



# PROJECT IDENTIFICATION FORM (PIF) <sup>1</sup>

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

## PART I: PROJECT IDENTIFICATION

Project Title:	Integrated Management of the Yallahs River and Hope River Watersheds		
Country(ies):	Jamaica	GEF Project ID: <sup>2</sup>	
GEF Agency(ies):	IADB (select) (select)	GEF Agency Project ID:	JA-T1060
Other Executing Partner(s):	National Environment & Planning Agency (NEPA) (Lead), with Office of the Prime Minister (OPM), Planning Institute of Jamaica (PIOJ), Forestry Department (FD), Water Resources Authority (WRA), National Irrigation Commission (NIC), Ministry of Agriculture & Rural Agricultural Development Authority (RADA),	Submission Date:	2011-04-06
GEF Focal Area (s):	Multi-focal Areas	Project Duration (Months)	48
Name of parent program (if applicable): ➤ For SFM/REDD+ <input checked="" type="checkbox"/>		Agency Fee (\$):	376,867

### A. FOCAL AREA STRATEGY FRAMEWORK<sup>3</sup>:

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
(select) LD-1	1.2 Improved agricultural management for Yallahs & Hope Watersheds	- Information on SLM technology and good practices disseminated to 75% of rural communities in Yallahs & Hope watersheds - Types of innovative SL/WM practices introduced at field level (demonstrated to 40% of rural communities in Yallahs & Hope watersheds)	GEFTF	400,000	1,918,077
(select) LD-1	1.4 Increased investments in SLM	Appropriate actions to diversify the financial resource base (One additional source of income for SL/WM identified and quantified)	GEFTF	572,000	600,000
(select) LD-3	3.1 Enhanced cross-sector enabling environment for integrated landscape management.	-Integrated Land Management plans developed and implemented (SLFM plan) for 80% (35,000 ha) of Yallahs River & Hope River Watersheds	GEFTF	300,000	1,000,000
(select) LD-3	3.2: Integrated landscape management practices adopted by local communities	-INRM tools & methods developed and tested in 50% of communities within the Yallahs River & Hope River Watersheds	GEFTF	437,000	1,334,549

<sup>1</sup> It is very important to consult the PIF preparation guidelines when completing this template.

<sup>2</sup> Project ID number will be assigned by GEFSEC.

<sup>3</sup> Refer to the reference attached on the [Focal Area Results Framework](#) when filling up the table in item A.

(select) BD-2	2.2 Measures to conserve & sustainably use biodiversity incorporated in policy & regulatory frameworks.	- information on high biodiversity habitats, ecosystem quality, and endemic species updated, data on Forest Cover and Forest type, Land use and erosion updated. - data on threats to watershed integrity, forest cover and biodiversity updated - One national & two sub-national land-use plans incorporate biodiversity & ecosystems valuation by project end - Data on threats and biodiversity and ecosystem status incorporated into National Park Management Plan.	GEFTF	930,000	1,383,158
(select) SFM/REDD-1	1.1 Enhanced enabling environment within the forest sector and across sectors	- Payment for ecosystem services system established-	GEFTF	379,667	400,380
(select) SFM/REDD-1	1.2 Good management practices applied in existing forests	Forest area (5,000 ha of broadleaf forest) under sustainable management	GEFTF	500,000	1,466,000
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)	Others		(select)		
Sub-Total				3,518,667	8,102,164
Project Management Cost <sup>4</sup>			GEFTF	<b>250,000</b>	707,092
<b>Total Project Cost</b>				3,768,667	8,809,256

## B. PROJECT FRAMEWORK

<b>Project Objective: To reduce pressure on natural resources in the Yallahs River and Hope River Watersheds of the Blue Mountains by increasing the practice of SLM resulting in improved management of Biological Diversity and enhanced flow of ecosystem services that sustain local livelihoods.</b>						
<b>Project Component</b>	<b>Grant Type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>Indicative Grant Amount (\$)</b>	<b>Indicative Cofinancing (\$)</b>
1. Institutional strengthening & capacity building for integrating biodiversity into watershed management	TA	- Improved Management of Watersheds in the Blue Mountains by collaborating agencies from multiple sectors at national and local levels  - Land-use information management system for both watersheds used	- Key biodiversity & natural resource data updated, collected & incorporated into national & local GIS databases & National Spatial Plan  - 75% of government staff in 2 WMUs trained in IWRM & use of land-use and biodiversity data for watershed management	GEFTF	545,000	785,000

<sup>4</sup> GEF will finance management cost that is solely linked to GEF financing of the project.

		<p>by local &amp; national agencies</p> <ul style="list-style-type: none"> <li>- Improved management of of Biodiversity in the Hope-Yallahs Watersheds and the Blue and John Crow Mountains</li> <li>- 80% of the WMUs (35,589 ha) under Sustainable Land-Use Management Plans</li> </ul>	<ul style="list-style-type: none"> <li>- 2 Sustainable Development Plans &amp; Orders incorporate watershed management and biodiversity information</li> <li>-Public awareness campaign on soil conservation and biodiversity values</li> <li>-Community participatory processes integrated into WMUs land-use planning</li> </ul>				
2. Creating economic & financial incentives to support sustainable biodiversity & watershed management.	TA	<p>Increased funds available to managers of biodiversity &amp; watershed stewards from sustainable sources</p>	<ul style="list-style-type: none"> <li>- Natural resources &amp; ecosystem services in the 2 WMUs valued</li> <li>- Financial, legal &amp; institutional mechanism to support watershed &amp; biodiversity conservation designed</li> <li>- Pilot payment scheme implemented</li> </ul>	GEFTF	754,000	500,000	
3. Improving community awareness, sensitivity and understanding of SLM techniques	TA	<p>Increased public awareness of the importance and benefits of sustainably managing the biodiversity, and the watershed and of good land management.</p>	<ul style="list-style-type: none"> <li>- Inventory of good practices developed &amp; disseminated to 75% of community groups &amp; local government staff</li> <li>- 40% of watershed community groups trained in soil conservation, IWRM &amp; watershed management</li> </ul>	GEFTF	299,667	690,000	
4. Implementing Sustainable Livelihoods, Agriculture, Forestry & Land Management practices in watershed communities	Inv	<ul style="list-style-type: none"> <li>- Reduced soil erosion and siltation in upper, middle &amp; lower watersheds</li> <li>- Good land, agro-forestry and forestry management practices among watershed residents are widely used</li> </ul>	<ul style="list-style-type: none"> <li>- Demonstration projects in sustainable land use, forestry and agroforestry &amp; alternative livelihoods operating in 33% (9,790 ha) of upper &amp; middle watershed farming 66communities.</li> <li>-700 ha reforested</li> </ul>	GEFTF	1,920,000	6,127,164	
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
Sub-Total						3,518,667	8,102,164

	Project Management Cost <sup>5</sup>	GEFTF	250,000	707,092
	<b>Total Project Costs</b>		3,768,667	8,809,256

**C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)**

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount (\$)
National Government	Government of Jamaica	In-kind	707,092
Other Multilateral Agency (ies)	European Union	Grant	1,680,000
GEF Agency	IDB (JA-L0106) National Irrigation Development Program (\$16.8M)	Hard Loan	2,746,000
GEF Agency	IDB (JA-L1012) Agricultural Competitiveness Program (US\$15M)	Hard Loan	854,000
GEF Agency	IDB (JA-L1035) Kingston Metropolitan Area (KMA) Water Supply Development Project (\$133M)	Hard Loan	800,000
Other Multilateral Agency (ies)	UNESCO	Grant	120,000
Other Multilateral Agency (ies)	European Union & FAO	Grant	404,740
Others	Forest Conservation Fund	Grant	1,497,424
(select)		(select)	
(select)		(select)	
<b>Total Cofinancing</b>			8,809,256

**D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY<sup>1</sup>**

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (a)	Agency Fee (b) <sup>2</sup>	Total c=a+b
IADB	GEF TF	Land Degradation	Jamaica	1,830,424	183,042	2,013,466
IADB	GEF TF	Biodiversity	Jamaica	996,076	99,608	1,095,684
IADB	GEF TF	Multi-focal Areas	Jamaica	942,167	94,217	1,036,384
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
<b>Total Grant Resources</b>				3,768,667	376,867	4,145,534

<sup>1</sup> In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table

<sup>2</sup> Please indicate fees related to this project.

<sup>5</sup> Same as footnote #3.

## **PART II: PROJECT JUSTIFICATION**

### **A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:**

#### A.1.1 the [GEF focal area/LDCF/SCCF](#) strategies:

The project is consistent with Biodiversity, Land Degradation and Sustainable Forest Management REDD-Plus objectives. It will implement good management practices in existing high-biodiversity tropical mountain forests and the wider forest landscape downstream. It will increase across sectors, institutional capacity for Sustainable Land Management (SLM) in valuable watersheds and improve management of ecosystem services vital to people's livelihoods. The project will enhance the policy, legal, financial and regulatory framework that supports forest, soil and watershed management effectiveness and improve collaboration between communities, government and the private sector.

#### A.1.2. For projects funded from LDCF/SCCF: the LDCF/SCCF eligibility criteria and priorities:

N/A

#### A.2. national strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NIPs, PRSPs, NPFE, etc.:

In Jamaica, like many Small Island Developing States (SIDS), watershed degradation strongly affects SLM and biodiversity conservation (NAP 2002, NBSAP 2003.). Low institutional capacity, lack of financial, human and technical resources and poor integration of biodiversity into other sectors constrain Jamaica from meeting its obligations under international conventions (Third National Report to the Convention on Biodiversity 2009). Indeed, insufficient funding, poor coordination among agencies and the need for public education limit national implementation of all three Rio Conventions (NCSA 2005).

This project contributes to several key objectives of Jamaica's NBSAP, primarily under Goals 1 that aims to conserve biodiversity, and Goal 2 to promote sustainable use of biological resources. The project supports Objective 4.5.1.1.1 of the NBSAP by developing mechanisms to increase the investment in and channel financial resources to Biodiversity and Watershed managers. Current mechanisms established under past debt swaps have partially supported the operations of the Blue and John Crow Mountains National Park (BJCMNP). However, further funding is needed to fully address the needs for sound watershed and biodiversity management and a financial sustainability plan and strategy will need to be developed and implemented. The themes under Goal 2 of the NBSAP that are relevant to the project are Sustainable Agriculture (Objective 4.5.2.1) which addresses integrating biodiversity conservation into agro-forestry, watershed rehabilitation and soil conservation and also addresses using land zoning to manage agriculture, protect forests and conserve watersheds. The NBSAP gives high priority to reforestation and rehabilitating degraded forest areas to support the sustainable use and management of forest resources (Objective 4.5.2.3). The project supports Sustainable Land Use and Development (Objective 4.5.2.6) since it will build capacity for CBO's, parish authorities, local communities and NGOs to implement reforestation and ensure that only land suitable for agriculture is farmed. The project will build capacity for natural resource management through data management and GIS information generation, dissemination and exchange (Objective 4.5.5.1); and incorporate economic values of ecological services into land-use planning and biological conservation (Objective 4.5.5.3).

The Hope River and Yallahs River watersheds are high priority for action because they are under threat, contain high plant biological diversity in the forests in the upper watershed, have unstable upper areas and significant downstream values (National Forest Management and Conservation Plan 2002). This project contributes to outcomes of the Vision 2030 Jamaica National Development Plan and will support the Strategic Forest Management Plan 2009-

2013 by increasing forest cover and increasing community involvement in sustainable livelihoods. The project supports four of the goals of the draft Watersheds Policy currently under preparation and will help Jamaica meet its target under the government-and-NGO-lead Caribbean Challenge Initiative (CCI), to conserve 20% of marine resources by 2020.

## **B. PROJECT OVERVIEW:**

B.1. Describe the baseline project and the problem that it seeks to address:

**Background:** The Blue and John Crow Mountain ranges are found in eastern Jamaica, and their approximately 52,000 ha of upper slopes are covered of high biological diversity tropical broadleaf forest. Primary forest is found in the remote areas and higher altitudes and the forest becomes increasingly disturbed as one descends the mountains. Numerous rivers flow from the mountains, one of which (Hope River) flows into the Palisadoes-Port Royal Protected Area (which is also a Ramsar site). The forested mountains contain very high levels of endemism in most taxa of flora and fauna, including 240 plants, of which 87 are endemic to the area, 20 birds, 27 reptiles, 20 amphibians, most of the 505 endemic species of Jamaican snails and several endangered butterflies including *Pterourus homerus* the largest butterfly in the Americas. The area is also important overwintering site for several species of seasonal migrant birds from North America. This unique combination of flora and fauna is why the ranges are declared as a Forest Reserve and a National Park (Blue and John Crow Mountains National Park), are one of the WWF Global 200 Ecoregions, and were recently nominated as a potential World Heritage Site.

The mountains provide water for domestic, agricultural and industrial uses to 40% of Jamaica's population. Rainfall ranges from over 7000mm per annum on the northern slopes, to less than 1200 mm on the lower southern slopes. High intensity rainfall in the upper watersheds contributes to soil erosion, and landslides and debris flows are common. Approximately 10% of the forest in the Blue and John Crow Mountains is located on the upper slopes of the Yallahs River and Hope River Watershed Management Units (WMUs,) which are adjoining hydrologic basins on the Southern slopes near to the capital city of Kingston (population 667,000). The two WMUs extend for 44,486 ha and supply 37% of Kingston's water. The Yallahs River also recharges the aquifers and provides irrigation water for farmers in the rural Yallahs Valley, which are vital for the livelihoods of the farmers because agriculture in this region is mainly rain-fed. The area contains 7% of the island's farmland and has more poor households (29%) than the national average (19%). The Department of Forestry estimates that Flood-prone areas make up 8% of the area of the WMUs, 49% is prone to landslides while 65% of the two WMUs are subject to soil erosion (at 163 tons/ha/year in the Hope watershed).

**The Issue:** Threats to the unique biodiversity habitat in the area and to the watershed integrity in the Blue Mountains includes subsistence and commercial agriculture, extraction of timber and fuelwood, mining and quarrying, and the clearing of land for housing. The major effect of human activity in the upper watersheds is deforestation. Deforestation has modified and degraded high biodiversity habitats, increased the vulnerability of rare and endemic species in the upper watersheds and opened up the forest to invasive species. Coupled with poor land use management practices, deforestation contributed to increased soil erosion, landslides, floods and debris flows. Increased sediment load and agricultural chemicals in the rivers reduces the water available for domestic use and results in higher levels of sediment and pollution entering the Caribbean Sea and the Palisadoes-Port Royal Protected Area, damaging marine and coastal biodiversity. Deforestation also increases losses to infrastructure, housing, crops and arable land from floods and landslides. The possible impacts of higher deforested portions of the watersheds on water quantity and quality still need to be assessed.

The last official estimate of the rate of deforestation was 0.13% per annum for broadleaf forest

(1998); while some sources indicate the rate has increased, current information is lacking. Government strategy<sup>6</sup> is to maintain at least 30% of Jamaica forested and increase current levels of cover by 2%. This will require reducing deforestation rates by 50%, reforestation at least 700 ha per year and placing 55,000 ha under sustainable management. However, over 90% of land with reforestation potential<sup>7</sup> is private and not under Government control, thus managing deforestation will require suitable incentives and will depend on buy-in from stakeholders and landowners in key areas.

Kingston competes for water with the rural residents of the two WMUs and the nearness of the area to the capital increases demand for land, thus amplifying the pressure on the natural resources. In the Yallahs watershed where rainfall varies from 50 to 250 mm per month, arable land is often used for housing because farming is limited by droughts and overall water shortage and thus. As the middle and lower sections of both watersheds are increasingly converted to housing, farmers move further uphill to find lower-cost locations for farming (while many may drop their rural activities and migrate to the city). This increases pressure in the upper parts of the watershed, further reducing biodiversity habitats and compromising the water supply to people lower down the watershed.

**The national response:** Although reducing deforestation and restoring forests are GoJ priorities, national efforts while broad in scope, are not integrated or strategic enough to address primary weaknesses and threats to natural resources within watersheds. Key agencies involved in sound watershed and natural resources management include the National Environment and Planning Agency (NEPA), the Forestry Department (FD), the National Irrigation Commission (NIC), the National Water Commission (NWC), the Water Resources Authority (WRA) and the Ministry of Agriculture.

These entities work to strengthen local capacities within watershed authorities for enhanced management and enforcement of water use as well as for addressing aspects of forestry and biodiversity conservation. For instance, the NIC, through an IDB financed project (IDB loan JA-0106, \$16.8M), will improve irrigation in the Yallahs valley, increasing water delivery to farmers. This investment aims at increasing agricultural productivity and thus lowering poverty amongst beneficiaries. The loan will rehabilitate irrigation infrastructure, support the formation of Water Users' Associations, implement action plans for them and train farmers in agricultural and marketing techniques appropriate for irrigated farms within the watershed. Another national effort comes from the Ministry of Agriculture's Agricultural Competitiveness Programme (IDB Loan JA-L1012, \$15M), which will build capacity among small and medium sized farmers across the country, with some targeted beneficiaries located within the two watersheds. Moreover, the National Water Commission (NWC) is developing a project to rehabilitate and expand the water distribution network in Kingston (IDB Loan JA-L1035, \$113M), of which a significant fraction of this water comes from the Hope and Yallahs watersheds. While the project will focus on enhancing water transmission and energy efficiencies of the system, it also contemplates building the capacity of NWC to improve its revenue collection schemes to help recover infrastructure maintenance costs. At the same time, the Water Resources Authority (WRA) along with UNESCO and IMET<sup>8</sup> are developing the *Water Programme for Environmental Sustainability (WPA II): Towards Adaptation Measures to Human and Climate Change Impacts* project to be implemented in the Yallahs WMU. The project will improve the management of groundwater resources as a tool to overcome climate variability, increase water storage facilities and water supply capacity.

Another angle of the national response is a Climate Change Adaptation and Disaster Risk Reduction Project, sponsored by the EU, which will reduce risks associated with natural

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6 Forestry Department Strategic Forest Management Plan 2009 – 2013

7 69,244 ha in total of which 2190 ha is within forest reserves

8 Italian Ministry for the Environment and Territory

hazards and climate variability. It is national in scope but will carry out activities in the Hope and Yallahs watersheds and the Palisadoes-Port Royal Ramsar site (managed by NEPA). Among the activities of the project are: reforestation in the upper watersheds, promoting agroforestry, and developing sustainable livelihoods. Downstream, the project will improve management of coastal ecosystems by monitoring changes; restoring mangrove forests and seagrass beds to enhance coastal protection; developing management plans for marine protected areas; and identifying and facilitating options for alternative livelihoods in selected communities. In addition to these activities,

Finally, some efforts pertaining habitat conservation include the Forest Conservation Fund, which makes small grants to community groups in high priority watersheds for reforestation and SLM projects and has made several grants to communities within the two watersheds; and NEPA's *Strengthening the Operational and Financial Sustainability of the National Protected Area System* GEF Project, aiming to address barriers to effective management of the overall protected area system and enhance income from the endowment funds and visitor's fees to support it. Despite the efforts mentioned above, the effectiveness of the national response to address sound watershed and natural resources management is constrained by several factors, including:

**Insufficient planning and data to inform land-use decisions and protected area management:** While some activities that threaten forested areas and biodiversity habitats are carried out illegally, many are not. Change in land use such as conversion of forest to farming or housing is regulated by Local Authorities and the NEPA. Their authority is based on Physical or Spatial plans, Development Orders and Sustainable Development Plans (where they exist). Absent or out-of-date plans, and lack of up-to-date data on land use and land use change diminishes government efforts to enforce protected area boundaries and buffer zone land use regulations. Data on the location and status of many natural resources, particularly those on private lands, are not readily available to those who issue permits for land use, and thus are not included in current development plans, orders or regulations. Currently, such data are mostly qualitative and may be incomplete, patchily distributed, inconsistently analyzed, stored in diverse places or out of date. For example, there has been no estimate of national forest cover since 1998 and the Development Order that governs Kingston was created in 1968. The management plan of the National Park does contain some biological data, but detailed location and recent status data are lacking. Local Government has been given the mandate to create sustainable development plans but lacks funding and expertise, so such plans have only been developed in two of fourteen parishes. However, since development plans traditionally focused on housing, agriculture and infrastructure, planners require training to understand and analyze biological data and incorporate them into the plans effectively. Where quantitative data exist, they are not always in a form that can be easily accessed or analyzed such as in a GIS database. If data on valuable and sensitive natural resources were available to planners, then they could zone land-use so that high-value conservation areas could be protected while avoiding harmful effects on biodiversity, water resources and sensitive ecosystems. The recently started National Spatial Plan would be a suitable location for the storage of data on biodiversity as the Plan is intended to support physical planning and land-use permits at the local and national level. The NSP would also incorporate updated data. However, location-specific data on natural resources would still need to be collected from archives and the field and analyzed in a consistent manner to provide information that could inform land-use decisions.

**Sustainable financing:** Sufficient funds from national or local budgets have not been made available to National Park managers or watershed stewards to do their work effectively, and law enforcement is ineffective because of limited capacity. The Blue and John Crow Mountains National Park (BJCMNP) receives funds from the GoJ and also charges a user fee for some recreational areas within it, while the National Parks Trust Fund was established to support the operating costs of National Parks. However, these sources do not cover the costs of effective



management and do not address the need for ecosystem rehabilitation or reforestation. It is generally assumed that the recreational potential (hiking, bird watching, camping) within the upper watersheds is high and could generate significant funds for Park management, however, few investments have been made. While aspects of financial sustainability of the protected areas system will be strengthened through the Strengthening the Operational and Financial Sustainability of the National Protected Area System project, that project does not address economic valuation of natural resources in the WMUs or payment for ecosystem services in the context of integrated watershed management. The GoJ has started to carry out pilot evaluations of three protected areas, but the most important terrestrial biodiversity centres have not yet been valued. Also lacking is a system to estimate the economic value of natural resources and incorporate these values into payment schemes, land-use planning and environmental decision-making. There are no systems in place to generate funds for watershed management or SLM. Although the BJCMNP provides water and mitigates floods and soil loss, beneficiaries of these services do not pay for them and the contribution of water users to watershed management is minimal. Although the NIC intends to recover 100% of the Operation and Maintenance costs of irrigation systems from user fees, these fees only cover the maintenance of distribution and extraction infrastructure and do not include the management of the watershed that provides the water. Similarly, the NWC does not charge domestic customers for watershed management, nor does it carry out large-scale watershed management. Some elements of the policy framework to support PES exist, but have not been acted upon and the framework is not complete. The current efforts of NWC and the IDB to rehabilitate and expand the water supply scheme in Kingston are an opportunity to introduce payment for ecosystem services concurrently with improvements in service delivery, improvements to the revenue collection system and a mechanism to ensure payments are used to manage the watersheds more effectively.

**Agency mandates and collaboration:** Government agencies involved in watershed and biodiversity management fulfill their institutional mandates but work independently as there is no operating framework for them to collaborate. Several agencies manage land in the WMUs; their mandates overlap and there are gaps. The Forest Department, NEPA and the National Park manage and regulate activities in the upper watersheds; the NEPA develops and enforces planning regulations, monitors water quality and manages Protected Areas including Ramsar sites, the National Park is responsible for biodiversity management. The Water Resources Authority (WRA) monitors water flows and regulates development and abstraction of water. The National Water Commission (NWC) and the National Irrigation Commission collect, treat and distribute water. However, water users are not involved in watershed management nor do they contribute to it financially. Abstraction and distribution of water is more effectively managed than conservation of the upper watersheds or control of activities in forests, along rivers or on flood plains. Further, there is no clear link between the distributors or users of water and the stewards of the watersheds where the water is produced. The draft Integrated Watershed/Water Resources Management (IWRM) framework could allow public bodies to collaborate on watershed management, but there is no entity responsible to coordinate policy across sectors and ensure goals are met. Efforts made to synchronize policies by placing the water agencies under one Ministry were temporary and did not involve biodiversity managers or watershed stewards.

**Community involvement and benefits:** Beneficiaries are often remote from where ecosystem services are generated and there are few incentives for upper watershed dwellers to maintain forest cover, since many do not internalize the benefit from the ecosystem services generated. Little focus has been placed on environmental education, understanding attitudes and behaviour of community members in the upper watersheds or to providing incentives to pursue alternative livelihoods that have less impact on the watershed. Upper watershed communities need to be more involved by Government in biodiversity conservation, and recent efforts by the FD with Local Forest Management Committees have begun to change this. Since low levels of

community involvement reduce buy-in for environmental regulations, this type of effort will need to be expanded to include community involvement in other types of plans, such as the National Spatial Plan, the Parish Sustainable Development plan, national and local land-use plans and protected area management plans.

Under the “business as usual scenario” the quality of the watershed or the extent of forest cover within it would not be maintained, even less improve. Threats to biodiversity will remain or increase, while water supply, soil erosion and sedimentation problems will continue. The benefits of increased water supply to farmers and city dwellers will be limited and short-lived without the incremental activities that seek a long-term approach to maintaining the stability and productivity of the watershed’s ecosystems.

- B. 2. Incremental /Additional cost reasoning: describe the incremental (GEF Trust Fund) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

By building on the national response initiatives and investments on agriculture, climate change adaptation, reforestation, biodiversity conservation and water, GEF activities would be more cost-effective than carrying watershed conservation and management activities on their own. **GEF incremental activities** will build on national efforts by: i) strengthening the institutional and local capacity for sound watershed planning and management, ii) increasing the amount of land under sustainable management beyond the national response and supporting alternative livelihoods that incorporate biodiversity and soil conservation practices, and iii) implementing mechanisms to improve investment in SLM and generate sustainable financing sources for an adequate management of the National Park, the two watersheds and their ecosystems. The activities to be financed under the proposed project are:

**1. Institutional strengthening & capacity building for integrating biodiversity and watershed management.** Addressing the weaknesses of the planning authorities and resource management stakeholders to ensure forest and biodiversity conservation in the watersheds is the main objective of this component. In particular, this component aims to develop and implement an institutional framework that enables the key watershed management agencies to work together more effectively and collaboratively; collect quantitative and qualitative information on biological diversity, ecosystem quality, soil erosion and water to enable sound resource monitoring and management; update forest cover data and the status of high biodiversity areas especially for areas with endemic species; update information on, and monitor threats to land-use change, biodiversity and ecosystem integrity; provide spatially explicit data of watershed values and resources through a nationally accessible GIS database that informs decision-makers; and ensure that Development Orders and Land-use Plans for the area incorporate information that supports biodiversity conservation, SLM and watershed management. Also, this component will support strengthening of local and national government staff capacity in using information on natural resources including biodiversity to support land-use decisions. This component will be implemented by the NEPA in coordination with the National Spatial Plan (NSP) project. The NSP will gather data by remote sensing of ground cover. Agencies such as NEPA, the Forestry Department, the University of the West Indies and the National Park own data on biodiversity. This data will be collected and analyzed for gaps. Where gaps exist or information is out of date especially pertaining to endemic species and private lands, such data will be updated. The Forestry Department will update its forest type and forest cover information. Data gathered in the field will supplement information provided by secondary sources. Data gathered under this component will be incorporated into the Blue and John Crow Mountains national park Management Plan.

**2. Creating economic and financial incentives to support sustainable biodiversity and watershed management.** This objective of this component is to develop market oriented instruments to assure the supply and maintenance of the ecosystem services associated to forested or agro-forested and sustainable managed lands in the area. This component will: i) estimate the economic value of key ecosystem services within the watersheds and ensure that these values inform land-use decisions and provide information to design a PES scheme that enables long-term financing of forest conservation and sustainable land-use management practices; and ii) create at least one new source of financial support for forest management that could involve taking advantage of the national initiative to strengthen the capacity of the National Water Commission (NWC) to collect fees and cover its operating costs by adding a fee to support conservation efforts in the two watersheds, or adding a charge for watershed management to the fee levied by the National Irrigation Commission (NIC) on farmers for irrigation water. As a result, this component intends to pilot a financing scheme that will ensure that such fees are used to pay for forest and watershed management. There are three existing national mechanisms that could be adapted to receive income from water user fees, manage the funds and allocate them to manage the watershed, including the Environmental Foundation of Jamaica, the Jamaica National Parks Trust Fund and the Forest Conservation Fund. They were established to manage debt-swap funds, and have many years worth of valuable experience in managing investments and making medium and small grants to protect biodiversity and valuable ecosystems.

**3 Improving community awareness sensitivity and understanding of SLM techniques.** The objective of this component is to develop an inventory of SLM good practices, disseminate material and inform community groups of the need for SLFM, then train them in SLM, including soil conservation and alternative livelihood strategies.

**4 Implementing Sustainable Livelihoods, Agriculture, Forestry and land management practices in watershed communities.** The objectives of this component are: to implement demonstration projects in communities, and provide small grant support to implement local SLM and alternative livelihood projects that reduce deforestation and erosion; to improve forest and watershed management, by increasing land under sustainable forestry, agriculture and agro-forestry; and to introduce commercially viable crops that conserve soil.

Best practices and lessons learned from this pilot project will be implemented in the other WMUs that make up the remainder of the Blue and John Crow Mountains National Park. **The expected Global environmental benefits include** maintaining globally important flora and fauna including endemic and endangered species, important migratory bird habitats and developing land-use plans at the national and local levels which incorporate valuation of biodiversity and ecosystem services. The project will maintain the generation of services from forests, increase the area of forest under sustainable management and support the development of sustainable and diverse sources of finance for SLM allowing project benefits to persist beyond the project end. The project will facilitate collaboration across sectors, between government agencies on SLM initiatives, and develop relevant national policy, legal and regulatory frameworks that integrate SLM principles. The project will reduce soil loss and improve the provision of ecosystem services. By increasing the area under agro-forestry, the project will improve livelihoods and reduce the level of harmful runoff into International waters (the Caribbean Sea) and the Port Royal-Palisadoes Ramsar site .

Direct and indirect carbon benefits will be estimated during project preparation activities, taking into account land-use and field data on biomass and carbon content within the intervention area. Nonetheless, an initial rough estimate considering the estimated avoided deforestation, reforestation and sustainable land management outcomes of the project suggests that mitigation benefits could be in the order of 556,061 tCO<sub>2</sub>e for the 4 years of the project

implementation. If we consider a 10 year time frame, this number would amount to 647,571. An initial cost-effectiveness analysis would come out at \$6.7/tCO<sub>2</sub>e, which is competitive when considering market prices for forestry carbon projects.

- B.3. Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF). As a background information, read [Mainstreaming Gender at the GEF.](#)":

The implementation of the proposed project will affect over 300,000 domestic water users in Kingston, including the poor and women, who will have a more reliable water supply for basic needs coverage in the long run. This will also be the case for male and female farmers in rural areas with high poverty indices, due to improvements in agricultural yields associated to increased quantity and quality of water supply and soil conservation techniques. Hence, the GEF project will contribute to enhanced agricultural productivity and income generation in the benefited communities. The risk of floods and damage to farmland, civil infrastructure and homes in the middle and lower watersheds caused by tropical cyclones will be reduced, thus making the livelihoods of rural populations in these areas less vulnerable to extreme weather events and natural disasters. Finally, other associated benefits of biodiversity and SLM practices will be assessed during project preparation, including potential for eco-tourism based income for local communities.

- B.4 Indicate risks, including climate change risks that might prevent the project objectives from being achieved, and if possible, propose measures that address these risks to be further developed during the project design:

**Risk:** High risk that farmers and water users strongly resist paying higher rates for water. **Measure:** Increases can be introduced on a phased basis and through educational and awareness raising interventions, including for commercial private sector water users.

**Risk:** Moderate risk that time taken to agree on the roles of Government agencies, communities and the private sector may delay the project execution. **Measure:** The NEPA and Office of the Prime Minister will convene high level meetings involving heads of agencies while the full proposal is being developed to ensure their input in project planning and execution and increase their commitment to the project.

**Risk:** Moderate risk that natural hazards may delay project execution and divert national funds to humanitarian and recovery efforts. **Measure:** During the development of the full proposal, the lead agency (NEPA) will prepare a contingency plan to minimize project dislocation caused by natural hazards.

- B.5. Identify key stakeholders involved in the project including the private sector, civil society organizations, local and indigenous communities, and their respective roles, as applicable:

The project will be managed by the NEPA, which will be responsible for the project execution and for coordinating the activities and inputs of Government agencies and other stakeholders. The Office of the Prime Minister will support them in this, particularly in a convening role. Additionally, in its capacity as a technical agency, the NEPA will monitor water quality, carry out the economic valuation, design financial systems and incorporate SLM into development Plans and Orders (components 1&2),

The Forest Department (FD) is a key technical agency carrying out Land management and watershed management and a **steward** of the watersheds. Under this project the FD will carry out agro-forestry and reforestation (component 4) activities. The Ministry of Agriculture and Fisheries along with the Rural Agricultural Development Authority (RADA) will implement the

sustainable agriculture and alternative livelihood components, and provide technical support, extension services and training to farmers (component 4). This will be through the existing agricultural extension network operated by RADA. NEPA, RADA, FD and the Ministry will contribute to the community awareness component (3). The NIC supplies farmers with irrigation water and the National Water Commission supplies domestic and industrial users. They will provide irrigation infrastructure, training and technical support to the project.

The National Park is managed by an NGO and the project will liaise with the Park's Local Advisory Committees and other community groups that work with the park to link with community members. The Park will play a key role in liaising with the community and carrying out community education activities through the Local Advisory Committees using Park Rangers and other staff.

Other **users** of water include community groups such as water user associations (WUA) and the Local Forestry Management Committees (LFMC). They are beneficiaries of the project and may operate and manage irrigation systems, or implement SLM activities. The Water Resources Authority (WRA) will provide technical input and advice to the project on the hydrological aspects of the management, productivity and functioning of the watersheds in the project and carry out monitoring and evaluation on water quality and quantity. The Planning Institute of Jamaica (PIOJ) will provide technical support to the economic valuation and the design of financial systems components.

#### B.6. Outline the coordination with other related initiatives:

This project will coordinate efforts with the National Spatial Plan (NSP), an initiative funded by the Caribbean Development Bank (CDB) (USD 678,000), which will identify priorities for: a. improvement of sustainable land use; b. regeneration of communities and enabling disadvantaged communities to access opportunities; and c. addressing global competition, disaster risk reduction and climate change, while conserving the environment, improving natural resources management. This synergy is deemed crucial as delineation of zones in the Yallahs-Hope watershed project can be incorporated into the NSP through its review process and will allow for land use zoning to be implemented and properly enforced. The development of the NSP is being done by the OPM.

The project will also coordinate and incorporate lessons from the *Watershed Area Management Model* (WAMM) developed under the GEF Project, "Integrating Watershed and Coastal Areas Management" (IWCAM). This model provides a practical and flexible way to achieve sustainable watershed management and will be used to develop management plans and strategic action plans for the WMUs. This project will also implement tools developed under the Capacity Building for Sustainable Land Management GEF financed project. Finally, a strong coordination will be sought with the activities of the *Strengthening the Operational and Financial Sustainability of the National Protected Area System project* funded by the GEF and to be implemented by NEPA, particularly for the development of suitable financial mechanisms, such as watershed-park PES.

#### C. DESCRIBE THE GEF AGENCY'S COMPARATIVE ADVANTAGE TO IMPLEMENT THIS PROJECT:

IDB is a major financier and technical supporter of water management, supply and infrastructural projects in Jamaica and supports projects in water resources, rural development and climate change response. IDB has two specialists in water resource management and natural resources and agriculture, who will provide expertise and supervise this project. Of major relevance is IDB's financing of Agriculture through the National Irrigation Development programme which will improve the supply of water to farmers in the Yallahs Valley; its support to improve Kingston's water supply; and the Agricultural Competitiveness Programme, which builds the capacity of farmers to be more competitive, have better productivity and market access

especially for non-traditional crops. IDB's involvement in the Project for Climate Change Resilience places it in an advantageous position to support aspects of this project related to natural hazard mitigation.

C.1 Indicate the co-financing amount the GEF agency is bringing to the project:

The total co-financing brought by IDB to this project is USD 4,400,000. This amount may increase for CEO Endorsement once some activities from the water infrastructure loan are defined.

C.2 How does the project fit into the GEF agency's program (reflected in documents such as UNDAF, CAS, etc.) and staff capacity in the country to follow up project implementation:

The project is consistent with the IDB Country Strategy for Jamaica, implemented since 2006. The Agency has supported rural development and improving the performance of tradable agricultural production in order to reduce rural poverty. The Country Strategy documents indicate that improvement to irrigation is key to improving agricultural productivity. By adding the component of watershed management and improving rural capacity to manage key natural resources sustainably, this project ensures that the ecological basis for agricultural activity will be maintained and that investments in the infrastructure to collect and distribute water will not be lost. The IDB is also interested in supporting through the Kingston Water supply project, GoJ efforts to provide efficient and effective public infrastructure and addressing the major environmental challenges identified in the Country Strategy of "water misuse, caused by inadequate allocation and inefficient management of the resource by both irrigators and domestic users" and "loss of biodiversity". This project will improve the efficiency of water use by both sets of users as well as improving the sustainability of the water supply. The agency's investment in sector exceeds USD 100 million and the agency has sufficient staff to monitor and support project implementation.

**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](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Leony Barnaby	GEF -Operational Focal Point for Permanent Secretary	OFFICE OF THE PRIME MINISTER	03/23/2011

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

<b>This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for project identification and preparation.</b>					
Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Ricardo Quiroga, IDB GEF Executive Coordinator		04/06/2011	Sergio Ardila	(202) 623-2483	sergioar@iadb.org