.e. water) and biodiversity of global significance, 5) biodiversity conservation is mainstreamed into the agricultural, tourism, forestry and mining sectors, supporting the reduction of key threats to globally and regionally threatened ecosystems and species, and 6) knowledge management for biodiversity conservation, ecosystem services, SLM, and CSA is captured and shared, encouraging ongoing and widespread implementation. The co-financing that has been identified is expected to provide important synergies to the baseline and GEF increment. For example, the Jamaica Rural Economy and Ecosystem Adapting to Climate Change II project's co-financing will provide expertise in climate smart agriculture and natural resource management working with rural communities'

livelihoods and supporting coordination structures that are addressing the impacts of climate change. Furthermore, the EU funded Climate Change Adaptation & Disaster Risk Reduction Project's co-financing would be focused on providing expertise in forest restoration efforts in vulnerable ecosystems (watersheds) and through enhanced institutional capacities for implementation. Jamaica Disaster Vulnerability Reduction USAID Project (JDVRP)'s co-financing will provide expertise in the generation and availability of risk hazard and risk information, as well as its analysis and use in monitoring systems and decision-making. The Adaptation Programme and Financing Mechanism for the Pilot Programme for Climate Resilience (PPCR) Jamaica is working to assist in setting the framework for action and improving the systems necessary for the integration of climate change in decision-making processes. As such, this project will coordinate with the PPCR initiative to ensure effective synergies with respect to the development of data management systems and integration of climate change data into decision-making. The proposed project also generates GEBs by contributing to Aichi Targets #1, 2, 7, 11, 12 and 14.

Current Practice	Proposed Alternative	Expected GEBs
<b>Integrated Landscapes – National level</b>		
<p>Inadequate landscape level approach to planning and insufficient updated accessible data to inform decision making that provides for effective conservation of globally significant biodiversity and ecosystems, along with prevailing gaps in policies, legislation and supporting regulations, resulting in forest fragmentation, with increasing threats and degradation of land, forests and other natural resources upon which communities rely.</p> <p>Continued lack of systemic and institutional capacity for landscape management and biodiversity conservation, including national capacity to provide financial services and incentives, limiting mainstreaming of biodiversity conservation into sector policies and actions, including the tourism, forestry, mining and agricultural sector.</p>	<p>Land use planning decision-making is informed and supported through:</p> <ul style="list-style-type: none"> <li>- Completed, harmonized and implemented policies, regulations and guidelines (Environment Policy, Sustainable Tourism Indicators for Tourism and Environment Policy, Regulations for amended Forest Act, standardized EIA Regulations, SEAs) that mainstream biodiversity and ecosystem services in key sectors;</li> <li>- Updated and accessible ecological and biological information managed in a centralized database that enables tracking and monitoring of ecological and land cover changes, including changes due to climatic changes and events;</li> <li>- Improved capacity to implement decision making tools to inform land use planning for biodiversity (environmental sensitivity index and map, spatial mapping, biodiversity assessments, monitoring and compliance strategy using drone/remote sensing for monitoring of land use changes, economic valuation of biodiversity and ecosystem goods and services, EIAs).</li> </ul> <p>Capacity enhanced to carry out and implement above mentioned information tools, input and harmonized into centralized multi-institutional data management database, with training components (EIAs) institutionalized and national financial support and incentive mechanisms in place.</p>	<p><b>BD:</b> Improved management of landscapes covering 55,000 hectares (indicative), maintaining globally important diversity and ecosystem services.</p> <p>Strengthened protection of BD from; (1) BD mainstreamed into land use planning and sector policy, legislative and regulatory framework, (2) strengthened institutional capacity for BD management and BD assessment techniques and (3) extended PA through Private Protected Areas.</p> <p><b>LD:</b> Enhanced institutionalization, capacity and adoption of integrated landscape level planning and the adoption of mainstreaming of BD and ecosystem services into the forestry, agriculture and tourism sectors will result in improved sustainable management practices across the broader landscape (in forest lands and neighboring agricultural areas) covering 55,000 hectares (indicative), contributing to; (1) maintaining the functions and sustainability of natural ecosystems, and (2) flows of ecosystem goods and services, thus reducing negative impacts on BD.</p>
<b>Landscape level integrated planning and sustainable management - Site level</b>		
<p>Without operational integrated landscape level land use plans, current PA network alone will not adequately conserve viable populations of globally significant biodiversity due to lack of connectivity and unprotected environmentally sensitive areas outside the PAs, nor will ecosystem functioning</p>	<p>Landscape level land use plan is operationalized and harmonized with new or revised Development Order(s) and Parish Local Sustainable Development Plans, Maroon and community resource use plans, with outputs of decision making tools and proscriptions for land uses in environmentally sensitive areas</p>	<p><b>BD:</b> Enhancing conservation of status of globally important forest habitats in the Cockpit Country, covering 3 KBAs and improved conservation of Globally threatened endemic species including: <u>Plants</u> - at minimum 66 species endemic to</p>

<p>on the landscape scale be addressed.</p> <p>Productive sectors do not provide global environmental benefits, rather practices limit integration of SLM, climate smart techniques and BD resulting in forest loss and degradation of natural resources and ecosystem services.</p> <p>Communities living in and surrounding PAs and in PA buffer zones lack capacity to implement SLM and BD-friendly technologies and define sustainable resource use, resulting in degradation and over-exploitation of natural resources.</p> <p>Continued limited mainstreaming and integration of biodiversity conservation into land management planning or natural resource management practices, with limited operational capacities and practices of productive sector (producers and tourism operators) to implement BD compatible activities.</p> <p>Continued agricultural production practices without applying CSA and SLM techniques, resulting in further degradation of land and water resources, cumulative effect of climactic events in watersheds and biodiversity loss.</p>	<p>incorporated and supported by cross-sectoral coordination platform.</p> <p>Mixed-use productive landscape is actively managed and restored for habitat integrity and biodiversity, incorporating climate resilient and biodiversity friendly agricultural production and sustainable land management (forest restoration, restoration of degraded and mined out lands, soil and water conservation measures, climate resilient crops, mixed strata agroforestry, riparian zone rehabilitation) with pilot management areas and demonstration sites used as local and national learning centres for INRM, CSA, SLM and BD connectivity.</p> <p>Community and farmer access to biodiversity friendly livelihood training and livelihood opportunities increases (sustainable tourism, eco-tourism, cultural-tourism, apiculture, crafts, other), with production and sustainable livelihood business models and national support systems (financial, training, extension services) in place for replication.</p> <p>Biodiversity conservation mainstreamed into Development Orders and Parish Local Sustainable Development Plans, Maroon and community resource use plans, reducing species and landscape level threats to biodiversity (land degradation, forest loss, overexploitation, conservation of environmentally sensitive areas).</p>	<p>Cockpit Country of which 5 are CR, 12 EN and 22 VU); <u>Amphibian</u> - 2 CR, 6 EN and 1 VU; <u>Reptiles</u> - 2 VU; <u>Butterfly</u> - 1 EN and 1 VU; <u>Mammals</u> - 1 EN and 1 VU; <u>Birds</u> - 1 EN and 4 VU, including populations of 33 (of the 36) Jamaica EBA restricted-range birds.</p> <p><b>LD:</b> Implementation of integrated natural resource management practices across the broader landscape (in forest lands and neighboring agricultural landscapes) covering 2500 hectares (indicative) resulting in reduced levels of land degradation, improved tree and soil cover, and reducing downstream erosion and siltation.</p>
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## 6) Innovation, sustainability and potential for scaling up.

36. The project is innovative in that it will be supporting enhanced conservation of one of Jamaica's 3 biological corridors (KBA Corridor (northern): Cockpit Country-North Coast Forest-Black River Great Morass Corridor) furthering a holistic and integrated approach to management of interconnected areas as an ecological corridor. Of particular significance is the integration of conservation and biodiversity mainstreaming with cultural and traditional practices of the areas Maroon population. In addition, this project will not only be supporting development of coordinated cooperative inter-institutional and inter-sectoral arrangements for natural resource management, it will also support long-term sustainability of natural resource management through directly impacting the governance and regulatory framework for land-use planning, capacity building and institutional strengthening. Sustainability is built into the project as it works through established government entities and organizations to build their capacity in enhanced biodiversity and ecosystems management through multiple strategies, including building on existing regulation systems, and increasing biodiversity-friendly livelihoods. In addition, sustainability is expected as the project is in line with natural resource management goals presented in Vision 2030 Jamaica: National Development Plan. There will be systemic mainstreaming of biodiversity into land use planning and decision-making, with an enabling environment in place for replicability potential for island wide use. Environmental sustainability will be ensured through strengthening the policy, legal, financial and regulatory framework for biodiversity conservation, and by including principles of sustainability into interventions that govern natural resource management practices and landscape use, including productive potential and vulnerability of different landscape units and habitats. Social sustainability will be ensured by promoting the active participation of local stakeholders in the development and implementation of management interventions and planning. Of particular significance will be the integral participation of Maroon community into all planning and decision-making, incorporating traditional and cultural values that will support traditional values while at the same time ensuring long term sustainability of project interventions. Knowledge management activities and dissemination of information related to project interventions will further support sustainability. Financial sustainability will be assured through the exploration and development of financial mechanisms for BD

compatible production practices and for incentives for the legal protection of private forests. Potential for scaling up lies with incorporating the integrated landscape level approach to management to all future land use planning and decision-making. Inter-sectoral landscape level land use planning will facilitate national learning and communication of these experience, including through south-south cooperation mechanisms. In addition, GEF investment in this project represents an important opportunity to impact SDGs – both directly and as a catalyst for other sources of financing and support. It can serve as a platform for the country to fulfill its SDG Agenda through catalytic investment. Jamaica's SDG Roadmap, developed through the Mainstreaming, Acceleration and Policy Support (MAPS) Mission, calls for mainstreaming of biodiversity, management of protected areas and integrated land use planning. Potential for scaling up also lies with national frames and tools developed under Component 1, such as the Mining Policy and Tourism and Environment Policy, environmental sensitivity index, spatial planning and landscape level land use planning that will all have application potential throughout Jamaica and could provide useful models for other countries in the region. The project will also develop the capacities of institutions and producers to expand project programs to include other producers with practices in other areas of Jamaica, where producers in other mixed-use landscapes facing degradation can financially benefit from sustainable and biodiversity compatible production practices. Potential for scaling up also lies with the development of innovative financial mechanisms / microcredit schemes that support smallholder farmers and small enterprise owners that can continue to expand outside the project target site post project completion.

- 2. Stakeholders.** Will project design include the participation of relevant stakeholders from civil society and indigenous people?  
(yes X/no   ).

STAKEHOLDER (SH)	EXPECTED ROLE/CONTRIBUTION IN PROJECT PREPARATION
<b><u>Implementing Agency:</u></b> National Environment and Planning Agency (NEPA)	The project will be managed by the National Environmental Protection Agency (NEPA), which will be responsible for the project execution and for coordinating the activities and inputs of Government agencies and other stakeholders. NEPA is the responsible body for the environment and planning and executes the various related Acts such as the Natural Resources Conservation Authority, the Town and Country Planning Act and the Land Development and Utilisation Act. Additionally, in its capacity as a technical agency, the key agency responsible for implementation of the biodiversity related components of this project. NEPA will also be a key agency providing technical support for land planning, economic valuation, designing financial systems and incorporate biodiversity conservation into EIAs, SEAs and Development Orders (components 1&2).
<b><u>Responsible Party:</u></b> Forestry Department	The Forest Department (FD) will be a Responsible Party, responsible for implementation of all Forestry related activities. The FD is also a key technical agency carrying out forest restoration and manages FRs on Jamaica Under this project, including providing support for agro-forestry initiatives and EV in the Cockpit Country and Stepney-John's Vale Forest Reserves.
Ministry of Local Government and Community Development	This Ministry will be involved in the planning within the Parishes, and is the ministry under which the Municipal Authorities (below) are found. This Ministry also plays a primary role in community development, thus will be a key project partner in all its community related activities.
Local Government Organizations	St. Elizabeth Municipal Corporation (formerly Parish Council); Trelawny Municipal Corporation, St James Municipal Corporation. Cockpit Country is in all above Parishes. Authorities will be involved in development of Development Orders and integration of BD and ecosystem services into Local Sustainable Development Plans.
Ministry of Tourism	Ministry of Tourism is initiating the development of the Tourism and Environment Policy, for which Sustainable Tourism Indicators for Cockpit Country are being requested for project support, as are the Sustainable Tourism guidelines. In addition, the Ministry has expressed interest in supporting community level tourism initiative (technical support, marketing, other) and will contribute to sustainable tourism initiative under this project.
Ministry is Ministry of Industry and Commerce, Agriculture and Fisheries (MICAF)	The MICAF along with the Rural Agricultural Development Authority (RADA) will implement the sustainable agriculture and alternative livelihood components of this project, and provide technical support, extension services and training to farmers (component 4).

Rural Agricultural Development Authority (RADA)	Rural Agricultural Development Authority (RADA) is a statutory body of the MOAF which will support implementation of the agriculture and alternative livelihood components of this project. RADA will also provide technical support, extension services and training to farmers. RADA is MOAF's main arm providing extension services and acting as a catalyst for rural development. RADA is in the process of reviving a number of Produce Marketing Organizations (PMOs), as a means of more efficiently supporting farmers' marketing efforts which can also support this project.
Planning Institute of Jamaica	The Planning Institute of Jamaica (PIOJ) will provide technical support and general oversight for this project.
National Irrigation Commission (NIC)	The NIC has responsibility for the MOAF's irrigation schemes. The NIC supplies farmers with irrigation water, and the project will integrate and apply lessons learned from their work on providing irrigation infrastructure and training, as well as integrating their technical support.
Maroons	As a community living in the Cockpit Country with special rights, their endorsement of planning and programs that address these lands is essential, with their culture practices respected. All project interventions will be carried out based on the principle of free prior and informed consent (FPIC).
Beekeeping Unit (BU), Apiculture Extension Services (MICAFA)	This BUA will support livelihood projects. Through its extension officers, it will provide advice on good agricultural and management practices, disease control, marketing of bee products, business development, procurement of beekeeping equipment, and sourcing of grants/loans. Beekeeping Unit expansion to Cockpit Country will be supported, with train the trainer program initiated.
Bureau of Women's Affairs / Office of the Prime Minister	This Bureau will support and ensure that gender equity and women affairs are well integrated into project design and implementation. Collaboration with the Bureau will be sought in carrying out both livelihood and gender assessments, and in community-level women engagement and outreach.
Ministry of Mining and Transport, Jamaica Bauxite Institute	The Ministry will be responsible for integrating environmental and land use planning imperatives in the Mining Policy. The Jamaica Bauxite Institute currently provides collaborative support with Forestry in the restoration of mined-out Bauxite lands, and will be an integral partner in this project's restoration efforts.
Private sector financial institutions	Development Bank of Jamaica (DBJ), Credit Unions and Peoples' Cooperative (PC) Banks are financial institutions that have provided / supported micro-credit loans for small farmers and other small and medium sized enterprises,
NGOs and CBOs	<u>Windsor Research Center</u> : Key research center in Cockpit Country that carries out biodiversity research and compiles data on Cockpit Country's biodiversity and ecological processes. <u>Cockpit Communities for Conservation</u> : Key community stakeholders comprised of communities Catadupa Key Biodiversity Area (western Cockpit Country). Developed of a <i>Catadupa Conservation Action Plan</i> : the plan to guide activities to abate critical threats (esp. proposed bauxite mining), and to maintain or restore the functional health of conservation targets. Other stakeholders include: National Association of Parish Development Committee; Cockpit Country Local Forest Management Committees; South Trelawny Environmental Agency.

### 3. Gender Considerations. Are gender considerations taken into account? (yes X/no   )

37. Jamaica enjoys a relatively high degree of gender parity. The country complies with the UN treaties, such as The Convention on the Elimination of all forms of Discrimination Against Women (CEDAW) and Millennium Development Goals (MDGs), and the national and state constitutions have articles stipulating that all the people have equal rights, including marriage and inheritance rights. Women and men share a high adult literacy rate. Jamaica's Gender Development Index, based on the sex-disaggregated Human Development Index, with higher GDI values (2014) for women for life expectancy and birth, expected years of schooling, and mean years of schooling, the three basic dimensions of human development measured. Jamaica's Gender Inequity Index (2014) indicates women hold 16.7% of parliamentary seats, 74% of adult women have reached at least a secondary level of education compared to 70.2% of men<sup>8</sup>. In addition, female participation in the labour market is 56.1% compared to 70.9% for men, with 63.3% of the labour force being 15 years and older. Jamaica also recorded

<sup>8</sup> UNDP. 2015. Human Development Report: Jamaica.

higher poverty levels among female household heads (14%) in relation to their male counterparts (11%). Women account for about 45% of the employed labour force, with the largest share (36.5%) of the employed poor working as agricultural and fisheries workers and 58% of jobs in the Hotels and Restaurant sub-sector. They also account for 26% of the production of domestic and export crops<sup>9</sup> and are the primary vendors of crops. A programme level gender assessment (USAID/JA-REECH Project) found that in agriculture women were not marginalized, where although planting, fieldwork, land preparation, maintenance and fertilizer use was predominantly carried out by men (80%), women carried out 60% of agro-processing and related business activities, as well as 60% of the harvesting, quality assurance and record keeping.

38. Consultation under this project will place particular emphasis on including women (including Maroon women) from the beginning of the project, including women's NGOs (similar to the process of involving women's NGOs during the 44th session of the UN's CEDAW9 in July 2009). Project preparation will ensure that gender consideration becomes an integral part of the proposed project strategy through a comprehensive gender assessment and development of a gender mainstreaming plan for the implementation phases. During the project inception, the mandatory UNDP gender marking will be applied. This requires that each project in UNDP's ATLAS system be rated for gender relevance. This will for example include a brief analysis of how the project plans to achieve its environmental objective by addressing the differences in the roles and needs of women and men. Furthermore, gender marking implies the production of the following data by the project's year 2 and by its end:

- Total number of full-time project staff that are women
- Total number of full-time project staff that are men
- Total number of Project Board members that are women
- Total number of Project Board members that are men
- The number of jobs created by the project that are held by women
- The number of jobs created by the projects that are held by men

In order to ensure equality, these criteria will be integrated into the project design.

#### 4. Risks

Risk	Level	Mitigation
The project outputs addressing the policy, legislative and regulatory framework will not be approved or implemented.	M	The project will support strengthening the governance framework for mainstreaming BD into policy, regulation, and will include support for the development of 1) regulations for the amended Forest Act, 2) regulations for EIAs, with ecosystem valuation integrated, 3) guidelines for SEAs, 4) Environment Policy, 5) Sustainable Tourism Indicators for Cockpit Country for the Tourism and Environment Policy (in progress), 6) BD and ecosystem services considerations for the Mining and Environment Policy (in progress), and 7) new Development Order for the Cockpit Country Area's. These all require requires political approval and institutional support for implementation, well beyond the prevue of this project. However, with or without the adoption of these governance instruments, the project will impact land use planning and biodiversity conservation. The activities developed to support a landscape level land use plan will still be developed and institutionalized, thereby systemically impacting decision-making. These tools are still essential for land management decisions, even on an ad-hoc basis, by government. In addition, implementation of these activities and the development of a database and monitoring tools will still greatly support biodiversity conservation actions.
Climate change may alter the threats and risks associated with land degradation, and extreme climatic events and hazards (e.g. hurricanes, tropical storms, prolonged drought) can jeopardize the SLM measures introduced, including agricultural production and associated livelihoods.	M-H	Adaptation to climate change is integrated into all aspects of this project. Although the project focuses on mainstreaming biodiversity into planning and sectors, decision-making tools developed to inform land use planning (such as environmental sensitivity index), outputs of the decision-making tools will identify areas of ecological sensitivity that will inevitably integrate potential impacts of climate change. In addition, SLM and agricultural activities will incorporate resilience to the effects of climate change, such as in the design of farm level and site specific measures to mitigate potential impacts of extreme events (e.g. techniques ensuring deep root structure of agroforestry plants, or climate -proof design of installations - propagation stations and protective structures).
There are challenges (political	M	The project will mitigate this risk by promoting cross-sectoral planning initiatives

<sup>9</sup> Planning Institute of Jamaica. 2016.

Risk	Level	Mitigation
and institutional) associated with developing inter-institutional and cross sector integration of management at the target landscape		(primarily with NEPA, Forestry Department, Agriculture, Ministry of Local Government), a policy dialogue series, extensive capacity building and outreach that supports the need for cross-sectoral planning to address biodiversity and ecosystem services across productive mixed-use landscapes.
There will be resistance to shift from unsustainable practices to more BD friendly enterprises. These are expected to stem from natural tendencies to resist change, particularly to adopt new approaches that have not been proven in their communities.	M	The Project will apply a combination of approaches to ensure there is adequate support and integration of practices by target communities, business enterprises (i.e. tourism, agro-processing) and farmers of practices for which sustainable and biodiversity compatible measures are intended. This will include: technical assistance, incentives and pilot approaches to demonstrate the benefits of proposed alternatives. The Project will employ a phased approach in influencing change in practices, starting with farmers who are willing to engage in pilot initiatives that can serve as demonstrations, with communication strategies and demonstration activities that increasingly promote replication of activities at other sites. Introduction of financial sustainability mechanisms and demonstration of livelihood benefits will also further support for alternative practices, as will training of community leaders to promote their implementation. The project will also actively promote public buy-in for SLM activities on private lands, demonstrating impacts of activities that result in LD and downstream impacts.
Maroons don't support on ground project activities or won't collaborate with government	M	As some activities will be on lands claimed by the Maroon, this project has from project preparation stages and will continue to throughout project implementation, ensure support from Maroons and leaders (such as the Deputy Colonel) through regular and adequate consultation throughout the project. All project interventions will be carried out based on the principle of free prior and informed consent (FPIC). All project activities are designed to support Maroon interests in and traditional values of further conservation of the Cockpit Country and its biodiversity and forest, while at the same time supporting livelihood developments.

## 5. Coordination with other relevant GEF-financed and other initiatives.

39. GEF currently supports a number of initiatives in Jamaica that the Project will coordinate with. This GEF-6 project will build on the recently completed GEF-4 FSP Strengthening the Operational and Financial Sustainability of the National Protected Area System (2012-2017) by mainstreaming biodiversity conservation into productive sectors (and mining) within the mixed-use landscape between the protected areas strengthened and integrated into Jamaica's Protected Area System Master Plan developed through the GEF-4 project, supporting connectivity. This GEF-6 project will also build on and incorporate lessons learned from efforts (largely unsuccessful) to increase protection of private lands using conservation easements. Coordination with this GEF-6 initiative will be assured through overlapping implementing agency and executing partners responsible for project implementation. The GEF-5 Integrated Management of the Yallah's River and Hope River Watersheds (2013-2017) project aims to reduce pressure on natural resources in 2 watersheds management units in the Blue Mountains by increasing the practice of SLM and thereby improving the flow of ecosystem services that sustain local livelihoods. These practical applications of SLM and climate resilient practices (including agriculture) can provide synergies with this GEF-6 project, including identifying strategies for mainstreaming biodiversity into various sectors and through the identification of sustainable local livelihoods developed through the integration of SLM. The project will also build on the regional Implementing Integrated Land, Water & Wastewater Management in Caribbean SIDS project (2012-2016) that addresses policy, tools and guidelines for IWRM as well as methods for multi-scale assessment and monitoring of land degradation trends. In addition, the GEF financed Caribbean Large Marine Ecosystem (CLME+, 2015-2019) project provided practical experience in spatial planning of the Pedro Bank, which with this project can synergise to help ensure effective terrestrial spatial planning. The GEF/WB-TNC supported Sustainable Financing & Management of Eastern Caribbean Marine Ecosystem Project (2011-2016) will support long term sustainable financing for protected areas through the development of a National Trust Fund, recently government approved, with possible (TBD) use of methods and indicators developed for MPAs that might be relevant to terrestrial protected areas. In addition, synergies exist with the Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States (IWeCO) (2016-2021) that is contributing to the preservation of Caribbean ecosystems that are of global significance and the sustainability of livelihoods through improved fresh water resources management and sustainable land management in Jamaica's wetland ecosystem, with coordination supported through overlapping agencies responsible for implementation.

## 6. Consistency with National Priorities.

Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes X/no   )

40. The project builds on a number of ongoing initiatives being carried out by the Government of Jamaica. This project is also consistent with Government's priorities as set out in national policy documents and plans as well as projects implemented. Of key relevance, this project supports goals and strategies outlined in Jamaica's Vision 2030 Jamaica National Development Plan (2009-2030), including Goal 4, *Jamaica has a Healthy Natural Environment*, which specifically calls for the sustainable management and use of the country's environmental and natural resources as a means of enhancing the quality of life of all Jamaicans as well as advancing the sustainable prosperity agenda of the country. Vision 2030 is implemented through a series of Medium Term Socio-Economic Policy Frameworks (MTFs). Of key relevance to this project is MTF (2015-2018) National Outcome #13 *Sustainable Management and Use of Environmental and Natural Resources* which includes priority sector strategies and actions, with a specific National strategies to; 1) Integrate environmental issues in economic and social decision-making policies and processes, 2) Develop and implement mechanisms for biodiversity conservation and ecosystems management, 3) Develop efficient and effective governance structures for environmental management. Vision 2030 also outlines sector specific strategies that include sustainable environmental practice for the tourism, agriculture, forestry and mining sectors that are supported by this project. This project's focus on mainstreaming biodiversity into the landscape and sector is strongly aligned with Goal 1 "*To integrate protected areas into broader land- and seascapes and sectors to maintain ecological structure and function*) of the Protected Area System Master Plan (2015). Specifically, the project also supports the specific action associated with the Protected Area System Management Plan (PASMP) for terrestrial PAs to be integrated into national, sector or local plans, for ecological connectivity to be established within three sites, and to reduce threats in buffer zones. The PASMP also outlines a sustainable framework for management that supports national development, sustainable financing mechanism (National Conservation Trust Fund Jamaica), and outlines strategic goals to support biodiversity which this project will build on. UN Convention on Biological Diversity (CBD): Jamaica's has developed its National Strategy and Action Plan on Biological Diversity in Jamaica (NBSAP) (2016-2021) to which this project is aligned. The NBSAP is currently being implemented and outlines the need to address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and sectors. This plan directly addresses the importance of connectivity for biodiversity in the wider landscape as well as importance of the contribution of ecosystem services to women, indigenous and local communities and the poor. UN Framework Convention on Climate Change (UNFCCC): This project is also aligned to Jamaica's Climate Change Policy and Third National Communication (TNC) and Biennial Update Report to the UNFCCC. The UN Convention to Combat Desertification (UNCCD): the project supports the objectives of the draft NAP (2002, being updated 2017) and national targets outlined in the NBSAP (2016), which by 2020 seeks to enhance ecosystem resilience through conservation and restoration of at least 15 per cent of degraded ecosystems that further contributes to CC adaptation and to combating desertification, which in turn also complements the targets of the UN Convention on Biological Diversity (CBD). The project will contribute to ongoing LDN target setting by supporting strengthened capacity for use and implementation of decision-making tools that can support ongoing national target setting, as indicated above. These GEF supported activities will contribute to future NAP development process, though likely outside the timeframe of the development of the current NAP development process (2014 GEF funded EA). This project is also aligned with a number of policies and regulations that support the mainstreaming of biodiversity, including the revised Forest Policy (2017), The National Forest Management and Conservation Plan (NFMCP) 2016 – 2026 that supported the Forest Management Plan for the Cockpit Country's Forest Reserve (2012) which this project will support through its activities. A Forest Fire Management Plan was completed in 2013 to guide the Forestry Department and other key stakeholders in the planning for, preventing and management of forest fires, which this project will support through changing land use practices. The project also aligns with policies such as the Climate Change Policy and Action Plan that provides support to the goals of the Vision 2013 to reduce risks posed by climate change to all Jamaica's sectors and the Agriculture Land Use Policy that supports the Vision 2013 goal to conserve, protect and manage forest lands that will lead to sustainable economic and social benefit.

## 7. Knowledge management.

41. Knowledge management will be an integral part of the project, enabling institutional memory, promoting learning and continuous improvement, generating documents for up-scaling of lessons and experiences and visibility strategies for capacity development. Specific knowledge management activities are incorporated under


component 4 and will be carried out in an integrated way and in support of the various capacity building and training actions under the different components. The broader dissemination of experience and lessons learnt generated by the project will be also pursued through engaging national and regional technical and education institutions, and regionally and internationally through South-South cooperation mechanisms.

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

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

<b>Name</b>	<b>Position</b>	<b>Ministry</b>	<b>Date (MM/dd/yyyy)</b>
Gillian Guthrie	Senior Director/GEF OFP Environment and Risk Management	<b>Economic Growth and Job Creation</b>	<b>May 30, 2017</b>

**A. GEF AGENCY(IES) CERTIFICATION**

<b>THIS REQUEST HAS BEEN PREPARED IN ACCORDANCE WITH GEF/LDCF/SCCF/NPIF POLICIES AND PROCEDURES AND MEETS THE GEF/LDCF/SCCF/NPIF CRITERIA FOR PROJECT IDENTIFICATION AND PREPARATION.</b>					
<b>Agency Coordinator, Agency name</b>	<b>Signature</b>	<b>DATE (MM/DD/YYYY)</b>	<b>PROJECT CONTACT PERSON</b>	<b>TELEPHONE</b>	<b>EMAIL ADDRESS</b>
Adriana Dinu, UNDP-GEF Executive Coordinator.		08/29/2017	Lyes Ferroukhi – EBD RTA	507-302-4576	Lyes.ferroukhi@undp.org