



Government of Jamaica  
United Nations Development Programme  
and  
The Global Environmental Facility

Piloting Natural Resource Valuation within Environmental Impact Assessments

PIMS 3619 - Atlas Project ID 00057157

This project will strengthen the implementation of Environmental Impact Assessments (EIA), as well as contribute to the implementation of Strategic Environmental Assessments (SEAs) through the development and application of natural resource valuation tools. In particular, the project will work in parallel with the Environmental Action Programme (ENACT), as SEAs are undertaken on various sectoral policies, programmes and plans. The project will 'top-up' ENACT's capacity development activities of training and sensitization of the value of SEAs, and enforcement and compliance of EIAs with training and sensitization on the utility of natural resource valuation as a means to meeting both national and global environmental objectives over the long-term.

The development of natural resource valuation tools will provide an opportunity for these to be institutionalized as part of ENACT Programme's capacity development activities. In this way, SEAs will be greatly improved in being able to make better predictions of possible consequences of policy interventions, facilitating the development of strategies to reduce policy resistances and facilitate the consideration of environmental risks and impacts associated with the implementation of government policies. By providing a more robust and comparable valuation method for natural resources, consequences of development policies, programmes and plans will be better evaluated so as to promote biodiversity conservation; minimize, if not reduce the risks associated with land degradation; encourage climate change mitigation and adaptation strategies; and promote environmentally sound and sustainable development

The Government of Jamaica will execute this project over a period of three years, starting in 2008 with the National Environment and Planning Agency as the main implementing partner, working closely with a Project Steering Committee (PSC) that will provide high-level policy guidance and oversight. A project management unit will execute the project. The total budget of the project is US\$ 555,250 of which US\$ 470,000 is from the GEF. The UNDP is the GEF Implementing Agency.

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## Acronyms

### *Acronyms and Abbreviations*

APR	Annual Progress Report
CBD	United Nations Convention on Biological Diversity
BPoA	Barbados Programme of Action
CANARI	Caribbean Natural Resource Institute
CARICOM	Caribbean Community and Common Market
CASE	College of Agriculture, Science and Education
CB-2	Capacity Development Strategic Priority # 2
CBO	Community-Based Organization
CBD	United Nations Convention on Biological Diversity
CCA	Common Country Assessment
CCAM	Coastal Area Management Foundation
CCD	United Nations Convention to Combat Desertification and Drought
CCPiP	Cockpit Country-Parks in Peril
CDM	Clean Development Mechanism
CHM	Clearing House Mechanism
CIDA	Canadian International Development Agency
CITES	Convention on International Trade of Endangered Species
CoP	Conference of Parties
DFID	Department for International Development
EFJ	Environmental Foundation of Jamaica
EIA	Environmental Impact Assessment
ENACT	Environmental Action Programme
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FD	Forestry Department
FCCC	United Nations Framework Convention on Climate Change
GEF	Global Environment Facility
GEFSEC	Secretariat of the Global Environment Facility (GEF)
GHG	Greenhouse Gas
GoJ	Government of Jamaica
IDB	Inter-American Development Bank
IUCN	International Union for the Conservation of Nature
IWCAM	Integrated Watershed and Coastal Areas Management
JaNEAP	Jamaica National Environmental Action Plan
JI	Jamaica Bauxite Institute
JCDT	Jamaica Conservation Development Trust
JET	Jamaica Environment Trust
JPAN	Jamaica Protected Areas Network
LDUC	Land Development and Utilization Commission

LFMCs	Local Forestry Management Committees
LIFE	Local Initiative for the Urban Environment
M&E	Monitoring and Evaluation
MACC	Mainstreaming and Adaptation to Climate Change
MAL	Ministry of Agriculture and Land
MARPOL	International Convention on the Prevention of Pollution by Ships
MDGs	Millennium Development Goals
MEAs	Multilateral Environmental Agreements
MFAFT	Ministry of Foreign Affairs and Foreign Trade
MIND	Management Institute for National Development
OPM	Office of the Prime Minister
MFA	Ministry of Foreign Affairs
MFP	Ministry of Finance and Planning
MSP	Medium-Size Project
MTE	Mid-Term Evaluation
NBSAP	National Biodiversity Strategy and Action Plan
NAP	National Action Plan
NCSA	National Capacity Self-Assessment
NEEC	National Environmental Education Committee
NEAP	National Environmental Action Plan
NEPA	National Environment and Planning Agency
NEST	National Environmental Societies Trust
NFMCP	National Forest Management and Conservation Policy
NFP	National Focal Point
NIP	National Industrial Policy
NLA	National Land Agency
NRCA	Natural Resources Conservation Authority
NSDF	National Sustainable Development Framework
NTFPs	Non-Timber Forest Products
ODPEM	Office of Disaster Preparedness and Emergency Management
PAs	Protected Areas
PCJ	Petroleum Corporation of Jamaica
PDF	Project Development Facility of the Global Environment Facility
PIOJ	Planning Institute of Jamaica
PIR	Project Implementation Review
PMU	Project Management Unit
POPs	Persistent Organic Pollutants
PPP	Purchasing Power Parity
PSC	Project Steering Committee
RADA	Rural Agricultural Development Authority
RAMSAR	International Convention on Wetlands and Waterfowl
RCU	Regional Coordination Unit
SEA	Strategic Environmental Assessment
SIDS	Small Island Developing States
SLM	Sustainable Land Management
STEA	South Trelawny Environmental Agency
TPD	Town Planning Department

TRC	Technical Review Committee
UDC	Urban Development Corporation
UNDP	United Nations Development Programme
UNDP-CO	United Nations Development Programme Country Office
UNEP	United Nations Development Programme
UWI	University of the West Indies
USAID	United States Agency for International Development
WCS	Wildlife Conservation Society
WMU	Watershed Management Unit
WRA	Water Resources Authority
WWF	World Wildlife Fund

## **SECTION I: Elaboration of the Narrative**

### **PART I: Situation Analysis**

Jamaica's ecosystems provide invaluable services, such as shoreline protection; sinks for pollutants; nursery for juvenile fish; habitats for endangered, threatened, rare and endemic species; and provision of food, shelter and other valuable functions and services. Ecosystem functions help to reduce the impacts of natural disasters, such as storms and hurricanes with associated storm surge, wave action and high wind velocities. In particular, naturally occurring mangroves and reefs provide critical buffers from storm surges associated with hurricanes. Forested ground cover also allows for greater water absorption and retention, reducing the risk of flash floods associated with heavy rainfall events.

Environmental Impact Assessments (EIAs) are part of the requirements under the Permit and License System (1991) administered by the National Environment and Planning Agency (NEPA). However, the EIA process has a number of weaknesses, including a lack of clear standards and methodologies required for EIA data collection; inadequate tools for the identification of significant impacts; and inadequate specification of impact mitigation measures and environmental management plans. Additionally, some development projects are not included in the EIA process, both by the government and the private sector.

1. Guidelines for conducting Environmental Impact Assessments were originally prepared in July 1997 and revised in April 2005. The ENACT Programme set out "to develop the capacity of key strategic players at the government policy, private sector, community and general public levels to identify and solve their environmental problems in a sustainable way." Among the achievements of the ENACT Programme is the strengthening of NEPA in terms of a more hands-on technical development and review of various environmental guidelines and regulation, which includes the EIA approval process. A manual for the review and generic terms of references for the implementation of EIAs was also developed.

2. Notwithstanding these improvements in capacities, the EIA remains a tool that does not adequately convey the value of ecosystem functions. In reviewing the environmental impacts of a proposed development, the EIA builds on available scientific knowledge to make certain predictions about the possible extent of environmental impact. However, natural resources and ecosystem functions and services are not assigned a monetary value. This makes it virtually impossible to compare the financial values of the development, and the opportunity costs of possible environmental impacts. Standard financial management practices are inherently perverse when it comes to valuing environmental goods and services. For example, clean water is free until there is a cost associated with the provision of potable water supply, and then this cost does not include indirect values, such as the quality of water needed to maintain healthy ecosystems with no direct economic value assigned.

3. The relevant GoJ agencies (e.g., NEPA, FD, WRA) are particularly constrained in undertaking economic and financial assessments of the natural resource values under their jurisdiction, as these are not skills generally called for within these types of technical agencies. The institutional linkages with agencies that may be capable of doing this are weak, limited to cooperation in terms of the financial and economic assessments of socio-economic development priorities, and not determining non-use values.

To better direct efforts to implement national policies and legislation, the GoJ adopted the Strategic Environmental Assessment (SEA) in December 2005 as a tool for assessing the environmental

implication of proposed development policies, programmes and plans, with the aim of environmental protection. Implementation of the SEA is intended to facilitate a change in the attitudes towards environmental protection and policy coordination, strengthening the rigor of the policy-making process, and increasing the accountability of governmental official for the environmental implications of their policy decisions. The GoJ, with financial support from the Canadian International Development Agency (CIDA), and executed by the Environmental Action<sup>1</sup> (ENACT) Programme initiated the development of guidelines for the implementation of the SEA in early 2006.

## **PART II: Strategy**

1. The maintenance of Jamaica's natural resources and environmental services also has real values and costs in socio-economic terms. Water supply, for example, is an important environmental good and service with very real socio-economic value and cost. Over 30% of Jamaica's freshwater supply is stored in the aquifer maintained by the forest cover of the Cockpit Country<sup>2</sup>, representing a real value in terms of freshwater supply for potable water and irrigation. The potential loss or diminution of this water supply will have real economic costs in terms of reduced water flows in streams and tributaries, resulting in land degradation, increased risk of destroying the sensitive shrimp industry downstream, as well as high opportunity costs such as the loss of endemic species with a potentially high value to the pharmaceutical industry.

2. Maintaining these natural resource values are difficult given the national priority of socio-economic development and Jamaica's institutional framework governing natural resource use and environmental management, which is heavily biased against protection in favour of extraction and exploitation for short-term economic gains. In this respect, the GoJ has institutionalized a number of institutional responses. The first of these is the use of Environmental Impact Assessments (EIAs), which serve as the main decision-making tool for the government to manage development in a way that does not seriously undermine the natural resource base, including the loss of biodiversity, land degradation and pollution.

3. The capital budgeting of development projects are evaluated using different approaches, selected by the project proponent to skew reported returns (a low rate of return if management wants the project to look less worthwhile, or an inflated rate of return if the proponent has a personal preference for the project). The theory behind attaching economic value and cost associated with the ecosystem functions (e.g., clean air, freshwater, fertile soil and stable landscapes), is that decisions will be based on a more complete understanding of the full cost (i.e., the socio-economic opportunity cost) of development that alters the environment, directly or indirectly. For example, the cost of damage from past hurricanes would be reflected as an economic value associated with the protection of barrier reefs and mangroves, among others. Similarly, the cost of economic damage due to flooding and landslides is an economic value of maintaining adequate forest ground cover upstream.

4. By attaching financial and economic value to ecosystem functions and services, EIAs would allow for a more accurate representation of the costs associated with development. Thus,

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<sup>1</sup> See Annex 1, which provides a summary of ENACT's work plan, targets and activities.

<sup>2</sup> The Cockpit Country is designated as a National Park, and harbours a number of endemic species.

the decision-making process becomes a more holistic enterprise, one that better enables environmentally sound and sustainable development.

5. Of global importance, the project will develop and demonstrate capacities (in the form of natural resource valuation tools) and the use thereof to meeting international commitments with respect to the CBD, CCD and FCCC. Article 4(1)(f) of the FCCC, Article 14 of the CBD, and Article 17(1)(a) of the CCD all call for the use and improvements of the EIA to minimize adverse environmental impacts of development programmes and projects.

6. **Project Objective Statement:** The objective of this project is to develop a set of natural resource valuation tools, and incorporate these into policies and procedures governing the preparation and use of Environmental Impact Assessments (EIA). The project will demonstrate the use of these techniques to improve the decision-making process concerning economic development projects that may potentially affect the environment. The project will employ a strategy of targeted capacity development activities to develop a set of natural resource valuation tools that are particular to the Jamaican context, and provide training on the use of these tools<sup>3</sup>.

7. **Project Outcome:** At the end of the project, the Government of Jamaica will be better able to make more informed decisions by placing greater value to ecosystem functions within the framework of environmental impact assessments of development projects. Specifically, *the environmental impacts of all major development projects would be assessed in terms of their financial and economic values, which would be used to make more informed decisions and choices about future development.* There are two project components:

8. The first is the development of a set of natural resource valuation tools associated with ecosystem functions and services, natural resource commodities, opportunity cost of environmental damage arising from land degradation, among others. This involves the development (Output 1.1) and testing (Output 1.2) of tools to create this data

9. The second component is improving the decision-making process by using data and information on the economic and financial value of ecosystem functions and services within the framework of EIAs. This is largely directed towards developing the human and institutional capacities to manage natural resource valuation tools and the actuarial data produced thereof.

10. An ancillary project outcome is that natural resource valuation tools will provide an *opportunity* to strengthen the expected outcomes of SEA's being conducted in Jamaica. Parallel financing<sup>4</sup> will be used to incorporate natural resource valuation tools as part of the implementation of the SEA will reduce the uncertainties and facilitate the consideration of environmental risks and impacts associated with the implementation of government policies. By providing a more robust and comparable valuation method for natural resources, consequences of development policies, programmes and plans will be better evaluated so as to promote biodiversity conservation; minimize, if not reduce the risks associated with land degradation;

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<sup>3</sup> This project was identified as a priority in the NCSA Final Report, p. 56.

<sup>4</sup> This CB2 project will not finance the incorporation of natural resource valuation tools into the SEA. This would have to be identified from other sources, possibly through ENACT.



encourage climate change mitigation and adaptation strategies; and promote environmentally sound and sustainable development.

**PART III : Management Arrangements (1-3 pages)**

11. UNDP will act as the GEF Implementing Agency for this project. As an implementing agency, UNDP brings to the table a wealth of experience working with governments in the arena of reform, and is well-positioned to assist in both capacity building and institutional strengthening. As always, the UNDP Country Office and UNDP-GEF Regional Coordination Unit (Panama) will be answerable as the agency responsible for transparent practices, appropriate conduct and professional auditing. Staff and consultants will be contracted according to the established rules and regulations of the United Nations and all financial transactions and agreements will similar follow the same rules and regulations.

12. The National Environment and Planning Agency (NEPA) will execute this project under NEX guidelines, with technical assistance from UNDP as implementing agency. Management of the project will be the direct responsibility of the Projects Unit, supported by a Project Manager and Assistant hired under the present project.

13. In its capacity as executing agency, NEPA will be responsible for the achievement of the results expected from the project and, in particular, for ensuring that the outputs are produced through effective management and use of project funds. In obtaining project-funded inputs, NEPA is accountable for their quality, timeliness and effectiveness. NEPA is expected to apply the rules and procedures of the Government of Jamaica, provided that these rules and procedures are compatible with UNDP principles. In cases of incompatibility or where no GOJ procedure exists, UNDP procedures and practices may be applied.

14. A Project Steering Committee will be constituted, to include senior representatives from the full cross-section of agencies responsible for land and natural resource management, including, but not limited to NEPA, PIOJ, Agriculture, Forestry, JBI, WRA, and Mining. The Steering Committee will also include an environmental NGO representative selected by UNDP on the basis of stakeholder consultations. The project steering committee (PSC) has the key role of assessing the performance and progress towards achieving planned outputs, as well as ensuring that the lessons learned are incorporated into the national policy-making process, specifically the institutionalization of natural resource valuation tools and techniques within JBI, PIOJ, UDC, WRA, among others. The PSC will meet once every 6 months to assess project performance as well as to provide guidance for project implementation. More frequent bilateral meetings may be necessary in order to ensure timely supervision and follow-up on project activities.

15. A Project Manager will be contracted to oversee the daily operations of the project, and be located within the central offices of NEPA. The Project Manager will act as the primary liaison between the NEPA and UNDP and other cooperating agencies, and who will ensure that the relevant reports are prepared and submitted as required by UNDP or the Government and agreed upon by the Steering Committee. The Project Manager will report to the Steering Committee. The UNDP Country Office will assist project execution by providing the implementation support services.

16. A Project Director from within the NEPA will be assigned to provide general project oversight (part of their co-financing). NEPA will also establish a Project Management Unit (PMU) for the day-to-day management of project activities, providing office space and administrative overhead to the Project Manager and Project Assistant. NEPA will make available their resources to the Project Management Unit in the performance of their duties, including but not limited to, office supplies, telephone, computer,

printing and Internet privileges. Through UNDP, NEPA may also subcontract specific components of the project to specialized government departments, research institutions, as well as NGOs.

17. Project implementation will take the approach of adaptive collaborative management, whereby project activities proceed as a process of learning; mistakes, errors or failures are considered as normal occurrences; local and non-local stakeholders participated in the process of setting goals, planning, management and evaluation; and uses a variety of methods to create new knowledge on ecosystem changes (natural or anthropogenic as to origin).

18. The Project Steering Committee (PSC) meetings are critical to review the implementation of the project, in particular to identify barriers to effective management. On this basis, the PSC should make recommendations for changes in the project strategy, which would be taken up in a Local Project Advisory Committee (LPAC). The LPAC would make recommendations to UNDP-GEF for modifications to the present project approach in order to management arrangements to meet project objectives.

19. The Project Manager will act as the Secretary to the PSC. The PSC will avail of the set of monitoring and evaluation tools to assess project performance. See Section C.5 on Monitoring and Evaluation above. The Project Manager will also attend all meetings of the NRCA Board and NEPA tribunals, as an observer to determine critical issues to take into account in the EIA and natural resource valuation process.

20. Proper acknowledgement to GEF and UNDP for providing funding and support, the GEF and UNDP logos are to appear on all relevant UNDP-GEF project publications, project hardware, among other items. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgment to GEF.

21. In order to accord proper acknowledgement to GEF for providing funding, the GEF logo should appear on all relevant GEF project publications, including among others, project hardware and vehicles purchased with GEF funds. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgment to GEF. The UNDP logo should be more prominent and separated from the GEF logo if possible, as UN visibility is important for security purposes.

#### **PART IV : Monitoring and Evaluation Plan and Budget**

22. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures. The project team and the UNDP Country Office (UNDP-CO) will undertake monitoring and evaluation activities, with support from UNDP-GEF, including by independent evaluators in the case of the mid-term and final evaluations. The Logical Framework Matrix in Annex 5 describes performance and impact indicators for project implementation along with their corresponding means of verification. The Budget in Annex 8 and the Work Plan in Annex 9, both in the UNDP project document provides delivery and disbursement targets. The Work Plan is provisional, and is to be reviewed during the first Project Steering Committee and endorsed at the Project Initiation Workshop.

23. The project will use a capacity development monitoring and evaluation scorecard to monitor the project capacity development processes (see scorecard in Annex 6). This scorecard

will track project CD processes along five capacity results. Indicators will be rated to quantify the change achieved and provide information needed for higher reporting purposes at programme level. So far, it is expected that the project capacity development activities will largely be monitored by four indicators (see Annex 6 – indicators 2, 10, 11 & 13), which are of direct relevance to the development of a set of natural resource valuation tools, and the incorporation of these tools into policies and procedures governing the preparation and use of Environmental Impact Assessments (EIA) in Jamaica. The success of the project will therefore be monitored against these indicators only. However, any indirect contribution to other capacity development indicators will also be documented in the project reports, as necessary.

24. This scorecard will be completed at inception to establish the project baseline, updated at mid-point of project implementation and finally updated at the end of project implementation. The rating done at project inception will also provide a useful capacity review/assessment at the start of the project; including the current capacity areas of weaknesses and strengths. This capacity development monitoring tools will be used by the project implementation team to monitor project progress and also by the evaluators to conduct the MTE and the final evaluation.

## **PART V: Legal Context**

This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Jamaica and the United Nations Development Programme, signed by the parties on January 26, 1976. The host country implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government co-operating agency described in that Agreement.

The UNDP Resident Representative in Jamaica is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by the UNDP-GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

- a) Revision of, or addition to, any of the annexes to the Project Document;
- b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;
- c) Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and
- d) Inclusion of additional annexes and attachments only as set out here in this Project Document

**SECTION II: STRATEGIC RESULTS FRAMEWORK, SRF AND GEF INCREMENT**

Project Strategy	Objectively verifiable indicators				
Goal	To strengthen the review and approval processes of development projects in order to catalyze environmentally sound and sustainable development.				
	Indicator	<u>Baseline</u>	<u>Target</u>	Sources of verification	Risks and Assumptions
<p><b>Objective of the project</b> To develop, pilot, and institutionalize natural resource valuation tools, techniques, data and information within the framework of Environmental Impact Assessments (EIAs).</p>	<ul style="list-style-type: none"> <li>▪ NEPA, NRCA Advisory Board, and Technical Review Committee (TRC) capacitated to interpret natural resource valuation</li> <li>▪ Increased selection of development alternatives that are environmentally friendly, sound, and sustainable.</li> <li>▪ The financial and economic values of ecosystem goods and services are determinant variables in the permitting and licensing process of development projects.</li> <li>▪ A cadre of local expertise developed to apply natural resource valuation skills within the framework of EIAs.</li> <li>▪ Actuarial data developed are readily available and accessible for use in</li> </ul>	<ul style="list-style-type: none"> <li>▪ EIAs are limited to the scientific assessment of possible environmental impacts that could arise from proposed development.</li> <li>▪ The recommendations and conditions included in EIA reports do not provide a financial or economic assessment of the opportunity costs saved by pursuing alternative options to development.</li> <li>▪ Government capacities to interpret economic and financial values associated with development are weak.</li> <li>▪ The capacities of NEPA are insufficient to implement EIAs for all development projects otherwise required. The ENACT Programme is implementing capacity development activities</li> </ul> <p><i>Ratings to be completed at projet inception phas</i></p>	<ul style="list-style-type: none"> <li>▪ By the end of the project, natural resource valuation tools and techniques will have been demonstrated to at least 50 government representatives</li> <li>▪ By the end of the project, training will have been provided to at least 50 professionals expert in the performance of business plans, feasibility studies, and/or market analyses on the application of natural resource valuation tools and techniques</li> <li>▪ By the end of year 1, the ENACT Programme has committed to the piloting of an SEA that integrates the use of natural resource valuation tools.</li> </ul> <p><i>Targets to be completed at projet inception phase</i></p>	<ul style="list-style-type: none"> <li>▪ PSC Meeting Minutes.</li> <li>▪ Technical Review Committee and NRCA Advisory Board meeting minutes</li> <li>▪ UNDP Quarterly reports.</li> <li>▪ APRs and PIRs</li> <li>▪ Independent midterm and final evaluation reports.</li> <li>▪ Rio Convention national reports and communications</li> <li>▪ Newspaper articles</li> </ul>	<ul style="list-style-type: none"> <li>▪ There is a risk that the decision-makers will not adequately consider the estimated economic values of ecosystem goods and services.</li> <li>▪ The project will be executed in a holistic, adaptive, collaborative, integrative, and iterative manner.</li> <li>▪ The GoJ and UNDP-GEF continue to support this project strategy, in particular key agencies such as PIOJ, and key Ministers, such as the Minister of Land and Environment.</li> <li>▪ Long-term sustainability of project benefits assured by GoJ budgetary appropriations and not by extra-budgetary resources.</li> <li>▪ Relevant individuals within key government agencies actively participate in the training</li> </ul>

Project Strategy	Objectively verifiable indicators				
Goal	To strengthen the review and approval processes of development projects in order to catalyze environmentally sound and sustainable development.				
	Indicator	<u>Baseline</u>	<u>Target</u>	Sources of verification	Risks and Assumptions
	future EIAs. <ul style="list-style-type: none"> <li>▪ Capacity development monitoring scorecard rating</li> </ul>				and sensitization workshops.  Recommendations for the institutionalization of best practices from the piloting of natural resource valuation tools and techniques are politically, technically and financially feasible

Project Strategy	Objectively verifiable indicators				
Goal	To strengthen the review and approval processes of development projects in order to catalyze environmentally sound and sustainable development.				
	Indicator	<u>Baseline</u>	<u>Target</u>	Sources of verification	Risks and Assumptions
<b>Outcome 1</b> <b>Output 1.1:</b> Natural resource valuation tools developed	<ul style="list-style-type: none"> <li>▪ A primer/sourcebook on tools and techniques for the use of natural resource valuation specific to the Jamaican context developed</li> <li>▪ Guidelines developed for the application of natural resource valuation tools and techniques within the EIA process</li> <li>▪ Development of actuarial products initiated</li> <li>▪ Independent expert analysis of natural resource valuation tools confirms their high scholarship</li> <li>▪ An implementation plan developed for undertaking natural resource valuation tools within the framework of EIAs</li> </ul>	<ul style="list-style-type: none"> <li>▪ The evaluation of development projects are skewed towards short-term socio-economic benefits</li> <li>▪ The cost-basis of environmental impacts are not assessed</li> <li>▪ Significant experience exists in the application of natural resource valuation tools and techniques in other countries</li> <li>▪ Actuarial data on ecosystem functions not available</li> </ul>	<ul style="list-style-type: none"> <li>▪ Within six months of project initiation, an assessment of current experiences and theories in the use of natural resource valuation tools and techniques conducted</li> <li>▪ By the beginning of year 2, an independent assessment of the natural resource valuation sourcebook conducted</li> <li>▪ By the end of the project, the natural resource valuation sourcebook updated to incorporate lessons learned from the pilot EIA project</li> <li>▪ By the end of year 1, actuarial products will be available for testing in pilot EIA project</li> <li>▪ By the end of year 1, new guidelines for EIAs developed that incorporate natural resource valuation, and updated periodically during project implementation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sourcebook prepared, with accompanying in-depth review of literature</li> <li>▪ Evaluation report</li> </ul>	<ul style="list-style-type: none"> <li>▪ The use of natural resource valuation does not represent too high a transaction cost in the EIA process, e.g., furthering delaying the review and approval timeline of EIAs or making EIAs prohibitively expensive</li> </ul>

<b>Project Strategy</b>	<b>Objectively verifiable indicators</b>				
<b>Goal</b>	To strengthen the review and approval processes of development projects in order to catalyze environmentally sound and sustainable development.				
	<b>Indicator</b>	<b><i>Baseline</i></b>	<b><i>Target</i></b>	<b>Sources of verification</b>	<b>Risks and Assumptions</b>
<b>Output 1.2:</b> Natural resource valuation tools piloted within the framework of an EIA	<ul style="list-style-type: none"> <li>▪ Pilot EIA project proposal that integrates the use of natural resource valuation developed and approved</li> <li>▪ Independent evaluation of the pilot EIA project conducted</li> <li>▪ Lessons learned from pilot project are widely disseminated</li> <li>▪ Recommendations for the development SEA implementation guidelines provided</li> <li>▪ Actuarial products developed in Output 1.1 are tested in pilot EIA project.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Bauxite mining companies have already secured leases in the Cockpit Country. Bauxite mining will therefore proceed</li> <li>▪ EIA guidelines were updated in 2005</li> <li>▪ Bauxite mining companies are required by law to finance the undertaking of an EIA of proposed future operations in the Cockpit Country</li> <li>▪ No actuarial data on the economic value of Jamaican ecosystem goods and services</li> </ul>	<ul style="list-style-type: none"> <li>▪ By the end of year 1, the pilot EIA project proposal is developed</li> <li>▪ By the end of year 2, the pilot EIA has been implemented</li> <li>▪ By the end of year 2, actuarial products updated</li> </ul>	<ul style="list-style-type: none"> <li>▪ Independent evaluation of the EIA pilot project</li> <li>▪ Technical Review Committee and NRCA Advisory Board meeting minutes</li> <li>▪ Consultations with local stakeholders (Public review workshops)</li> </ul>	<ul style="list-style-type: none"> <li>▪ The bauxite mining companies will be ready to implement the pilot EIA no later than the end of the project's second year, and not before the natural resource valuation tools have been developed</li> <li>▪ No waiver to undertake an EIA in the Cockpit Country</li> </ul>
<b>Outcome 2</b> <b>Output 2:</b> Capacities strengthened to use natural resource valuation within the framework of their review and approval processes	<ul style="list-style-type: none"> <li>▪ Curriculum on natural resource valuation developed and incorporated as a course offering in MIND.</li> <li>▪ Natural resource valuation curriculum integrated into course offerings of other academic institutions of higher learning</li> <li>▪ NEPA staff and members of the NRCA Advisory</li> </ul>	<ul style="list-style-type: none"> <li>▪ No training available on natural resource valuation</li> <li>▪ Local communities recognize and appreciate the socio-economic values of ecosystem good and services, but not in terms of replacement and opportunity costs</li> </ul>	<ul style="list-style-type: none"> <li>▪ By the end of year 1, MIND has a course offering on natural resource valuation</li> <li>▪ By the end of year 2, at least four training sessions conducted, and at least 10 people in each trained</li> <li>▪ By the end of the project, all NEPA staff and members of the NRCA Advisory Board and TRC</li> </ul>	<ul style="list-style-type: none"> <li>▪ Course offerings publications</li> <li>▪ Monitoring and evaluation reports (e.g., APR/PIR, UNDP quarterly progress reports, independent evaluations)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Trainees are willing to learn natural resource valuation tools and techniques</li> <li>▪ Stakeholders remain committed to the use of natural resource valuation</li> <li>▪ Trained professionals remain available for future subcontract opportunities</li> </ul>

Project Strategy	Objectively verifiable indicators				
Goal	To strengthen the review and approval processes of development projects in order to catalyze environmentally sound and sustainable development.				
	Indicator	<u>Baseline</u>	<u>Target</u>	Sources of verification	Risks and Assumptions
	<p>Board and TRC responsible for reviewing proposed developments are trained on interpreting natural resource valuation data and information</p> <ul style="list-style-type: none"> <li>▪ NGOs involved in community-based development actively participated in sensitization workshops on valuation tools.</li> <li>▪ Media outlets publish regular accounts of the issues concerning developments, subjected to EIAs, with particular reference to the opportunity costs of natural resource and environmental degradation.</li> <li>▪ Lessons learned publication widely disseminated</li> </ul>		<p>responsible for reviewing EIAs trained on the interpretation of natural resource valuation information.</p> <ul style="list-style-type: none"> <li>▪ By the end of the project, at least 50 professionals trained in natural resource valuation tools and techniques,</li> <li>▪ By the end of the project, at least five professionals trained within accredited training institutions as trainers of natural resource valuation tools.</li> <li>▪ By the end of the project, at least 10 sensitization workshops on natural resource valuation</li> <li>▪ By the end of the project, lessons learned presented to at least one international (or regional) conference/workshop</li> </ul>		<ul style="list-style-type: none"> <li>▪ Low NEPA staff turnover</li> </ul>





## SECTION III : Total Budget and Workplan

<b>Award ID:</b>	00057157
<b>Award Title:</b>	PIMS 3619 CB2/MFA/MSP: Jamaica – Piloting Natural Resource Valuation within Environmental Impact Assessments
<b>Business Unit:</b>	JAM10
<b>Project Title:</b>	PIMS 3619CB2/MFA/ MSP: Jamaica – Piloting Natural Resource Valuation within Environmental Impact Assessments
<b>Implementing Partner (Executing Agency)</b>	National Environment and Planning Agency

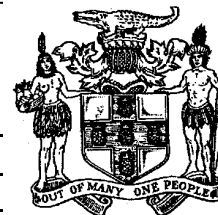
GEF Outcome/Atlas Activity	Responsible Party/Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Total (USD)
<b>Output 1.1 Development of Natural Resource</b>	<b>MLE</b>	<b>62000</b>	<b>GEF</b>	71200	International Consultant: Actuary	18,000			<b>18,000</b>
				71200	International Consultant: Economist	15,000			<b>15,000</b>
				71300*	Local Consultant: Economist	42,000	40,000	30000	<b>112,000</b>
				72100	Contractual Services: Publish Sourcebook	10,000			<b>10,000</b>
					<b>Sub-total GEF</b>	<b>85,000</b>	<b>40,000</b>	<b>30,000</b>	
					<b>Total Output 1.1</b>	<b>85,000</b>	<b>40,000</b>	<b>30,000</b>	<b>155,000</b>
<b>Output 1.2 Natural Resource Valuation Tools piloted in an EIA</b>	<b>MLE</b>	<b>62000</b>	<b>GEF</b>	71300	Local Consultant: EIA Expert		10,000		<b>10,000</b>
				71300	Local Consultant: Economist	28,250	28,250	28,250	<b>84,750</b>
				74500	Miscellaneous				
				71600	Travel: Pilot site visits and lodging	5,000	5,000	5,000	<b>15,000</b>
					<b>Sub-total GEF</b>	<b>33,250</b>	<b>43,250</b>	<b>33,250</b>	
					<b>Total Output 1.2</b>	<b>33,250</b>	<b>43,250</b>	<b>33,250</b>	<b>109,750</b>

<b>Output 2 Training and Sensitization on Natural Resource Valuation</b>	<b>MLE</b>	<b>62000</b>	<b>GEF</b>	71200	International Consultant: Economist/Actuary			19,500	<b>19,500</b>
				71300	Local Lessons Learned Consultant	2,500	2,500	2,500	<b>7,500</b>
				71300	Local Consultant: Economist	10,000	5,000		<b>15,000</b>
				72100	Contractual Services: Publish NRV training material	10,000			<b>10,000</b>
				72100	Contractual Services: Training institutions implement course offerings		15,000	15,000	<b>30,000</b>
				72100	Contractual Services: NRV/EIA training workshops	12,000	10,000	10,000	<b>32,000</b>
				72100	Contractual Services: Sensitization and Public Awareness workshops	7,500	7,000	7,000	<b>21,500</b>
				72100	Contractual Services: Publish Lessons Learned material	5,000	5,000	5,000	<b>15,000</b>
					<b>Sub-total GEF</b>	<b>47,000</b>	<b>44,500</b>	<b>59,000</b>	
					<b>Total Output 2</b>	<b>47,000</b>	<b>44,500</b>	<b>59,000</b>	<b>150,500</b>
<b>Project Management</b>	<b>MLE</b>	<b>62000</b>	<b>GEF</b>	71300	Local Project Assistant	15,000	15,000	15,000	<b>45,000</b>
				71600	Local Transportation	3,334	3,333	3,333	<b>10,000</b>
					<b>Sub-total GEF</b>	<b>18,334</b>	<b>18,333</b>	<b>18,333</b>	<b>55,000</b>
					<b>Total Project Management</b>	<b>18,334</b>	<b>18,333</b>	<b>18,333</b>	
					<b>Total Project</b>	<b>183,584</b>	<b>146,083</b>	<b>140,583</b>	<b>470,250</b>
					<b>Percentage allocated per year</b>	<b>39</b>	<b>31</b>	<b>30</b>	

SECTION IV: ADDITIONAL INFORMATION



**MEDIUM-SIZED PROJECT PROPOSAL**  
**REQUEST FOR FUNDING UNDER THE GEF Trust Fund**



**GEFSEC PROJECT ID:**  
**AGENCY'S PROJECT ID:** 3619  
**COUNTRY:** Jamaica  
**PROJECT TITLE:** Piloting Natural Resource Valuation within Environmental Impact Assessments  
**GEF IA/EXA:** UNDP  
**OTHER EXECUTING AGENCY (IES):** National Environment and Planning Agency (NEPA)  
**DURATION:** 3 years  
**GEF FOCAL AREA:** Multi-Focal Area  
**GEF STRATEGIC OBJECTIVES:** CB 2: Cross-Cutting Capacity Development  
**GEF OPERATIONAL PROGRAMME:** Capacity Building  
**IA/EXA FEE:** US\$ 50,000  
**CONTRIBUTION TO KEY INDICATORS IDENTIFIED IN THE FOCAL AREA**  
**STRATEGIES:** The project contributes to GEF's strategic priority to enhance capacity for global environmental management by leveraging financial and technical resources to address country needs for capacity to better manage global environmental issues.

FINANCING PLAN (\$)		
	PPG	
<b>GEF Total</b>	29,750	470,250
<b>Co-financing</b>		
GEF IA/ExA		
Government		82,000
Others		
<b>Co-financing Total</b>		82,000
<b>Total</b>	29,750	552,250
<b>Financing for Associated Activities, if any:</b> ENACT Programme*: \$708,000 Private Sector: \$50,000		

\* C\$ 812,225 @ rate of 1 C\$: 0.872295 US\$

<u>Milestones</u>	<u>Dates</u>
PIF APPROVAL	N/A*
PPG APPROVAL	12 January 2006
MSP EFFECTIVENESS	April 2008
MSP START	June 2008
MSP CLOSING	June 2011
TE/PC REPORT**	December 2011

\*The project is re-submission from GEF-3. The resubmission is accordance with GEF-4 requirements that the proposal is retrofitted to integrate a framework for capacity building indicators

\*\* Terminal Evaluation Report/Project Completion Report

Approved on behalf of the UNDP. This proposal has been prepared in accordance with GEF policies and procedures and meets the standards of the [Review Criteria for GEF Medium-sized Projects](#).

Y. Glemarec

Yannick Glemarec  
 Executive Coordinator

Tom Twining-Ward  
 Capacity Development Specialist, UNDP/GEF

UNDP/GEF  
Date: June 9, 2008

Project Contact Person  
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## *Acronyms and Abbreviations*

APR	Annual Progress Report
CBD	United Nations Convention on Biological Diversity
BPOA	Barbados Programme of Action
CANARI	Caribbean Natural Resource Institute
CARICOM	Caribbean Community and Common Market
CASE	College of Agriculture, Science and Education
CB-2	Capacity Development Strategic Priority # 2
CBO	Community-Based Organization
CBD	United Nations Convention on Biological Diversity
CCA	Common Country Assessment
CCAM	Coastal Area Management Foundation
CCD	United Nations Convention to Combat Desertification and Drought
CCPiP	Cockpit Country-Parks in Peril
CDM	Clean Development Mechanism
CHM	Clearing House Mechanism
CIDA	Canadian International Development Agency
CITES	Convention on International Trade of Endangered Species
CoP	Conference of Parties
DFID	Department for International Development
EFJ	Environmental Foundation of Jamaica
EIA	Environmental Impact Assessment
ENACT	Environmental Action Programme
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FD	Forestry Department
FCCC	United Nations Framework Convention on Climate Change
GEF	Global Environment Facility
GEFSEC	Secretariat of the Global Environment Facility (GEF)
GHG	Greenhouse Gas
GoJ	Government of Jamaica
IDB	Inter-American Development Bank
IUCN	International Union for the Conservation of Nature
IWCAM	Integrated Watershed and Coastal Areas Management
JaNEAP	Jamaica National Environmental Action Plan
JI	Jamaica Bauxite Institute
JCDT	Jamaica Conservation Development Trust
JET	Jamaica Environment Trust
JPAN	Jamaica Protected Areas Network
LDUC	Land Development and Utilization Commission
LFMCs	Local Forestry Management Committees
LIFE	Local Initiative for the Urban Environment
M&E	Monitoring and Evaluation
MACC	Mainstreaming and Adaptation to Climate Change
MAL	Ministry of Agriculture and Land

MARPOL	International Convention on the Prevention of Pollution by Ships
MDGs	Millennium Development Goals
MEAs	Multilateral Environmental Agreements
MFAFT	Ministry of Foreign Affairs and Foreign Trade
MIND	Management Institute for National Development
OPM	Office of the Prime Minister
MFA	Ministry of Foreign Affairs
MFP	Ministry of Finance and Planning
MSP	Medium-Size Project
MTE	Mid-Term Evaluation
NBSAP	National Biodiversity Strategy and Action Plan
NAP	National Action Plan
NCSA	National Capacity Self-Assessment
NEEC	National Environmental Education Committee
NEAP	National Environmental Action Plan
NEPA	National Environment and Planning Agency
NEST	National Environmental Societies Trust
NFMCP	National Forest Management and Conservation Policy
NFP	National Focal Point
NIP	National Industrial Policy
NLA	National Land Agency
NRCA	Natural Resources Conservation Authority
NSDF	National Sustainable Development Framework
NTFPs	Non-Timber Forest Products
ODPEM	Office of Disaster Preparedness and Emergency Management
PAs	Protected Areas
PCJ	Petroleum Corporation of Jamaica
PDF	Project Development Facility of the Global Environment Facility
PIOJ	Planning Institute of Jamaica
PIR	Project Implementation Review
PMU	Project Management Unit
POPs	Persistent Organic Pollutants
PPP	Purchasing Power Parity
PSC	Project Steering Committee
RADA	Rural Agricultural Development Authority
RAMSAR	International Convention on Wetlands and Waterfowl
RCU	Regional Coordination Unit
SEA	Strategic Environmental Assessment
SIDS	Small Island Developing States
SLM	Sustainable Land Management
STEA	South Trelawny Environmental Agency
TPD	Town Planning Department
TRC	Technical Review Committee
UDC	Urban Development Corporation
UNDP	United Nations Development Programme
UNDP-CO	United Nations Development Programme Country Office
UNEP	United Nations Development Programme

UWI	University of the West Indies
USAID	United States Agency for International Development
WCS	Wildlife Conservation Society
WMU	Watershed Management Unit
WRA	Water Resources Authority
WWF	World Wildlife Fund



## PART I: PROJECT

### A. Project Summary

25. This project will strengthen the implementation of Environmental Impact Assessments (EIA), as well as contribute to the implementation of Strategic Environmental Assessments (SEAs) through the development and application of natural resource valuation tools. In particular, the project will work in parallel with the Environmental Action Programme (ENACT), as SEAs are undertaken on various sectoral policies, programmes and plans. The project will ‘top-up’ ENACT’s capacity development activities of training and sensitization of the value of SEAs, and enforcement and compliance of EIAs with training and sensitization on the utility of natural resource valuation as a means to meeting both national and global environmental objectives over the long-term.

26. The global environmental objective of this project is to facilitate decisions that promote environmentally sound and sustainable development within the framework of Environmental Impact Assessments (EIAs), given their explicit priority within the Rio Conventions (see Table 2 below) and national reports and communications (see paragraphs 34 – 36). The proposed project will pilot natural resource valuation tools within the framework of an EIA, in the Cockpit Country, an area of high endemism, storing over 30% of Jamaica’s water supply, and containing vast wealth in the form of bauxite. The Cockpit Country is under increasing threat due to rising prices of the bauxite ore and national priority of improving socio-economic development. This site was selected on the basis of in-country consultations. See Annex 1 for further details on the Cockpit Country.

27. The development of natural resource valuation tools will provide an opportunity for these to be institutionalized as part of ENACT Programme’s capacity development activities. In this way, SEAs will be greatly improved in being able to make better predictions of possible consequences of policy interventions, facilitating the development of strategies to reduce policy resistances and facilitate the consideration of environmental risks and impacts associated with the implementation of government policies. By providing a more robust and comparable valuation method for natural resources, consequences of development policies, programmes and plans will be better evaluated so as to promote biodiversity conservation; minimize, if not reduce the risks associated with land degradation; encourage climate change mitigation and adaptation strategies; and promote environmentally sound and sustainable development.

28. The project will be executed by the National Environment and Planning Agency (NEPA), in close coordination and collaboration with the ENACT Programme. A Project Management Unit (PMU) will be set up within NEPA, headed by a Project Manager and supported by a Project Assistant. Given the cross-cutting nature of the project, strong coordination will be facilitated through the strong leadership of the Project Steering Committee, particularly to undertake the joint consideration of the natural resource valuation tools and techniques, and to ensure similar levels of interpretations. Transparency in the project will be greatly facilitated by the inclusion of an environmental NGO on the Project Steering Committee (PSC), selected by UNDP on the basis of extensive stakeholder consultations. UNDP will provide support to the execution of the project, both from the Country Office and the Regional Coordination Office

based in Panama. The development of this project benefited from in-country consultations with representatives of all key stakeholder groups, including a stakeholder workshop to deliberate on the draft project strategy developed on the basis of individual consultations.

29. The project will be monitored and evaluated in accordance with established UNDP/GEF procedures and will be conducted by the project team and the support from the UNDP Country Office. The project management reports will be presented to the Project Steering Committee (PSC) for endorsement before they will be distributed to the relevant stakeholders. A list of performance indicators (and their relevant targets) to measure project progress was identified. The project will use a capacity development monitoring and evaluation scorecard to monitor the project capacity development progress. It will monitor the relevant four capacity development indicators for this project, which are of direct relevance to the development of a set of natural resource valuation tools, and the incorporation of these tools into policies and procedures governing the preparation and use of Environmental Impact Assessments (EIA) in Jamaica. (see table below). This scorecard will be completed to review/rate the relevant capacity development indicators at inception, at mid-point of project implementation and finally at the end of project implementation. This capacity development monitoring tool will be used by the project implementation team to monitor the project capacity development progress and also by the evaluators to conduct the MTE and the final evaluation.

Capacity Result / Indicator	Contribution to which Outcome
<b>CR 1: Capacities for engagement</b>	
Indicator 1 – Degree of legitimacy/mandate of lead environmental organizations	
Indicator 2 – Existence of operational co-management mechanisms	<b>1</b>
Indicator 3 – Existence of cooperation with stakeholder groups	
<b>CR 2: Capacities to generate, access and use information and knowledge</b>	
Indicator 4 – Degree of environmental awareness of stakeholders	
Indicator 5 – Access and sharing of environmental information by stakeholders	
Indicator 6 – Existence of environmental education programmes	
Indicator 7 – Extend of the linkage between environmental research/science and policy development	
Indicator 8 – Extend of inclusion/use of traditional knowledge in environmental decision-making	
<b>CR 3: Capacities for strategy, policy and legislation development</b>	
Indicator 9 – Extend of the environmental planning and strategy development process	
Indicator 10 – Existence of an adequate environmental policy and regulatory frameworks	<b>1</b>
Indicator 11 – Adequacy of the environmental information available for decision-making	<b>1</b>
<b>CR 4: Capacities for management and implementation</b>	
Indicator 12 – Existence and mobilization of resources	
Indicator 13 – Availability of required technical skills and technology transfer	<b>2</b>
<b>CR 5: Capacities to monitor and evaluate</b>	
Indicator 14 – Adequacy of the project/programme monitoring process	
Indicator 15 – Adequacy of the project/programme evaluation process	

## **B. Country ownership**

### **B.1 Country eligibility**

30. Jamaica ratified both the Convention on Biological Diversity (CBD) and the Framework Convention on Climate Change (FCCC) in January 1995. Jamaica became a party to the

Convention to Combat Desertification and Drought in March 1998, and acceded to the Kyoto Protocol in June 1999. Jamaica is eligible to receive technical assistance from UNDP, and is thus eligible for support under the Global Environment Facility (GEF).

## **B.2 Country driven-ness**

31. Jamaica's 2001 Country Cooperation Assessment (CCA) includes "Promotion of environmental preservation and management", the focus of that includes a) capacity-building; b) improved data management; and c) promotion of environmental products (p.15). Despite the finding that Jamaica has a large number of environmental laws and policies, the CCA also recommended that the GoJ make more of an effort to implement and comply with existing national environmental laws. Whereas the development of natural resource valuation tools will promote environmental products by promoting the value of environmental goods and services, the training provided as part of the project will facilitate a greater compliance with national environmental laws.

32. Jamaica's 2003 National Biodiversity Strategy and Action Plan (NBSAP) identified land use planning and environmental impact assessments as critical to conserving biodiversity. Jamaica's First National Communication to the FCCC (2000) recommended that policy-makers need a greater awareness and understanding of climate change issues, and that mitigation and adaptation strategies be mainstreamed in the broader national sustainable development plan. Jamaica's draft National Action Plan (NAP) to the CCD (2002) made some general comments and recommendations, including strengthening the understanding of the relevant authorities and agencies of the importance of the Convention at the national level. The NCSA thematic assessment on land degradation took the CCD NAP recommendations further, calling for the development and improved enforcement of the existing legislative and regulatory framework in order to reduce poor land use choices that result in land degradation. This project will strengthen the development and implementation of environmentally sound land use policies, contributing to improved biodiversity conservation, reduced land degradation, and selection of better mitigation and adaptation strategies.

33. The National Environment and Planning Agency's (NEPA) 1998 Capacity Development Plan identified the streamlining and strengthening of capacities of the EIA process. In particular, the plan calls for the development of data resources and the development of skills to improve the quality of the assessments. This project will directly fulfill this priority.

34. Jamaica's National Land Policy has as a major objective the removal of barriers to the inefficient use and management of the country's land resources. This policy also recognizes the importance of healthy watersheds, calling for the reforestation of degraded lands. This policy is supported by a watershed policy that is currently being drafted, but at the present time does not include a consideration of the costs associated with the degradation of the watershed to the country, or the costs associated with recovery measures undertaken after a major natural disaster. The Statistical Institute has the mandate to "promote and develop integrated social and economic statistics", which further supports the objectives of the proposed project to develop natural resource valuation tools to be integrated into government programmes, such as the permitting process.

35. The objective of Jamaica's Energy Policy is "to guarantee stable, secure, diverse and sustainable supplies of energy at the least economic cost..." while encouraging "the promotion of economic growth and the minimization of any negative environmental impacts or macro-economic impact." The proposed project will make a significant contribution to the implementation of this policy, by filling a critical gap in the analysis of policy implications through the use of natural resource valuation. With the set of tools provided by this valuation process, policy- and decision-makers will be better informed in their work to achieve environmentally sound and sustainable development, while at the same time meeting global environmental goals under the three conventions.

36. The project is also driven by the Strategic Environmental Assessment (SEA) Policy, which was approved by the Jamaican Government in December of 2005. This policy is aimed at assessing the environmental implications of proposed policies, plans and programmes towards the goal of facilitating decision-making that reflects a balance between environmental, social and economic priorities. The SEA policy statement affirms that "As part of Government of Jamaica's commitment to sustainable development the GOJ will ensure that all its policies, plans and programmes geared towards national development, adequately consider potential environmental effects and impacts and where these are adverse, incorporate appropriate measures to reduce or eliminate these effects and impacts."

#### **B.2.a National Capacity Self-Assessment (NCSA) Project**

37. Jamaica completed their National Capacity Self Assessment (NCSA) in September 2005, which served as a comprehensive examination of the country's capacity to implement the Conventions within a national institutional framework, as well as to identify the need and benefits of undertaking a coordinated and cross-sectional approach to natural resource and environmental management. The NCSA identified the issue of governance as a key area to be addressed in strengthening the institutional framework for the effective implementation of the three Rio Conventions (CBD, CCD, and FCCC). Consequently the NCSA Action Plan recommended the development of a project proposal for "Strengthening and Developing of Environmental Management Tools for Effective Governance and to Address Institutional Strengthening in Jamaica in Response to Priority Areas of Action in the NCSA".

38. A Project Management Unit (PMU) located within the Strategic Planning, Policies and Projects Division of the National Environment and Planning Agency (NEPA) implemented Jamaica's NCSA project. A team of national consultants conducted the thematic assessments and a Project Steering Committee that included the three national convention focal points provided technical guidance.

39. The project focused on extensive multi-stakeholder consultations to identify and evaluate capacity issues and prioritize areas for action for each thematic area. This was followed by a stocktaking exercise, and assessments of the three thematic areas.

40. The thematic assessment on climate change prioritized the development of the National Action Plan (NAP), assessment of the vulnerability of the coastal zone, water resources,

agriculture and health sectors, and integration of climate change concerns into a national policy. The application of natural resource valuation tools into the decision-making process, and as a tool for resource management can provide useful economic data for assessment and influence the integration of climate change concerns into the National Policy. This MSP will also integrate natural resource valuation tools into the development of the NAP, valuing the function of natural resources in reducing the impact of climate change on Small Island Developing states (SIDS).

41. The biodiversity assessment recommended the strengthening of NEPA to facilitate more effective implementation of the NBSAP, since this is the primary response to Jamaica's obligations under the CBD, in keeping with goal no. 3 of the CDB strategic plan "National biodiversity strategies and actions plan and the integration of biodiversity concerns into relevant sectors serve as an effective framework for the implementation of the objectives of the Convention." This proposed project will address a capacity constraint highlighted in the stakeholder consultations and address an action area - understanding and documenting the goods and services provided by biodiversity. With relation to the CBD the project fits with Articles 6 (General measures for conservation and sustainable use); 10 (Sustainable use of components of biological diversity); 12 (Research and Training); and 14 (Impact assessment and minimizing adverse impacts) of the CBD.

42. A more comprehensive approach to land degradation and development of a sustainable land management policy, and the development of the NAP are the priority issues for the CCD. Significant to this recommendation is the role of the EIA process in informing decision-making concerning land use changes (for example agricultural to residential). Water supply, whether generated in areas prone to drought or externally is critical to mitigating land degradation. The proposed MSP will use natural resource valuation tools to make an assessment of the socio-economic value of the Cockpit Country as an important watershed that provides over 30% of the Jamaica's water supply.

43. The NCSA identified the issue of governance as a key area to be addressed in strengthening the institutional framework for effective implementation of the three Conventions. Some important findings were:

- a. Lack of understanding by decision makers of the importance of sound environmental practices into the economic and development decision-making process;
- b. The need for economic valuation of environmental resources as a tool for decision making;
- c. Problems in the area of environmental legislation development and enforcement (including the area of environmental impact assessment);
- d. Lack of coordinated policy development and weak implementation; and
- e. The need for a thorough assessment of the impact of the implementation and non-implementation of the various environmental policies on the environment.

44. The NCSA Policy and Cross-cutting reports also recommended the training of professionals to undertake a valuation of environmental losses that could be used as expert evidence in environmental litigation. Natural resource valuation tools could also be used to quantify the impact that the non-implementation of policies was having on the environment. The NCSA Capacity Action Plan identified the follow priority areas for action:

- a. National Action Programmes (NAPs) developed and implemented as a matter of priority (Climate Change and Land Degradation);
- b. Implementation of the NBSAP National Biodiversity Strategy and Action Plan (NBSAP) to be Jamaica's programmatic response to the CBD;
- c. Effective administrative mechanisms to be established to oversee implementation of NAPs (reporting, accountability, coordination, performance targets);
- d. Incorporation of NAP into corporate plans and work programmes (effective interagency project management);
- e. Develop harmonized policy and legal framework to support implementation;
- f. Comprehensive integrated public awareness programmes implemented; and
- g. Effective coordinated fund raising.

### **B.2.b Sustainable Development context**

45. Jamaica is a small island developing state located south of Cuba that lies between longitude 18.15 N and latitude 77.20 W. The island is 230 km long and 80 km wide at its broadest, has an area of 10,991 km<sup>2</sup> and an irregular coastline consisting of sandy and rocky beaches, fringing wetlands and cliffs. Jamaica has a tropical marine climate, with an annual mean rainfall at about 1,980 mm. Much of the rainfall results from the northeasterly trade winds, which deposit most of their moisture on the northern slopes of the axial mountain ranges, with the consequence that the southern half of the Island is a rain shadow. Rainfall on the northeastern slopes of the Blue Mountain range is generally 3,000 to 5,000 mm/year, whereas in the south coastal plains of St. Catherine and Clarendon it is generally less than 1,500 mm/year. Island-wide long-term mean annual rainfall exhibits a characteristic pattern, with the primary maximum in October and the secondary in May. The main dry season lasts from December to April. Mean temperatures range from 26°C in February to 28°C in August.

46. Jamaica is rich in biodiversity and productive ecosystems. The 891 km coastline consists of fringing wetlands, sandy and rocky beaches. Jamaica has at least 287 endemic plant species and over 700 endemic animal species and is rated fifth in islands for endemic plants. Centres of Biodiversity include the Cockpit Country, Portland Bight and Hellshire Hills, Blue and John Crow Mountains. There are 26 watershed management units containing over 100 streams and rivers. Around 70% of the island's surface area is covered with limestone, and limestone aquifers provide the main source (84%) of Jamaica's freshwater.

47. However, ten watersheds have been classified as being in critical condition and have to be rehabilitated. These include the Rio Cobre, Yallahs, Rio Minho, Buff Bay, Rio Grande, Hope, Swift, Wag Water, Oracabessa and Morant Rivers. Degraded watersheds result in economic loss to the country through loss of productive soil, siltation of rivers and drainage systems resulting in downstream flooding, reduction in reservoir storage capacity and damage to coastal ecosystems such as coral reefs that support coastal fisheries. A Watershed Management Study of the Buff Bay/Pencar Watershed Management Units conducted by the Forestry Department in 2001 indicated that in a watershed where nearly three-quarters of the Watershed has "steep" to "very steep" slopes "the removal of vegetation on the steep slopes exposes them to the effects of raindrop splash and high velocity of surface runoff. The lack of adequate protective vegetative

cover further contributes to slope failure and accelerated erosion.” Pollutants identified included chemical fertilizers, human and animal wastes and sediments. As is the case with many other watersheds in Jamaica the Buff Bay/Pencar Watershed is a significant source of potable water.

48. Over 30% of Jamaica, approximately 335,900 hectares, is classified as forest. Approximately 88,000 hectares of this is classified as closed broadleaf forest with a closed canopy and minimal human disturbance. Most of the remaining forest is “disturbed broadleaf” (showing varying degrees of human disturbance) or natural dry open forest. Although the latter is often referred to as woodland or scrub, dry limestone forests are a key component of Jamaica’s forest ecology and economy. Just over 30% of the country is classified as mixed use. These are areas of disturbed broadleaf forest mixed with another land use/forest cover, i.e., pine plantation, agricultural field, bauxite extraction site or bamboo. The remaining 39% of the area of Jamaica is classified as non-forest and consists of wholly cultivated areas, water bodies, bare rock, bauxite mines, and buildings/other infrastructure.

49. Forest cover has been declining at around 0.1% per annum and this is attributed mainly to bauxite mining. However, no tool exists to do a comparative analysis of the value of the bauxite mined with the goods and services offered by the forest removed for access road construction and mining of bauxite ore. Several of the endemic species are extremely sensitive to habitat alteration and become rare or disappear when forest ecosystems become degraded by human activities. Sixty percent of the endemic land birds are rare or absent in disturbed areas and 30% rely on well-developed forests at least during the nesting period.

50. Jamaica’s wetlands that once covered 2% of the island have declined significantly due to infilling for development projects and road construction. Most of Jamaica’s development has focused on the coastal areas, much of that is associated with tourism development. The country has one national park, three marine parks and five declared protected areas, covering an area of 146,219 hectares and 13.3% of the total land area. One wetland, the Black River Lower Morass, was declared a Wetland of International Importance in 1998 under the Ramsar Convention. Protected areas are impacted by unplanned development, tourism, urban spread, inappropriate agricultural practices, deforestation, poverty, unsustainable resource extraction practices and pollution from improper waste disposal (sewage, agricultural waste and garbage).

51. Jamaica lies within the Atlantic Hurricane belt and has experienced the effects of 30 hurricanes in the past 133 years, although only Hurricane Gilbert has directly hit the island in the last fifty or so years. The effects of hurricanes that impacted the island in 2004 and 2005 caused significant economic loss and human suffering. In 2004 Hurricane Ivan affected 369,685 persons directly and 8,836 households, who required 277.6 million dollars of emergency relief. Impacts were exacerbated by degraded watersheds affected by deforestation resulting from agriculture and unregulated resource extraction, impairing the ability of watersheds to protect low lying areas from flash flooding, with high sediment loads.

52. Jamaica regularly comes under the influence of tropical storms and hurricanes during the period July to November, characterized by flood producing rainfall of high intensity and magnitude. The population is 2.64 million with a population density of 234 persons/km<sup>2</sup>. The reported incidence of poverty as whole in 2003 was 19.7% and 24.2% in the rural areas.

53. Jamaica is classified by the World Bank as Lower Middle Income with a Gross National Income of US\$ 2,820. Whilst experiencing low economic growth in recent years, Jamaica has achieved high and rising social indicators. In 2005, Jamaica ranked 78th on the UNDP Human Development Index. Jamaica's economy is heavily reliant on its natural resource base. Tourism, mining and agriculture, are Jamaica's major industries, together accounting for approximately 18.0% of the country's Gross Domestic Product (GDP). As of 2002, Jamaica had 1,500,000 thousand tones of economically viable bauxite reserves. In 2002, 3.1 million tones of bauxite were extracted. Several bauxite mining companies control approximately 10% of the land area and have leases for sections of the Cockpit Forest Reserve. This unique ecosystem is a centre of biodiversity, with an extensive limestone aquifer and is managed as a forest reserve by the Forestry Department.

54. Between 1999 and 2003, real gross domestic product (real GDP) grew by an average of 1.3% per annum, 1.0% higher than the average annual growth recorded during the previous five years, 1994-1998. The World Bank Report on Doing Business in 2004 ranked Jamaica in the top ten countries world wide that are investor friendly, attributed in part to the implementation of the Public Sector Modernization Project.

55. The development of Jamaica's Medium-term Socio-economic Policy Framework took into account the Millennium Development Goals (MDGs). The World Bank's Country Assistance Strategy for Jamaica prepared in 2005 considers Jamaica to be on track to achieve over half of the MDGs. With support from IDB and the World Bank, Jamaica's National Poverty Eradication Programme (NPEP) was launched in 1995, and is now being supported by the Social Safety Net, a reform programme aimed at improving identification of the poor, effectiveness, relevance and efficiency in the delivery of all programmes funded by the state to alleviate conditions of the poor and protect the vulnerable. Poverty decreased from 27.5% in 1995 to 19.1% in 2003, with a low of 16.9% in 2001. Ensuring environmental sustainability is the aim of MDG 7, towards that Jamaica is making progress. In this respect, Jamaica experienced a decrease of 5% in forest cover over a ten-year period (from 35% in 1990 to 30% in 2000). Bauxite mining is attributed as the main cause for forest cover loss. Progress is also indicated by 13.1% of total land area under protection (as national parks or other form of protected area). The proportion of households with access to potable water supply has steadily increased from 61.2% to 70.9% between 1990 and 2001. However, this is disproportionately skewed to the Kingston Metropolitan Area, which has 98.3% access while the rural areas have 44.8%.

56. The generation of CFCs shows a downward trend between 1990 and 2000, due mainly to changes in refrigeration and air conditioning technology, as well as the development of national management plans for refrigerants and halons. However, energy consumption increased from 387 to 440 kg/oil equivalent per US\$1,000 (ppp) GDP between 1990 and 1999. Air pollution resulting from emissions of carbon dioxide (CO<sub>2</sub>) is not a significant environmental issue due to Jamaica's relatively limited industrial development. However, one area of concern is that measurements of air quality are not undertaken regularly. In areas where air quality is impaired, it is usually a localized problem.



57. The Cabinet approved the draft SEA policy in December 2005. Under the ENACT programme (co-financed by the Canadian International Development Agency – CIDA), guidelines for implementing the SEA was initiated in early 2006, the result of which will serve to integrate the principles of environmental sound and sustainable development into the country's national policies, programmes and plans. This exercise is supported by training and sensitization programmes.

58. The Government of Jamaica is also addressing national and global environmental sustainability concerns through accession to several other multilateral environment agreements other than the Rio Conventions. Jamaica is party to the Vienna convention and Montreal Protocol on substances that deplete the Ozone Layer, Convention on the International Trade of Endangered Species of Wild Flora and Fauna (CITES), Convention on Wetlands of International Importance as Waterfowl Habitat (RAMSAR), International Convention on the Prevention of Pollution by Ships (MARPOL) and the Convention for the protection and Development of the Marine Environment of the Wider Caribbean.

### **B.2.c Policy and legislation context**

#### *Framework for Global Environmental Management in Jamaica*

59. Jamaica's First National Communication was submitted to the sixth Conference of Parties to the United Nations Framework Convention on Climate Change in November 2000. An objective outlined in the communication was the development and implementation of policies that incorporate climate change implications. Climate change issues are cross-cutting and Article 4 of the Convention of the FCCC refers to the conservation of ecosystems, such as forests that act as reservoirs for greenhouse gas (GHG) not controlled by the Montreal Protocol. Parties to the convention must also "*Take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of the environment*". Preparation of the Second Communication has not yet started, however, interim funding was obtained by the Meteorological Service to maintain and enhance Jamaica's capacity to prepare future national communications.

60. The Draft First National Report was submitted to the CCD in 2002. A Draft working document on the preparation of a National Action Programme was also completed in 2002. The CCD National Report highlighted a number of capacity issues that constrained the national implementation of the conventions, including: a) the relatively poor awareness of decision-makers represented on the CCD Working Committee on the importance of the CCD and their role in its implementation; b) low government absorptive capacity necessitates greater collaboration; c) inadequate visibility of CCD issues among the public.

61. Jamaica's first National Report was submitted to the CBD in 1998. With support from the Global Environment Facility (GEF) and United Nations Development Programme (UNDP), Jamaica's National Biodiversity Strategy and Action Plan (NBSAP) was completed in 2004. The NBSAP was developed under the guidance of a multi-sectoral National Biodiversity Steering Committee, and a Biodiversity Committee in NEPA serves to monitor the implementation of the Action Plan. A draft Biosafety Framework (NBF) was submitted in 2004

and subsequently a draft national Biosafety Policy and drafting instructions towards the preparation of biosafety legislation were prepared as part of the NBF. A draft final document will be prepared under a MSP to be prepared for GEF funding.

#### National Sustainable Development Framework

62. The preparation of a National Sustainable Development Framework (NSDF) for Jamaica comes within the context of continued efforts at the international level and within the Caribbean region to promote effective mechanisms for achieving sustainable development goals (Scoping Exercise in Preparation for National Sustainable Development Framework for Jamaica: Stakeholder Analysis, February 2006). It is intended that the NSDF will become an effective and enduring mechanism for guiding and coordinating national efforts and initiatives for sustainable development in Jamaica. The stakeholder analysis, the first phase of the scoping exercise, has identified internal (public and private sector, civil societies) and external partners (International Development and regional organizations), necessary for the preparation of a comprehensive NSDF.

63. The Forestry Policy of 2001 (updated Forest Land Use Policy of 1996) is administered by the Forestry Department (FD) of the Ministry of Agriculture. Goals and priorities of this policy include: a) conservation and protection of forests, especially the last remaining areas of natural forest, b) management of forested areas, especially watersheds to conserve their innate functions c) management of forest lands to maximize sustainable economic and social benefits. Strategies and tools for implementation of the policy include community participation, public awareness and environmental education, forest research, cooperative management agreements, forestry sector training and human resources development, and planning and monitoring. The implementation this policy by the FD is done in close collaboration with the NEPA, Water Resources Authority (WRA), Rural Agricultural Development Authority (RADA), Rural Physical Planning Unit, the Commissioner of Lands and the Mines and Geology Division. Participatory forest management, aimed at organizing Local Forest Management Committees to involve communities in the utilization and management of forest reserve lands has been piloted in the 20,258 hectare Pencar watershed management unit (WMU) in the Northeastern portion of Jamaica.<sup>5</sup>

64. With over sixty percent of the country having an altitude of over 230 metres above sea level an integrated watershed policy for the conservation of soil and watershed protection is critical to Jamaica's environmental management framework. The objective of Jamaica's Watershed policy is "to promote integrated protection, conservation and development of land and water resources in watersheds for their sustainable use and for the benefit of the nation as a whole." Strategies for the implementation of the policy at the national level include: a) development of a watershed programme specifying the role of relevant government agencies, b) Establishing an inter-Ministerial Watershed Management Committee chaired by the Minister of Environment c) Strengthening human and financial resources required to co-ordinate, implement and monitor work in the watersheds through skills training, d) Ranking each watershed and establishing priorities for interventions and, e) securing budgetary support for implementation of the policy. The policy stipulates the involvement of stakeholders inclusive of NGOs, decision-makers and communities in the watershed management process, the latter to facilitate sustainable community action. The policy highlights the need for revision of the Watershed Protection Act of 1963 that

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<sup>5</sup> Participatory Forest Management: the Jamaican Forestry Department Experience. M. Headley 2003.

has no regulations and does not incorporate new thinking and approaches to watershed management. NEPA (lead agency) and the FD (implementing agency) have the mandate to manage watersheds in collaboration with the WRA, RADA and Ministry of Land and Agriculture.

65. Jamaica's Water Resources Development Master Plan provides the framework for managing and developing water resources island-wide. It contains an inventory of Jamaica's surface water and groundwater resources in relation to both present and future demand for potable water supply.

66. Wetlands are an important part of Jamaica's coastal resources and their preservation is a key component of coastal area management. With wetlands being adversely affected by development activities and unsustainable resource extraction, the Wetland Policy aims at promoting the management of coastal wetlands to ensure that the many benefits they provide are sustained. This will be achieved through establishing of guidelines for development, ending activities in wetlands that damage resources, maintaining the natural diversity and functions of the wetland resources and integration of wetland functions in planning and development of other resources. Specific policy strategies include: a) Protection against dredging, filling, and land development, b) According special protection status to wetlands c) Minimizing Sedimentation from Construction Activities d) Protection from effluent discharges that result in wetland degradation e) Provision of innovative incentives for wetland conservation., f) Public ownership and custody of wetlands, g) Environmental Impact Assessment and Monitoring, and h) Improving public awareness.

67. In 2001, the Caribbean Natural Resource Institute (CANARI), with funding from the Environmental Foundation of Jamaica (EFJ), reviewed the existing Protected Areas Policy framework and recommended the development of a comprehensive system plan for managing these areas. Consequently, the Preparation of a Protected Areas System Plan Project was designed. The project is being administered by the National Environmental Societies Trust (NEST), through funding from the Environmental Foundation of Jamaica and the Canada/Jamaica-Green Fund. The lead government agency for the project is the National Environment and Protection Planning Agency (NEPA) through its Protected Areas Branch.

68. Jamaica's draft Beach Policy (2000) is administered by NEPA and addresses the use and management of Jamaica's beaches that it defines. Thirty percent of Jamaica's 795 km shoreline is sandy beach, of that 4.5 km are public beaches and 2.88 km are associated with hotels. The policy addresses issues of access, safety, beach management, pollution (oil, sewage, industrial and agricultural) and water quality, squatting, coastal erosion, wildlife protection, and marine protected areas. This policy is central to any comprehensive coastal resource management strategy and its objectives are:

- a. The provision of physical and equitable access to the foreshore and the sea on a managed basis to all persons;
- b. Expansion of beach-related recreational opportunities for both local residents and tourists;

- c. Implementation of measures for pollution control and safety for the users of coastal resources;
- d. Protection of the traditional rights of fishermen to access to the foreshore and the sea, and beaching rights on their return from sea;
- e. Management of wildlife associated with beaches and the near shore; and
- f. Management of coastal resources in the light of their vulnerability to the effects of climate change and natural disasters.

69. The aim of Jamaica's Mariculture Policy is to support and encourage the managed use of the nation's marine resources to raise output of marine food products for domestic consumption and for export, and to generate local employment in communities that have traditionally relied upon the sea. In order to achieve this broad aim government will pursue the following goals:

- a. Establish the principles for carrying out sustainable mariculture;
- b. End or effectively control potentially damaging practices associated with mariculture;
- c. Promote the recognition of mariculture as an option for the sustainable use of coastal resources; and
- d. In achieving these goals the policy stipulates the environment must be protected from the harmful effects of mariculture by requiring an Environmental Impact Assessment for mariculture operations; and mariculture operations must be protected from pollution;

70. Jamaica's National Industrial Policy (NIP) was completed in 1996, serving as a strategic plan for economic growth and development. The policy contains four essential components: a) macroeconomic policy; b) industrial strategy; c) social policy; and d) environmental policy.

71. The NIP has set specific targets for economic growth and targeted strategic clusters for development. An integral part of the NIP is a social partnership that sets out agreements by the three social partners-government, labour and employees with regard to a number of areas of economic organization.

72. Jamaica's Energy Policy 2006 -2020 is a Green Paper presently under review at the Office of the Cabinet. This policy focuses on promoting energy conservation and efficiency; development of renewable energy resources; introduction of biofuels; and hybrid vehicles to the transportation sector. Jamaica has one of the highest energy intensity rates in Latin American and the Caribbean due to the high energy use of the bauxite and alumina sectors. The policy recognizes Jamaica's vulnerability to global increases in oil prices and the need for energy conservation and alternative sources of fuel.

73. The Environmental Management Systems Policy and Strategy aim to achieve the following goals:

- a. To establish the framework within that Environmental Management Systems will be adopted across all sectors of society;

- b. To strengthen the legal and economic framework to facilitate the promotion and implementation of Environmental Management Systems; and
- c. To ensure an informed public who will support and advocate for responsible environmental stewardship.

74. The National Poverty Eradication Programme (NPEP) was first launched in 1991 with support from the World Bank and IDB, and since 1995 is funded by the GoJ' Social Safety Net, a reform programme aimed at improving identification of the poor, effectiveness, relevance and efficiency in the delivery of all programmes funded by the state to alleviate conditions of the poor and protect the vulnerable. The Programme coordinates a wide range of poverty related projects and programmes administered by various ministries and agencies. The aim is to marshal all the available resources and reorient them to the vision of eradicating poverty through integrated community development.

75. The activities of the NPEP are guided by "Jamaica's Policy towards Poverty Eradication" presented in the form of Ministry Paper 13/97. Both the policy and the programme are centered around a commitment to promote economic and social development; to reduce the number of persons below the poverty line in targeted communities; and to eradicate absolute poverty (as measured by criteria that assess the individual's ability to meet basic human needs).

76. The Programme is guided by the following principles:

- a. Partnership: Cooperation between Government, Non-governmental Organizations, Community-Based Organizations (CBOs), private sector, and Political Parties;
- b. Integration: A close-knit relationship between agencies, so as to eliminate duplication, and optimize utilization of resources: holistic and multifaceted strategy focusing on old as well as new projects;
- c. Community-based Participation: The community is the central focus of the Programme; and
- d. Sustainability: Centered on environmental protection, natural resource conservation, re-investment, ownership by the community, and support by donor/lender agencies. People will be empowered to take charge of their lives and make decisions about their communities.

77. The priorities of the Programme are: Geographic Targeting; Integrated Community Development; Unemployed Youth, and Families with Children in Low Income Groups; Safety Nets/Income Transfers; and Building the Enabling Environment.

78. The National Forest Management and Conservation Plan (NFMCP), prepared in accordance with the provisions of section 16 of the Forest Act of 1996, is the action plan for the implementation of the strategies and objectives of the Forestry Policy. The purpose of the Plan

is to promote and improve the conservation and sustainable use of the forest resources of the country to meet local and national needs through protecting, managing and restoring the resource for the benefit of present and future generations.

79. Recognizing the critical role of forests in water protection, soil and biodiversity conservation, carbon dioxide sequestration, as a source of renewable resources and employment, and recreation and tourism, the NFMCP includes strategies to protect and manage forests. These strategies include: a) Collaborative management of forests in conjunction with communities, using local forest management committees (LFMCs) that will implement initiatives such as ecotourism and nature tourism, agro-forestry, beekeeping etc.; b) Public education in collaboration with the National Environmental Education Committee (NEEC) and the Ministry of Education; c) Forestry Research Programme with partner organizations such as UWI (Mona), CANARI and the PCJ; and d) Development and implementation of local forest management plans using prepared inventories of biophysical and socio-economic data to formulate management procedures for categories of forest management areas in collaboration with NGOs and Government institutions. The NFMCP identifies sites and prioritizes implementation during the period 2001 – 2006. Twenty-two proposed development projects, with associated costs and timelines are outlined in the Plan. The implementation of the NFMCP has been constrained from a lack of funding and insufficient absorptive capacity.

80. The FD and the FAO National Forest Programme Facility signed a three-year partnership agreement in 2004 aimed at enabling and assisting forest stakeholders to contribute to the development of the programme through research, training, advocacy, alternative livelihood development, policy analysis and resource use management.

### Legislative Framework

81. The legislative framework is central to the development of natural resource valuation tools as part of the regulation governing the implementation of Environmental Impact Assessments (EIAs). The main pieces of legislation are summarized here, with the remainder outlined in Table 1 below.

82. The Natural Resources Conservation Authority Act 1991 is the central legislative instrument, which established the Natural Resources Conservation Authority. This Authority has since been re-named the National Environment and Planning Agency (NEPA). NEPA has the mandate to effectively manage the physical environment of Jamaica so as to ensure the conservation, protection and proper use of its natural resources; promote public awareness of the ecological systems of Jamaica; manage such national parks, marine parks, protected areas; and advise the Minister of the Environment on matters of general policy relating to the management, development, conservation and care of the environment. The Minister, under Section 5 of the Act can designate areas national parks or protected areas. In undertaking its functions, NEPA can develop, implement and monitor plans and programmes relating to the management of the environment and the conservation and protection of the natural resources; formulate environmental standards and codes of practices and take appropriate action where acts of pollution occur. Under section 9 of the Act, a permit must be applied for by anyone wanting to undertake any development in prescribed areas. Under Section 10 of the Act, NEPA requires

that applicants for permits undertake an EIA. The Act also requires licenses for the discharge of trade and sewage effluent.

83. Key regulation includes the Natural Resources Conservation (Permits and Licenses) Regulations (1996) and the Natural Resources Order (1996) that prescribes particularly categories of development (Prohibition of categories of Enterprise, Construction and Development) within prescribed areas (See Annex 2). Other legislation and regulation central to EIAs are those that govern the types of land-uses and resource extraction, particularly the permitting and licensing processes. See Table 1 below.

Table 1: Summary of Jamaica’s key legislation and regulation governing natural resource management

<b>Legislation/Regulation</b>	<b>Objective</b>
Town and Country Planning Act (1957)	To maintain efficient land use in Jamaica through the preparation and promulgation of Development Orders, which in turn establish planning policies to ensure a more effective use of urban and rural lands.
Land Development and Utilization Act (1966)	Stipulates categories of land-uses.
Beach Control Act (1956) and its regulations	Establishes the Beach Control Authority addresses issues related to the use of the foreshore and the floor of the sea. The Act stipulates that licenses are required for the use of the foreshore and the floor of the sea.
Watershed Protection Act (1963)	Declaration of watershed areas by the Minister and identification of activities prohibited within a watershed. Consequently can facilitate proper land use in vital watershed areas, decrease soils erosion and maintain optimum levels of ground water and promote regular flow in waterways.
Wildlife Protection Act (1945) and its amendment (1998)	Concerned with the protection of specified species of fauna, prohibiting the hunting of certain protected birds and other animals. Allows for the declaration of a game sanctuary and specifies offenses. There is provision for the protection of waters containing fish from trade effluents. Informs on the penalties for the Wildlife Act and Regulations. Designates Game wardens and stipulates penalties for offenses.
Endangered Species Act (2000)	Provides the legal framework to protect endangered and endemic species. Trade in endangered species listed in the schedule without a certificate or permit is an offense and addressed the requirements of the CITES.
Fishing Industry Act (1976)	Prohibits fishing without a license and provides for protection of fishery resources through the declaration of Fish Sanctuaries by the Minister. Also declares closed fishing seasons for fished species and prescribes measures for fish conservation.
Public Health Act	Addresses sanitation issues and the pollution of water sources used

(1985)	for domestic or manufacturing purposes.
Clean Air Act (1964)	Requires owners of premises that discharge smoke of fumes or gases or dust to use the best practicable means to prevent discharge.
Water Resources Act (1995)	Establishes the Water Resources Authority (WRA) that is mandated to regulate, allocate, conserve and manage Jamaica's water resources. The WRA collects data on stream flow, groundwater, water quality and other hydro-geological features. It advises developers, investors and government agencies on matters related to water availability and protection. The authority has the primary responsibility for ground water quality assessment and can declare and manage "Water Quality control Zones". The WRA plays a key role in flood hazard assessment.
Forestry Act (1996)	Provides for the creation and protection of forest reserves, the protection of naturally existing forests, conservation of endemic flora and fauna, soil and water resources and as public recreational areas. Around 20% of these lands are impacted by human activity although located in the rugged terrain of the John Crow and Blue Mountains, Cockpit Country and other hilly areas of the country. Approximately 98,962 hectares of forest are in forest reserves.
Forest Regulations (2001)	Section 17 of the Forest Act regulates unauthorized use of forest resources and makes it an offense to undertake activities that degrade resources of a forest reserve. These regulations address the forest management plan, private forestry and protection of fauna.
National Solid Waste Management Act (2001)	Establishes the National Solid Waste Management Authority, with the mandate for effective management of solid waste in Jamaica.
Mining Act (1947)	Provides the legal framework governing mining and its operations. It also indicates the sanctions or penalties for non-compliance.
Quarries Control Act (1983)	Regulates the extraction of material such as sand, marl, gypsum, and limestone for construction purposes.

### **B.2.d Institutional context**

84. The institutions responsible for implementing policies and action plans related to the achievement of international environmental management priorities reside in several government ministries. These ministries are coordinated by the Office of the Cabinet in the Office of the Prime Minister. The Office of the Cabinet provides the Cabinet with policy advice, supports the work of its committees and has overall responsibility for the performance of the public sector. To upgrade performance, the Office of the Cabinet implemented the US\$1.56 billion public sector Modernization Project 1996 – 2003, geared at improving the services provide by the various government institutions. The Office of the Cabinet reviews all legislative issues, notes and technical papers from all state entities to ensure adherence to established standards and GoJ national policy, goals and priorities. Additionally the Office of the Cabinet coordinates major investment and development projects, and for 2004-2005 the Office of the Cabinet coordinated total investment of J\$ 40.4 billion in eight project sectors, led by Tourism, Information and Communication Technology, Agriculture, Minerals and Chemicals. This institution plays an important role in the achievement of global environmental goals and it impacts on the enabling environment for



implementation of strategies whether through legislation or policy review.

85. The Ministry of Foreign Affairs and Foreign Trade (MFAFT) has the responsibility of providing effective representation of the Government of Jamaica overseas through resident diplomatic missions and consular posts. The MFAFT also is involved in ensuring Jamaica's participation in bilateral, regional and multilateral fora towards the conclusion of mutually beneficial agreements. Additionally it is mandated to monitor and respond appropriately to external political and economic developments that impact on national development goals; Ensuring Jamaica's compliance with its obligations under bilateral, regional and international agreements; Creating opportunities for foreign trade, investment and tourism; Negotiating technical cooperation agreements, which promote Jamaica's development objectives. The MFAFT is kept abreast of activities related to the three Rio conventions through communications from the GEF focal point and focal points for each convention. This Ministry also chairs the Council on Ocean and Coastal Zone Management and houses the secretariat.

86. The Office of the Prime Minister (OPM) has the responsibility of addressing the environmental protection and management of Jamaica's resources in conjunction with development at the local level through the Parish Councils. The GEF Focal Point operates from the OPM, which is also the focal point institution for the CDB. Relevant institutions within the OPM include NEPA, Office of Disaster Preparedness and Management and the National Meteorological Services. The Parish Councils must give approval to development projects within each Parish and have an important role in the EIA process. The OPM in conjunction with the MFAFT have the major responsibility for ensuring that Jamaica meets its obligations under the 3 Rio Conventions and other MEAs.

87. The Ministry of Finance and Planning (MFP) is critical to the achievement of the MDGs, which are entrenched in the Socioeconomic Development Framework. The MFP provides the necessary financial and economic policy framework and allocates resources to facilitate the provision of public services. *"The Ministry has foresight for long-term expansion of real economic activity without the imposition of permanent costs to or burdens on the economy such as environmental degradation, increasing debt or rising inflation."* Accordingly the Corporate Plan for 2001/2002 – 2003/2004 highlights strategic policies to alleviate poverty and protect the environment through sustainable growth. The Greening of Procurement is a strategic objective for a cost effective public service.

88. The Ministry of Agriculture and Land (MAL) is responsible for food production and security, sustainable land use, fisheries, forestry, soil management and conservation. Institutions within the MAL include the National Land Agency, Fisheries Division, Rural Agricultural Development Authority, Forestry Department and Mines and Geology Division. The MAL oversees several activities that impact both negatively and positively on the achievement of national goals and sustainable development objectives.

89. The Ministry of Tourism and Culture has the mandate to facilitate tourism development and

implements the objectives of the Tourism Master Plan. Tourism is one of the major contributors to the Jamaican economy, highly dependent on natural resources and important to the socioeconomic framework.

90. The Ministry of Industry, Commerce and Technology also encompasses energy issues, and serves to develop and implement strategies to effectively implement the Energy Policy. The aim of this policy is to decrease fossil fuel use through energy conservation programmes and development/promotion of alternative renewable energy, the latter being the mandate of the Petroleum Corporation of Jamaica. These strategies have implications for climate change and sustainable use of forest resources.

91. The National Environment and Planning Agency (NEPA) is a new Executive Agency that became operational on April 1, 2001. It is an agency of the Ministry of Local Government and the Environment. NEPA represents a merger between the Natural Resources Conservation Authority (NRCA), the Town Planning Department (TPD) and the Land Development and Utilization Commission (LDUC), integrating environmental, planning and sustainable development policies and programmes. The mission of NEPA is to promote Sustainable Development by ensuring protection of the environment and orderly development in Jamaica through highly motivated staff performing at the highest standard. The vision of the organization is that Jamaica's Natural Resources are being used in a sustainable way and there is broad understanding of environment, planning and development issues, with extensive participation amongst citizens and a high level of compliance to relevant legislation.

92. NEPA operates under the following Acts:

- a. The Natural Resources Conservation Authority Act;
- b. The Town and Country Planning Act;
- c. The Land Development and Utilization Act;
- d. The Beach Control Act;
- e. The Watershed Protection Act; and
- f. The Wildlife Protection Act.

93. The work of NEPA is guided by the following policies and plans:

- a. Jamaica National Environmental Action Plan (JaNEAP) 1999-2002;
- b. National Physical Plan – 1978;
- c. Policy for Jamaica's System of Protected Areas – 1997;
- d. Biodiversity Strategy and Action Plan (2003);
- e. Watershed Management Policy (Draft);
- f. Beach Policy for Jamaica (Draft); and
- g. Environmental Management Systems Policy and Strategy (Draft).

94. Under permitting and licensing regulations of the Natural Resources Conservation Authority Act, NEPA is responsible for ensuring that EIAs are conducted for specific categories of developments described in the regulations. Currently, the decision-making process does not take into account the value of environmental goods and services, as Jamaica does not have the absorptive capacity to use natural resource valuation tools in the EIA process. NEPA has the responsibility for implementing the National

Strategy and Action Plan Biological Diversity in Jamaica, as required by Article 6 of the CBD. This Plan identifies economic valuation as necessary for the sustainable use of resources.

95. The Water Resources Authority was created by the Water Resources Act of 1995 the Water Resources Authority (WRA) seeks to allocate water to meet the needs of development and to protect the remaining resource from the effects of development. This involves reviewing EIAs for the NRCA, establishment of guidelines for landfill sites and sewage disposal and allocation of licenses for the abstraction of and drilling for water. Other activities of the WRA include hydrologic data collection, compilation and analysis: Flood mapping/warning; Ground water pollution risk mapping; and water resources investigation and allocation. The WRA has prepared a Water Resources Development Master Plan for Jamaica to guide the use of this resource.

96. The Forestry Department (FD) has the mandate to protect and manage Jamaica's forest resources through the Forest Act and Regulations under the direction of the Conservator of Forests. This legislation extends protective status to forest reserves, forest management areas and forest estates. Persons that want to use forest resources must apply for a permit or license from the FD. The diverse functions of the FD include: Conservation and sustainable management of forests, Watershed management, Agro-forestry, Forest Recreation and Ecotourism and Public Education and awareness, all critical to the maintenance of biodiversity and contribute to the FCCC obligations through carbon sequestration function of forests. The Private Planting Programme commenced in 1998 to encourage landowners to participate in planting trees. Up to 2004 650 persons were registered, 370,000 seedlings distributed and the equivalent of 570 hectares of plantation established. The FD manages the Cockpit Forest Reserve and works in collaboration with STEA, TNC and Windsor Research Station, especially in the establishment of Local Forestry Management Councils.

97. The Office of Disaster Preparedness and Emergency Management (ODPEM) was established under the Disaster Preparedness and Emergency Management Act of 1993. This organization is mandated to take steps necessary to protect or reduce the impact of disasters on the Jamaican people and economy in collaboration with national, regional and international agencies. The ODPEM implements the National Disaster Plan (1997) that addresses strategies for disaster in the wider context of sustainable national development.

98. The Meteorological Service is the focal point institution for the FCCC, the focal point being the head of the Climate Branch. This branch has the mandate to maintain a current database of the climate of Jamaica and monitors and assesses Jamaica's climate. The Meteorological Service participates in the EIA process through the provision of climate data for the EIA review process, especially for projects that have the potential to impact on the air quality. The weather branch forecasts weather conditions over and around Jamaica, providing general weather information as well as dissemination of hurricane related information during the hurricane season of June to November.

99. The Jamaica Bauxite Institute (JBI) was established in 1974 to, among others:

- a. Monitor and study the aluminum industry and provide the personnel and technical advice for the negotiations of various agreements;

- b. Undertake research and development activities on various problems related to the processing of Jamaican bauxite;
- c. Continually assess and ensure rationalization in the use of Jamaica's bauxite reserves and (bauxite) lands; and
- d. Monitor and make recommendations to ensure adequate pollution controls and other environmental programmes in the industry.

100. The JBI has the responsibility for the sustainable development of the bauxite/alumina industry while ensuring the protection of the environment for the greatest benefit of the Jamaican people. The Institute works in collaboration with other agencies to attain compatibility between the industry's operations (processes, activities and products) and the environment by:

- a. Ensuring that the operations are conducted with minimal or no adverse impact on the environment;
- b. Ensuring compliance with all local standards and regulations through maintaining a regular and effective monitoring programme;
- c. Conducting regular reviews on the environmental performance of the industry and instituting the necessary corrective actions;
- d. Promoting research and development aimed at identifying new technologies for a cleaner, more efficient production process and waste minimization; and
- e. Fostering and maintaining a harmonious relationship with communities in the vicinity of bauxite/alumina operations.

101. The JBI environmental officers liaise with community councils in areas that are being mined, and in conjunction with NEPA, facilitate the presentation of EIAs to communities. However the JBI does not have the capacity to value the loss of natural resources associated with bauxite mining and incorporate this information into its decision-making process.

102. The Planning Institute of Jamaica (PIOJ) is responsible for:

- a. Initiating and coordinating the development of plans, programmes and policies for the economic, financial, social, cultural and physical development of Jamaica;
- b. Undertaking research on national development issues;
- c. Providing technical support to Cabinet;
- d. Undertaking consultant activities for Government entities;
- e. Managing external cooperation agreements and programmes;
- f. Interfacing with funding agencies; and
- g. Maintaining a national socio-economic library.

103. As is the case with other public sector organizations, the PIOJ is unable to effectively integrate natural accounting into its financial and economic planning.

104. The National Land Agency (NLA), was established on the recommendation of the National Land Policy of 1996, with the goal of streamlining the land titling process and modernizing land registration systems. The NLA brings together under one roof, the Office of Titles, Survey Department and the Land Valuation Department. The merger will allow the NLA to construct, operate, maintain and deliver the spatially referenced land related information and systems essential to all public sector users engaged in land management activities throughout Jamaica. This merger enables the Government to build on the synergy of these combined functions and

create a modern national land (spatial) information system to support sustainable development (providing support for ensuring security of tenure, equitable land valuation and a sound basis for planning and development).

105. The Petroleum Corporation of Jamaica (PCJ) was established in 1979 in response to the Petroleum Act of Jamaica 1979, which granted the PCJ the exclusive right to explore and develop resources of petroleum and promote the orderly and rational development of petroleum resources. In 1995, the Corporation was mandated to develop indigenous renewable energy resources, to prevent adverse effects on the environment and to assist the government in realizing the goals of Jamaica's Energy Policy. In seeking to diversify Jamaica's energy sources and reducing the nation's heavy dependence on imported petroleum, the PCJ, has over the years, undertaken initiatives in the areas of solar and wind energy, and constructed hydropower plants. Subsequent to wind speed assessments have been conducted at various sites throughout the island the Wigton WindFarm was constructed.

106. An Energy Efficiency Unit was established in September 2003 with a mandate to develop and coordinate the government's energy efficiency programme and to facilitate private sector investment in renewable energy sources. The PCJ's activities relate to the FCCC, reducing the emission of greenhouse gases.

107. The Management Institute for National Development (MIND) was formed in 1994 by an amalgamation of five public sector training organizations. It has been accredited a tertiary level institution by the University Council of Jamaica. Although MIND is the main public sector training entity in Jamaica, it also provides training and consultancy service to the private sector. MIND is used by the ENACT Programme for the training of public sector personnel in environmental stewardship, environmental management systems and strategic environmental assessment. MIND is also considered a centre of excellence within the Caribbean for strengthening human resource capacities to support sustainable development. MIND is a preferred tertiary level partner of the University of the West Indies (UWI).

108. Non-governmental organizations (NGOs) provide critical inputs into Biodiversity conservation, prevention of land degradation and climate change. Several national parks and protected areas are co-managed by NGOs. For examples, The Jamaica Conservation Development Trust (JCDT) manages the Blue and John Crow National Park. The Coastal Area Management Foundation (C-CAM) manages the Portland Bight Protected Area and the Negril Coral Reef Preservation Society (NCRPS) the Negril Marine Park. The Jamaica Environment Trust (JET) is a leader in environmental advocacy and education (Schools Environment Programme) and the Local Initiative for the Urban Environment (LIFE)<sup>6</sup> addresses issues of poverty alleviation, governance, environment and sanitation in marginalized communities. In the tourism capital of Montego Bay COMAND works with the Montego Marine Park and other stakeholders in community capacity building, environmental education and sanitation. NEST, an umbrella organization for environmental NGOs is currently completing the Protected Areas System Plan to be implemented by NEPA. Other NGOs include Friends of the Sea, Dolphin Head Trust, Portland Environment Protection Agency and a wide variety of others involved in

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<sup>6</sup> LIFE transitioned from an UNDPLIFE programme to a NGO in July 2003

awareness, alternative livelihoods, reforestation, etc. In the 530 km<sup>2</sup>Cockpit Country (CC) with its high biodiversity and unique wet limestone forest reserve, The South Trelawny Environmental Agency (STEA) has the goal of protecting and promoting conservation of the CC while facilitating sustainable use of its resources through community ecotourism (Cockpit Adventure Tours), environmental education and training in soil conservation and sustainable farming. The Jamaica Protected Areas Network (J-PAN) has affiliate organizations involved in protected areas management.

109. The Cockpit Country-Parks in Peril (CCPiP) aims to conserve the biodiversity of this Forest Reserve, through collaboration with various stakeholders inclusive of the public sector, NGOs, communities and resource users. The Nature Conservancy manages this project.

110. The CCPiP had attempted to undertake a valuation of the Cockpit Country's karstic freshwater ecosystems as a major component of the Cockpit Country's biodiversity. Although the WRA generated data on hydrology, water demand and supply, key information on the impacts of bauxite extraction on water quality, quantity and flow rates were not available.

### **B.2.e Barriers to achieving global environmental objectives**

111. In assessing the existing policy and institutional framework that guides natural resource management and related economic development, the NCSA determined that the policy framework was generally sufficient to help Jamaica fulfill obligations under the CBD, CCD and FCCC. For example, national communications, reports, strategies and action plans have been drafted for the three conventions, as well as the development of a clearing-house mechanism for the CBD. This is supported by Jamaica's Common Country Assessment (CCA), which recommended better implementation of existing legislation and regulation. Towards this end, a number of important committees and partnerships were established, such as the National Implementation Support Partnership with The Nature Conservancy to support protected area management; a Biodiversity Committee within the NEPA to monitor the implementation of the NBSAP; and a Biosafety Committee; a CCD Working Committee (although established, this committee is inactive).

112. However, at the national level, policy implementation remains a challenge, with notable institutional deficiencies and gaps that were identified as part of the NCSA process:

- a. Policy formulation is not of high quality, from concept to implementation;
- b. Inadequate policy implementation at the local level;
- c. Insufficient programme coordination among and within the relevant agencies, including cooperation and collaboration in project development;
- d. Insufficient and unreliable information of the costs for effective policy implementation, including poor financial planning and management;
- e. Lack of human and financial resources to undertake programme activities;
- f. Weak enforcement and low penalties resulting in non-compliance to environmental legislation;
- g. Inadequate access to information that could help the work of agencies meet targets under the CBD, CCD and FCCC;

- h. Insufficient data collection, e.g., identifying extent of risks to endangered flora and fauna; complete and standardized measurements of key climate and atmospheric data; and GIS mapping and ground-truthing of land use patterns, with particular attention to land degradation; and
- i. Poor drafting skills.

113. Despite awareness among government agencies on the CBD and FCCC (with relatively poor awareness and CCD), and a certain level of institutionalized programmes, government agencies continued to suffer from inadequate human and financial resources to undertake activities germane to meeting the objectives of the conventions. Issues such as biodiversity and land degradation are not given high priority, as the linkage with poverty and its alleviation are not fully appreciated.

114. Bottlenecks are also important constraints, such as the absence or poorly functional institutional structures and mechanisms. Despite some achievements, the absorptive capacity of the Meteorological Service to implement Jamaica's Climate Change Programme is seriously constrained, and the recommendation to address this in the form of establishing a climate change secretariat and climate change committee not pursued. Furthermore, public awareness activities are not sufficient in scope to reach the broad segments of society.

115. Notwithstanding, Jamaica continues to review and plan for the revision of existing policy, legislative and regulative framework. Jamaica also participates actively in international and regional programmes and projects, which provide the institutional structure to take action that not helps meet international and regional objectives, but also to implement national policies and legislation.

## **C. Programme and policy conformity**

### **C.1 Programme designation and conformity**

116. As a priority objective of the three Rio Conventions, donors and the GEF, the strategic approach of capacity development is directed towards facilitating inter-sectoral and participatory approaches to natural resource management planning and implementation. Guided by the GEF "Strategic Approach to Enhance Capacity Building", approved by the GEF Council in November 2003, this Multi-Focal Area project is guided by the principle of targeting capacity development activities across focal areas (cross-cutting) in order to create synergies. This project uses adaptive collaborative management as an approach that engages stakeholders as collaborators in the design and implementation of project activities that take into account unintended consequences arising from policy interventions.

117. The project is also consistent with the programmatic objectives of the three GEF thematic focal areas of biodiversity, climate change and land degradation, the achievement and sustainability of which is dependent on the critical development of capacities (individual, organizational and societal). Through the successful implementation of this project, a more integrated and cost-efficient approach to policy and programme coordination across the focal areas will be demonstrated. Further, the focal areas will benefit from the multiple benefits to be

generated through upgrading the national enabling environment at the systemic, institutional and individual level.

118. This project is designed to facilitate the implementation of the three Rio Conventions. In particular, the project will demonstrate the incremental achievements in meeting the objectives of the three Rio Conventions by integrating more realistic estimates of the financial and economic values of ecosystems goods and services. Improving the use of EIAs was specifically identified as an methodology to be used towards meeting the goals of the conventions. Improvement of the EIA process is presently being addressed by the ENACT Programme, and this project will specifically target the gap in the former in terms of using natural resource valuation tools to meet global environmental objectives. Thus, this project will ‘top-up’ existing training and awareness activities of the ENACT Programme, in addition to creating new knowledge, e.g., natural resource valuation tools and techniques and actuarial data for use in EIAs. The table below provides a summary of the overlapping requirements of the three Conventions, and how they are to be met by the project. Annex 3 summarizes ENACT’s work plan, targets and activities.

**Table 2: Overlapping Requirements of the three Rio Conventions and how met by the project**

<b>Convention Articles and CoP Guidance</b>	<b>How the Articles and Guidance are to be met by the project.</b>
<p>CBD Article 14 (a): use EIAs to minimize adverse impacts on biodiversity of proposed projects.</p> <p>CCD Article 17 (1) (a): increased knowledge of the impact of human causal factors leading to desertification and drought.</p> <p>FCCC Article 4 (1) (f): employ impact assessments to minimize adverse effects of climate change on the economy, public health and environment.</p>	<p>Integrating natural resource valuation tools as part of the EIA process of evaluating proposed developments will improve decision-making and increase opportunities for environmentally sound and sustainable development.</p>
<p>FCCC Decision 5/CP.7: Provide training on EIAs.</p> <p>CBD Decision 25/CP.8 (8)(a): Collaborate in the development of necessary capacities for applying biodiversity-inclusive environmental impact assessment.</p>	<p>Training will be provided on the using tools to assess the values of biodiversity conservation and ecosystem functions that mitigate or minimize the impacts of climate change and land degradation as part of training on EIAs</p>
<p>CCD Decision 17/CP.7 (6): Encourages Parties to develop and use indicators to assess the impact of intervention measures in order to indicate progress in implementing the Convention.</p>	<p>The valuation of natural resources, which includes ecosystem functions, will in effect be a form of indicator when assessed longitudinally.</p>
<p>CBD Article 14 (b): minimize adverse impacts on biodiversity of national programmes and policies.</p> <p>CBD Decision 25/CP.8 (12)(a): Facilitate capacity development activities focusing on the translation of the guidance on biodiversity-inclusive Strategic Environmental Assessment into practical national (or sectoral) approaches and guidelines.</p>	<p>Natural resource valuations tools will be developed and made available for use in the strategic environmental assessment of national programmes, plans, and policies (SEA).</p>



## **C.2 Project Design**

### C.2.a Baseline Scenario

119. Within the existing institutional framework, Environmental Impact Assessments (EIAs) are part of the licensing and permitting process, and are the responsibility of the National Environment and Planning Agency (NEPA). However, the EIA process has a number of weaknesses, including a lack of clear standards and documentation required for EIA preparation; inadequate tools for the identification of significant impacts; and inadequate specification of impact mitigation measures and environmental management plans. As a result, many development projects bypass the EIA process, both by the government and the private sector.

120. Under the Natural Resources Conservation Authority Act, Section 38(1) outlines the types and conditions under which development activities require an EIA. However, many of the required types of development activities do not undertake an EIA, in large part because NEPA does not have the human resources needed to undertake them. This deficiency is being addressed by the ENACT programme (see Annex 3), initiated in 1994, with a second phase that will run through to 2007. This C\$ 812,225 project is funded by the Government of Canada, through the Canadian International Development Agency (CIDA), the objective of that is to strengthen the permitting and licensing system as a critical link between environmental protection and socio-economic development.

121. Guidelines for conducting Environmental Impact Assessments were originally prepared in July 1997 and revised in April 2005. These guidelines provide background on the legislative context and list the types of development projects that fall within the prescribed categories that require a permit and the application process. Additionally, the EIA methodology, structure of the EIA report, and EIA review process are outlined. NEPA screens Permit Applications and subsequently decides if an EIA is required. EIAs must be prepared according to NEPA approved Terms of Reference. Submitted EIA reports are first subject to an internal review, and subsequently to a Technical Review Committee (TRC) that consists of representatives from public sector organizations with skills relevant to the issues arising from the proposed development. The findings of the TRC are presented to the NRCA Advisory Board that gives is the decision-making body for the issuing of permits.

122. The ENACT Programme set out “to develop the capacity of key strategic players at the government policy, private sector, community and general public levels to identify and solve their environmental problems in a sustainable way.” Among the achievements of the ENACT Programme is the strengthening of NEPA in terms of a more hands-on technical development and review of various environmental guidelines and regulation, which includes the EIA approval process. A manual for the review and generic terms of references for the implementation of EIAs was also developed. Annex 4 summarizes a number of ENACT’s key accomplishments under the first phase.

123. Notwithstanding these improvements in capacities, the EIA remains a tool that does not adequately convey the value of ecosystem functions. In reviewing the environmental impacts of a proposed development, the EIA builds on available scientific knowledge to make certain predictions about the possible extent of environmental deterioration. However, these predictions are not assigned a cost. This makes it virtually impossible to compare the financial values of the development, which are an integral part of any proposed development, and the opportunity costs of possible environmental impacts. Standard financial management practices are inherently perverse when it comes to valuing environmental goods and services. Clean water is free until there is a cost associated with the provision of potable water supply, and then this cost does not include indirect values, such as the quality of water needed to maintain healthy ecosystems of no direct economic value.

124. The relevant GoJ agencies (e.g., NEPA, FD, WRA) are particularly constrained in undertaking economic and financial assessments of the natural resource values under their jurisdiction, as these are not skills generally called for within these types of technical agencies. The institutional linkages with agencies that may be capable of doing this are weak, limited to cooperation in terms of the financial and economic assessments of socio-economic development priorities, and not determining non-use values.

125. To better direct efforts to implement national policies and legislation, the GoJ adopted the Strategic Environmental Assessment (SEA) in December 2005 as a tool for assessing the environmental implication of proposed development policies, programmes and plans, with the aim of environmental protection. Implementation of the SEA is intended to facilitate a change in the attitudes towards environmental protection and policy coordination, strengthening the rigor of the policy-making process, and increasing the accountability of governmental official for the environmental implications of their policy decisions. The GoJ, with financial support from the Canadian International Development Agency (CIDA), and executed by Environmental Action<sup>7</sup> (ENACT) recently initiated the development of guidelines for the implementation of the SEA in early 2006. Achievements to include:

- a. Development of the “Strategic Environmental Assessment Handbook”. This is a 311-page manual developed to provide policy analysts and senior officials in the public sector with the information necessary to formulate environmentally sound policies, programmes and plans;
- b. Training was received by over 200 policy analysts of the GOJ in conducting SEA;
- c. SEA has been used in the development of national policies dealing with transportation; port and harbour development; and
- d. The draft GOJ Strategic Environmental Assessment Policy was developed using participatory and consultative processes.

126. ‘Greening of Government’ is a component of the ENACT Programme, which serves to support the implementation of the environmental stewardship and SEA policies, as well as the development of accountability mechanisms and monitoring frameworks to support institutionalization of activities. Capacity Development for Compliance and Enforcement is another relevant activity of the ENACT Programme, which has as its objective the modernization of Jamaica’s legislative framework, in particular

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<sup>7</sup> See Annex 1, which provides a summary of ENACT’s work plan, targets and activities.

to support:

- a. The review of existing legal framework for environment and planning;
- b. Stakeholder consultations;
- c. The development of interim solutions for the legal framework; and
- d. The drafting of appropriate regulatory and legislative instructions, as defined by the participatory stakeholder consultations.

127. Many other initiatives are underway to manage Jamaica's natural resources, but they do not directly impact on the present project. For example, the Environmental Foundation of Jamaica and UNDP jointly fund the Dolphin Head project, with the aim of sustainable management of Dolphin Head Mountains with the active involvement of local communities.

### C.2.b The GEF Alternative

128. **Project Rationale:** Jamaica's ecosystems provide invaluable services, such as conserving endangered endemic species with a potential value to the pharmaceutical industry and protecting the ecological integrity of landscapes to reduce the risks of drought or landslides. Ecosystem functions can also help reduce the impacts of natural disasters, such as increased frequency and intensity of hurricanes. Naturally occurring mangroves and barrier reefs provide critical buffers from storm surges associated with hurricanes. Forested ground cover allows for greater water absorption and retention, reducing the risk of flash floods associated with the heavy rains of hurricanes.

129. The maintenance of Jamaica's natural resources and environmental services also has real values and costs in socio-economic terms. Water supply, for example, is an important environmental good and service with very real socio-economic value and cost. Over 30% of Jamaica's freshwater supply is stored in the aquifer maintained by the forest cover of the Cockpit Country<sup>8</sup>, representing a real value in terms of freshwater supply for potable water and irrigation. The potential loss or diminution of this water supply will have real economic costs in terms of reduced water flows in streams and tributaries, resulting in land degradation, increased risk of destroying the sensitive shrimp industry downstream, as well as high opportunity costs such as the loss of endemic species with a potentially high value to the pharmaceutical industry.

130. Maintaining these natural resource values are difficult given the national priority of socio-economic development and Jamaica's institutional framework governing natural resource use and environmental management, which is heavily biased against protection in favour of extraction and exploitation for short-term economic gains. In this respect, the GoJ has institutionalized a number of institutional responses. The first of these is the use of Environmental Impact Assessments (EIAs), which serve as the main operational tool for the government to manage development in ways that do not seriously undermine the natural resource base, including the loss of biodiversity, land degradation and pollution.

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<sup>8</sup> The Cockpit Country is designated as a National Park, and harbours a number of endemic species.

131. The capital budgeting of development projects are evaluated using different approaches, selected by the project proponent to skew reported returns (a low rate of return if management wants the project to look less worthwhile, or an inflated rate of return if the proponent has a personal preference for the project). The theory behind attaching economic value and cost associated with the ecosystem functions (e.g., clean air, freshwater, fertile soil and stable landscapes), is that decisions will be based on a more complete understanding of the full cost (i.e., the socio-economic opportunity cost) of development that alters the environment, directly or indirectly. For example, the cost of damage from past hurricanes would be reflected as an economic value associated with the protection of barrier reefs and mangroves, among others. Similarly, the cost of economic damage due to flooding and landslides is an economic value of maintaining adequate forest ground cover upstream.

132. By attaching financial and economic value to ecosystem functions, EIAs would allow for a more accurate representation of the costs associated with development. Thus, the decision-making process becomes a more holistic enterprise, one that better enables environmentally sound and sustainable development.

133. However, there is a risk that the decision-making process will not adequately consider the economic values of ecosystem functions. These values may be heavily discounted on the basis of low or unknown probabilities and greater weight given to development on the basis of high priority short-term socio-economic benefits. To make matters worse, natural resource valuation becomes a moot issue when policy decisions are made to exempt certain developments from the EIA process.

134. Natural resource valuation tools have been under development in many centers of excellence, institutions, and countries for a number of years now. This project seeks to initiate the development of these tools, building upon best practices and lessons learned, and to pilot these in the implementation of an EIA. Although this project will focus on the development of natural resource valuation tools within the institutional framework of the EIA process, the tools and associate capacities developed will be strongly linked to ENACT's development of guidelines to implement the Strategic Environmental Assessments (SEA).

135. The SEA is a new policy approach of the GoJ approved by Cabinet in December 2005 to assess the environmental impact of socio-economic policies and formulate environmentally sound and sustainable policies, programmes and plans.

136. Of global importance, the project will develop and demonstrate capacities (in the form of natural resource valuation) and the use thereof to meeting international commitments with respect to the CBD, CCD and FCCC. Article 4(1)(f) of the FCCC, Article 14 of the CBD, and Article 17(1)(a) of the CCD all call for the use and improvements of the EIA to minimize adverse environmental impacts of development programmes and projects.

137. **Project Goal:** The goal of this project is to strengthen the review and approval processes of policies, programmes, plans and development projects in order to promote environmentally sound and sustainable development that meets national socio-economic priorities while at the same time helps satisfy Jamaica's obligations to the Convention on Biological Diversity (CBD),

Convention to Combat Desertification and Drought (CCD), and Framework Convention on Climate Change (FCCC), among other multilateral environmental agreements (MEAs).

138. **Project Objective Statement:** The objective of this project is to develop a set of natural resource valuation tools, and incorporate these into policies and procedures governing the preparation and use of Environmental Impact Assessments (EIA). The project will demonstrate the use of these techniques to improve the decision-making process concerning economic development projects that may potentially affect the environment. The project will employ a strategy of targeted capacity development activities to develop a set of natural resource valuation tools that are particular to the Jamaican context, and provide training on the use of these tools<sup>9</sup>.

139. **Project Outcome:** At the end of the project, the Government of Jamaica will be better enabled to make more informed decisions by placing greater value to ecosystem functions within the framework of environmental impact assessments of development projects. Specifically, *the environmental impacts of all major development projects would be assessed in terms of their financial and economic values, which would be used to make more informed decisions and choices about future development.* There are two project components:

140. The first is the development of a set of actuarial data associated with ecosystem goods and services, natural resource commodities, opportunity cost of environmental damage arising from land degradation, among others. This involves the development (Output 1.1) and testing (Output 1.2) of tools to create this data

141. The second component is improving the decision-making process by using data and information on the economic and financial value of ecosystem functions within the framework of EIAs. Better information will be both available and accessible, and people and organizations better enabled to implement and process natural resource valuation tools and EIAs, in particular the absorptive capacity of NEPA to undertake this work will be increased. This project will be successful if decisions result in tangible outcomes, namely that development is deemed environmentally sound and sustainable, indicated by a consensus of all stakeholders. This component is largely directed towards developing the human and institutional capacities to manage natural resource valuation tools and the actuarial data produced thereof.

142. An ancillary project outcome is that natural resource valuation tools will provide an *opportunity* to strengthen the expected outcomes of the SEA project implemented by Environmental Action Programme (ENACT)<sup>10</sup>. Parallel financing<sup>11</sup> will be used to incorporate natural resource valuation tools as part of the implementation of the SEA will reduce the uncertainties and facilitate the consideration of environmental risks and impacts associated with the implementation of government policies. By providing a more robust and comparable valuation method for natural resources, consequences of development policies, programmes and

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<sup>9</sup> This project was identified as a priority in the NCSA Final Report, p. 56.

<sup>10</sup> See “Policy on Strategic Environmental Assessment: Towards Sustainable National Development”, Government of Jamaica, p.24. The SEA project will run parallel to the UNDP/GEF capacity development project. See Annex 1, which provides further details on ENACT’s work plan, targets and activities.

<sup>11</sup> This CB2 project will not finance the incorporation of natural resource valuation tools into the SEA. This would have to be identified from other sources, possibly through ENACT.

plans will be better evaluated so as to promote biodiversity conservation; minimize, if not reduce the risks associated with land degradation; encourage climate change mitigation and adaptation strategies; and promote environmentally sound and sustainable development.

### **Outcome Indicators and Respective Outputs**

143. **Outcome Indicator 1:** The opportunity costs associated with the healthy maintenance of ecosystem goods and services are *estimated* during the implementation of EIAs, indicated by a section of the EIA report on natural resource valuation. Two outputs will be produced:

**Output 1.1:** Develop a set of natural resource valuation tools, which will form an integral part of the implementation procedures of the Environmental Impact Assessments and the Strategic Environmental Assessments.

**Output 1.2:** Pilot the incorporation of natural resource valuation tools into the EIA process.

144. **Outcome Indicator 2:** The opportunity costs associated with the healthy maintenance of ecosystem goods and services are *determinant variables* in the approval processes of permitting and licensing. The extent to which meeting minutes and reports include a deliberation on the conditions of development and alternative options, including but not limited to the NRCA Board, will indicate this. The extent to which natural resource valuation data and information will result in more environmentally friendly, sound and sustainable development options of development project is uncertain.

**Output 2:** Strengthen the capacities of the NEPA to use natural resource valuation within the EIA process in a cost-effective, transparent, and timely manner.

**Output 1.1:** Development of Natural Resource Valuation Tools

145. Natural resource valuation tools will be developed for the Jamaican context, building upon existing models and lessons learned elsewhere, nationally, such as the Montego Bay Marine National Park and other countries, such as those used by the US Department of Energy<sup>12</sup>. Building upon the field of ecological economics and a wide range of approaches to undertake economic valuation, natural resource valuation tools are a set of decision-makers must recognize that certain approaches may be more appropriate than others, depending the natural resource or environmental function assessed. Non-use values will play a key role in natural resource valuation, facilitating decision-making on natural resource conservation, evaluation of restoration alternatives, and determining compensatory packages for damages sustained as a result of natural resource and environmental degradation.

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<sup>12</sup> Ulibarri, C.A and K.F. Wellman (1997), "Natural Resource Valuation: A primer on Concepts and Techniques", US Department of Energy, 86 pp.

146. The development of natural resource valuation tools will be collated within a Sourcebook, which will be available in both hard copy, modular format as well as electronically. The hard copy version will be updated regularly, building upon new findings, lessons learned, and best practices. The electronic version will be available via the Internet as a user-friendly on-line manual. The on-line version will be maintained at NEPA, and updated periodically.

147. The Sourcebook will complement guidelines to the recently revised guidelines for undertaking Environmental Impacts Assessments. The Sourcebook and natural resource valuation tools will be integrated into guidelines for undertaking EIAs, and piloted as part of an EIA for proposed bauxite mining in the Cockpit Country (Output 1.2).

#### **148. Output 1.1 Indicators**

- a. A set of natural resource valuation tools and techniques appropriate to the Jamaican natural resource base are developed.
- b. A Natural Resource Valuation Sourcebook, which includes a literature review, primer on natural resource valuation tools and techniques, and best practices, is prepared. The Sourcebook would also contain an annex of preliminary actuarial data. The Sourcebook would be modular in format for ease of updating and produced in two formats: hard copy and Internet.
- c. Independent expert analysis of the natural resource valuation tools (contained in the Sourcebook) indicates their relevance and robustness, in keeping with the theories of ecological economics, including non-market valuation. Article published in peer review journal.
- d. Guidelines (implementation plan) developed for undertaking natural resource valuation are effectively integrated within the framework of EIAs.

#### **149. Activities**

- a. Building upon an in-depth review of the literature on natural resource valuation, specialized expertise will be responsible for developing methods and approaches to undertake natural resource valuation. This will form the basis of a reference sourcebook for practitioners, modeled after the 1997 Primer on Concepts and Techniques of Natural Resource Valuation, prepared for the US Dept. of Energy.
- b. Actuarial expertise (using skills and models in mathematics, economics, finance, probability, and statistics) will be used to create core actuarial products. These include input data for modeling environmental risk associated with natural resource exploitation and degradation and developing monitoring systems and validation tests. Core actuarial products will be limited to the pilot project of Output 1.2.
- c. The development of natural resource valuation tools and techniques, and the production of actuarial products will be assessed on the basis of US, European and/or International Standards.
- d. Integrate natural resource valuation tools and techniques within guidelines for the implementation of EIAs (i.e., an NRV/EIA implementation plan).

## **Output 1.2: Natural resource valuation piloted in an Environmental Impact Assessment**

150. The testing of natural resource valuation tools and techniques will be undertaken in conjunction with the performance of an Environmental Impact Assessment (EIA). Tools and techniques will be tested to the extent that they yield useable data (e.g., actuarial data) and information. These tools and techniques will be conducted in such a way that they are manageable and cost-effective within the framework of the EIA process. These two important features of natural resource valuation, substance and process, will be verified through a pilot project/case study.

151. The piloting of natural resource valuation tools developed under Output 1.1 is an important contribution to the reform of the EIA process undertaken by the National Environmental and Planning Agency (NEPA)<sup>13</sup>. The pilot project will demonstrate the implementation of new guidelines for the performance of EIAs that incorporate a methodology to undertake natural resource valuation. An independent consulting firm or firms will develop and implement the pilot project, contracted through a competitive bidding process overseen by UNDP. NEPA staff will work with the consulting firm(s) to improve their skills in the application of natural resource valuation tools and techniques.

152. The pilot project will be based on future bauxite mining in the Cockpit Country, a site of high endemism, the karst topography and extensive forest cover of that contributes to its importance as a major watershed. Surface mining of the bauxite ore will pose a serious risk to the sensitive topography, potentially disrupting the hydrological cycle and reducing downstream water flows. The loss of forest cover may also pose a serious risk to flash floods, particularly during the rainy season and at times of hurricanes.

153. In addition to informing the EIA process, the results of the pilot project will inform the development of guidelines for the implementation of the SEA, undertaken by ENACT with CIDA funding.

### **154. Output 1.2 Indicators**

- a. Pilot EIA project developed and implemented to test natural resource valuation in a site of joint significance to the CBD, CCD and FCCC (Cockpit Country).
- b. An in-depth and balanced analysis of proposed development and alternatives are presented to the stakeholder consultation process (public review of proposed development) and NRCA Board.
- c. NRCA Board decisions reflect the selection of development options that are environmentally sound and sustainable.
- d. Lessons learned from the pilot project documented and utilized to institutionalize the use of natural resource valuation within the EIA process.
- e. Recommendations for the development of SEA implementation guidelines provided. Analysis of the pilot project provides the basis for the review and reform of socio-

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<sup>13</sup> Guidelines for conducting Environmental Impact Assessments were revised in April 2005 by Environmental Solutions Ltd. and are at the final edit stage with ENACT.



economic policies in terms of their environmental implications/impacts (as part of the development of SEA implementation guidelines under the ENACT Programme).

#### 155. **Activities**

- a. Specialized expertise will be hired to develop an implementation plan for undertaking a pilot EIA that includes the use of natural resource valuation tools and techniques.
- b. The implementation of this EIA will be financed by the UNDP in partnership with suitable private sector companies, and bauxite mining companies working through JBI, in accordance with existing EIA financing requirements.
- c. Regular meetings will be undertaken with development and planning agencies to identify and negotiate modifications to existing decision-making and approval processes, building upon lessons learned from the implementation of the EIA and new natural resource valuation tools and techniques.

#### **Output 2: Training and sensitization on natural resource valuation**

156. This output serves to address the capacity requirements to perform natural resource valuation within the institutional framework of EIAs. The project will provide develop a training programme to impart specialized skills on the using natural resource valuation skills, as well as training to government technocrats on the interpretation of natural resource valuation data and information. Sensitization workshops for policy-makers and other relevant stakeholders will also be held to impart the need to incorporate natural resource accounting into the national account. This output is critical to the institutionalization of natural resource valuation, as well as the sustainability of project benefits.

157. Training modules for undertaking natural resource valuation will be strengthened and/or created as part of course offerings at the tertiary level academic institutions. Specialized expertise will be hired to develop a curriculum tailored to natural resource valuation, which will then be integrated into the course offerings at Management Institute for National Development (MIND). Through MIND, the project will provide training as a first priority to professionals (e.g., economists) currently working in the area of environmental impact assessments. This first order training will in effect test the absorptive capacity of natural resource valuation skills, and be the model for the integration of this training within the other (academic) institutions, such as the University of West Indies, University of Technology, Northern Caribbean University, Caribbean International University (Knox Community College), and the College of Agriculture, Science and Education (CASE).

158. The integration of course offerings within these latter academic institutions will be developed as part of a plan to ensure the development of a baseline set of skills in-country to undertake natural resource valuation. In order maintain the rigour of academic standards, training modules will only be made available through accredited tertiary level institutions and taught by instructors with a doctorate degree in economics. Interpretation of EIA recommendations based on natural resource valuation will be required of all NEPA staff with

responsibility for reviewing EIAs, broadly available to NEPA staff as part of their career development. Training will also be provided to other government agency staff involved in the review of EIAs, e.g., the Planning Institute of Jamaica, the Mines and Geology Department and the Jamaica Bauxite Institute. The training modules would be timed so that they complement the SEA methodology training currently being developed by ENACT.

159. Sensitization workshops will be targeted to policy-makers, members of the judiciary, private sector representatives, non-governmental organizations, as well as government bureaucrats and technocrats. In partnership with ENACT, specialized expertise with facilitation skills will be contracted to organize and convene these workshops. Policy-makers are a critical target audience since they play a key role in supporting the policy, regulative and institutional framework for natural resource valuation, EIAs and SEAs. Government bureaucrats outside of the direct line of EIA responsibility are also important targets for sensitization so as to build up a cadre of government officials knowledgeable on natural resource valuation. Members of the private sector also benefit from sensitization workshops so as to fully appreciate the value of natural resource valuation.

160. Non-governmental organizations and the media are two additional groups for sensitization. They are important in messengers to convey the value of natural resource valuation to local communities and other interested groups. For NGOs in particular, the project will organize more specific training sessions in the form of “training the trainers” so as to impart the value of natural resource valuation to local communities.

#### 161. **Output 2 Indicators**

- a. Curriculum on natural resource valuation developed and incorporated as a course offering in the MIND<sup>14</sup>.
- b. Curriculum integrated into training modules on new EIA procedures.
- c. By the end of the project, at least 20 professionals trained in natural resource valuation tools and techniques.
- d. By the end of the project, at least five professionals trained within accredited training institutions as trainers of natural resource valuation tools.
- e. By the end of the project, all NEPA and other government staff responsible for reviewing EIAs trained on the interpretation of natural resource valuation information.
- f. A minimum of 30 other government staff trained in the application of natural resource valuation tools as part of their career development.
- g. By the end of the project, decision-makers and key development organizations, e.g., the Urban Development Corporation (UDC) and Planning Institute of Jamaica, are sensitized to the incorporation of sound environmental practices into the economic and development decision-making process.

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<sup>14</sup> The project will develop a single curriculum for implementation at MIND. The curriculum will be revised over the three-year period of the project, and made a permanent course within MIND to ensure sustainability of the use and interpretation of natural resource valuation tools and techniques. The curriculum will be replicated to other tertiary level institutions as appropriate as feature of project replicability with new sources of co-financing.

- h. NGOs involved in community-based development trained and undertaking public awareness and sensitization workshops on valuation tools to civil society.
- i. Media outlets publish regular accounts of the issues concerning developments, subjected to EIAs, with particular reference to the opportunity costs of natural resource and environmental degradation.

## 162. Activities

- a. Development of a training module on natural resource valuation;
- b. Training on the interpretation of natural resource valuation data and information provided to staff of government agencies, in particular those involved in EIAs; non-governmental organizations; and professionals working in the area of environmental impact assessments. This training will be undertaken as part of a series of workshops as well as their participation in the EIA implementation process; and
- c. Sensitization workshops are to be carried out to raise the level of understanding and importance of the potential socio-economic costs of natural resource degradation that may arise from proposed developments. These workshops would take place within the framework of the pilot project (Output 1.2).

## C.3 Replicability and Sustainability

### C.3.a Replicability and Lessons Learned

163. This project has significant potential for replicability and is designed as such. This project begins with lessons learned in the development of natural resource valuation, with some notable concepts, tools and methodologies already in use in the United States and Europe. Economic models are used to produce actuarial data to determine the estimate of insurance costs as a result of natural disasters, which have in recent years cost billions of dollars and countless lives.

164. This project seizes upon the opportunity of at least over ten years' experience in the use of natural resource valuation (such as that undertaken by the US Department of Energy and The Nature Conservancy on forest values), to initiate the development of tools and techniques particular to the Jamaican development context. These tools and techniques will be piloted within the framework of a single development effort, namely bauxite mining in the Cockpit Country, which has significant global environmental values in terms of climate change, biodiversity and land degradation.

165. Capacity development activities will be delivered in the form of training and sensitization to building up the institutional framework (human, organizational and systemic) within which EIAs are conducted. Only in this way can the risks to replicability be mitigated. That is, an appreciation and strengthened absorptive capacity to undertake future EIAs that incorporate natural resource valuation tools is necessary to secure commitment for key stakeholders and decision-makers. During the course of the project, the Project Steering Committee will facilitate the institutionalization of natural resource valuation so that future EIAs using natural resource valuation tools will be easily implemented.

### C.3.b Sustainability and Risks

166. Natural resource valuation is a very specialized skill, situated within a highly technical field. The ability to use and interpret these models require highly trained expertise in order to sediment these skills within those institutions where the existing skill set is not necessarily of the appropriate kind or level. Hence, there is a risk that those individuals responsible for EIAs may not be easily trainable in the full appreciation and interpretation of natural resource valuation tools, techniques and actuarial data.

167. For this reason, the project will secure specialized expertise that meets internationally accepted standards to review, develop and implement natural resource valuation tools, producing relevant and valid data in a form usable by decision-makers reviewing EIAs and development projects. Specialized expertise of this order will also be used to develop training modules to be offered to experts with necessary prerequisite training (i.e., financial, economic and accounting skills) who would be called upon to bid for contracts to undertake natural resource valuation for future EIAs. Once tested at least twice, this training module would be further developed/refined and integrated among course offerings in at least three accredited academic institutions of higher learning. This activity serves to develop a national skill set in natural resource valuation tools, reducing the risks that these skills must be secured from overseas over the long-term.

168. By developing a cadre of local expertise in the use of natural resource valuation, the real cost of expertise will be significantly lower. However, there is a risk that the remaining transaction costs could be significantly if project proponents and decision-makers merely see the use of these tools as additional burden of the review and approval process. Furthermore, if the capacities of NEPA developed as part of this project are not institutionally supported through government investments (e.g., the allocation of revenues generated from EIA enforcement and compliance should be directed towards maintaining the human and institutional capacities responsible for EIAs within NEPA), then there is a risk that the project will revert to the business-as-usual scenario upon termination. This is being address by the requirement to convene regular Project Steering Committees the members of which are senior level representatives of key agencies who are able to champion the positive outcomes of the project are lead institutional reforms within their respective agencies.

## **C.4 Stakeholder involvement**

169. This project was developed on the basis of consultations with a wide range of stakeholder representatives, both during the development of the PDF-A project facility, and the development of the present proposal. Both a national and international consultant conducted interviews, and a project strategy developed on this basis. The latter was circulated for comment/feedback, and discussed win a stakeholder consultation workshop. In addition to speaking with a lawyer for a hotel development that went through the EIA process, the following organizations were consulted in the development of this proposal:

Table 3: Stakeholders Consulted

Association of Development Agencies	National Environment and Planning Agency
ENACT Programme	National Environmental Societies Trust
Environmental Foundation of Jamaica	National Water Commission
Forestry Department	Negril Coral Reef Preservation Society
Jamaica Bauxite Institute	Negril Environmental Protection Trust
Jamaica Conservation and Development Trust	Local Initiative Facility for the Local Environment
Jamaica Environmental Trust	Planning Institute of Jamaica
Jamaica Institute of Environmental Professionals	Sun Venture Tours
Meteorological Service	United Nations Development Programme
Ministry of Land and Environment	United States Agency for International Development
	University of the West Indies

### **C.5 Monitoring and Evaluation**

170. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures. The project team and the UNDP Country Office (UNDP-CO) will undertake monitoring and evaluation activities, with support from UNDP-GEF, including by independent evaluators in the case of the mid-term and final evaluations. The Logical Framework Matrix in Annex 5 describes performance and impact indicators for project implementation along with their corresponding means of verification. The Budget in Annex 8 and the Work Plan in Annex 9, both in the UNDP project document provides delivery and disbursement targets. The Work Plan is provisional, and is to be reviewed during the first Project Steering Committee and endorsed at the Project Initiation Workshop.

171. The project will use a capacity development monitoring and evaluation scorecard to monitor the project capacity development processes (see scorecard in Annex 6). This scorecard will track project CD processes along five capacity results. Indicators will be rated to quantify the change achieved and provide information needed for higher reporting purposes at programme level. So far, it is expected that the project capacity development activities will largely be monitored by four indicators (see Annex 6 – indicators 2, 10, 11 & 13), which are of direct relevance to the development of a set of natural resource valuation tools, and the incorporation of these tools into policies and procedures governing the preparation and use of Environmental Impact Assessments (EIA) in Jamaica. The success of the project will therefore be monitored against these indicators only. However, any indirect contribution to other capacity development indicators will also be documented in the project reports, as necessary.

172. This scorecard will be completed at inception to establish the project baseline, updated at mid-point of project implementation and finally updated at the end of project implementation. The rating done at project inception will also provide a useful capacity review/assessment at the start of the project; including the current capacity areas of weaknesses and strengths. This capacity development monitoring tools will be used by the project implementation team to monitor project progress and also by the evaluators to conduct the MTE and the final evaluation.

173. The following sections outline the principle components of monitoring and evaluation. The project's monitoring and evaluation approach will be discussed during the project's initiation report so as to fine-tune indicators and means of verification, as well as an explanation and full definition of project staff M&E responsibilities.

174. A project initiation workshop will be conducted with the full project team, Project Director, relevant government counterparts, co-financing partners, the UNDP-CO, with representation from the UNDP-GEF Regional Coordinating Unit as appropriate. Non-state stakeholders should be represented at this workshop.

175. A fundamental objective of this initiation workshop will be to assist the project team to understand and take ownership of the project's goals and objectives, as well as finalize preparation of the project's first annual work plan on the basis of the project's log-frame matrix. This will include reviewing the log frame (indicators, means of verification, assumptions), imparting additional detail as needed, reviewing the CD monitoring scorecard, and on the basis of this exercise, finalize the Annual Work Plan (AWP) with precise and measurable performance (process and output) indicators, and in a manner consistent with the expected outcomes for the project.

176. Additionally, the purpose of the initiation workshop will be to: (i) introduce project staff to the UNDP-GEF expanded team that will support the project during its implementation, namely the CO and responsible Project Management Unit<sup>15</sup> (PMU) staff; (ii) detail the roles, support services and complementary responsibilities of UNDP-CO and PMU staff with respect to the project team; (iii) provide a detailed overview of UNDP-GEF reporting and monitoring and evaluation (M&E) requirements, with particular emphasis on the combined Annual Project Reports - Project Implementation Reviews (APR/PIRs) and on the CD monitoring scorecard, Project Steering Committee (PSC) meetings, as well as mid-term and final evaluations. The initiation workshop will also provide an opportunity to inform the project team on UNDP project-related budgetary planning, budget reviews, and mandatory budget re-phasing.

177. The initiation workshop will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for PMU staff and associated decision-making structures will be discussed again, as needed, in order to clarify for all, each party's responsibilities during the project's implementation phase.

178. The initiation workshop will present a schedule of M&E-related meetings and reports. The Project Manager (PM) in consultation with UNDP will develop this schedule, and will include: (i) tentative time frames for PSC meetings, and the timing of near-term project activities, such as the in-depth review of literature on natural resource valuation (ii) project-related monitoring and evaluation activities. The provisional work plan will be approved in the first meeting of the PSC.

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<sup>15</sup> The Project Management Unit (PMU) will be located within NEPA, which will provide administrative overhead and support.

179. Day-to-day monitoring of implementation progress will be the responsibility of the PM based on the project's Annual Work Plan and its indicators. The PM will inform the UNDP-CO of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion.

180. The PM will fine-tune outcome and performance indicators in consultation with the full project team at the initiation workshop, with support from UNDP-CO and assisted by the UNDP-GEF. Specific targets for the first year implementation performance indicators, together with their means of verification, will be developed at the initiation workshop. These will be used to assess whether implementation is proceeding at the intended pace and in the right direction and will form part of the Annual Work Plan. Targets and indicators for subsequent years would be defined annually as part of the internal evaluation and planning processes undertaken by the Project Team, and agreed with the Executing Agency (MNRLGE) and key project partners sitting on the PSC.

181. Periodic monitoring of implementation progress will be undertaken by the UNDP-CO through the provision of quarterly reports from the PM. Furthermore, specific meetings may be scheduled between the PMU, the UNDP-CO and other pertinent stakeholders as deemed appropriate and relevant (particularly the PSC members). Such meetings will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities.

182. Annual Monitoring will occur through the Annual Project Steering Committee meeting. This is the highest policy-level meeting of the parties directly involved in the implementation of a project. The project will be subject to PSC meetings at least twice per year. The first such meeting will be held within the first twelve months following the initiation workshop. For each year-end meeting of the PSC, the PM will prepare harmonized Annual Project Report / Project Implementation Reviews (APR/PIR) and submit it to UNDP-CO, the UNDP-GEF Regional Coordination Unit, and all PSC members at least two weeks prior to the meeting for review and comments.

183. The APR/PIR will be used as one of the basic documents for discussions in the PSC year-end meeting. The PM will present the APR/PIR to the PSC members, highlighting policy issues and recommendations for the decision of the Committee participants. The PM will also inform the participants of any agreement(s) reached by stakeholders during the APR/PIR preparation, on how to resolve operational issues. Separate reviews of each project output may also be conducted, as necessary. Details regarding the requirements and conduct of the APR and PSC meetings are contained with the M&E Information Kit available through UNDP-GEF.

184. The terminal review meeting is held by the PSC, with invitation to other relevant Government and municipal stakeholders as necessary, in the last month of project operations. The PM is responsible for preparing the terminal review report and submitting it to UNDP-COs, the UNDP-GEF Regional Coordinating Unit, and all participants of the terminal review meeting. The terminal review report will be drafted at least one month in advance of the terminal review meeting, in order to allow for timely review and to serve as the basis for discussion. The terminal review report considers the implementation of the project as a whole, paying particular attention to whether the project has achieved its stated objectives and contributed to the broader

environmental objective. The report also decides whether any actions remain necessary, particularly in relation to the sustainability of project outputs and outcomes, and acts as a vehicle through that lessons learned can be captured to feed into other projects under implementation or formulation. The terminal review meeting should refer to the independent final evaluation report, conclusions and recommendations as appropriate.

185. The UNDP-CO, in consultation with the UNDP-GEF Regional Coordinator and members of the PSC, has the authority to suspend disbursement if project performance benchmarks are not met as per delivery rates, and qualitative assessments of achievements of outputs.

186. A project initiation report will be prepared immediately following the initiation workshop. This report will include a detailed First Year Work Plan divided in quarterly time-frames as well as detailed activities and performance indicators that will guide project implementation (over the course of the first year). This Work Plan will include the proposed dates for any visits and/or support missions from the UNDP-CO, the UNDP-GEF Regional Coordinating Unit, or consultants, as well as time-frames for meetings of the project decision-making structures (e.g., PSC). The report will also include the detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame.

187. The initiation report will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may effect project implementation, including any unforeseen or newly arisen constraints. When finalized, the report will be circulated to project counterparts who will be given a period of one calendar month in that to respond with comments or queries.

188. The combined Annual Project Report (APR) and Project Implementation Review (PIR) is a UNDP requirement and part of UNDP's Country Office central oversight, monitoring and project management. As a self-assessment report by project management to the Country Office, the APR/PIR is a key input to the year-end Project PSC meetings. The PIR is an annual monitoring process mandated by the GEF. It has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. These two reporting requirements are very similar in input, purpose and timing that they have now been amalgamated into a single APR/PIR Report.

189. An APR/PIR is to be prepared on an annual basis by June, but well in advance (at least one month) in order to be considered at the PSC meeting. The purpose of the APR/PIR is to reflect progress achieved in meeting the project's Annual Work Plan and assess performance of the project in contributing to intended outcomes through outputs and partnership work. The APR/PIR is discussed by the PSC, so that the resultant report represents a document that has been agreed upon by all of the key stakeholders.

190. A standard format/template for the APR/PIR is provided by UNDP-GEF. This includes the following:



- a. An analysis of project performance over the reporting period, including outputs produced and, where possible, information on the status of the outcome;
- b. The constraints experienced in the progress towards results and the reasons for these;
- c. The three (at most) major constraints to achievement of results;
- d. Annual Work Plans and related expenditure reports;
- e. Lessons learned; and
- f. Clear recommendations for future orientation in addressing key problems in lack of progress.

191. UNDP will analyze the individual APR/PIRs by focal area, theme and region for common issues/results and lessons. The APR/PIRs are also valuable for the independent evaluators who can utilize them to identify any changes in project structure, indicators, work plan, etc., and view a past history of delivery and assessment.

192. Quarterly Progress Reports are short reports outlining the main updates in project performance, and are to be provided quarterly to the UNDP Country Office. UNDP-CO will provide guidelines for the preparation of these reports, which will be shared with the UNDP-GEF RCU.

193. During the last three months of the project, the PMU will prepare the project terminal report. This comprehensive report will summarize all activities, achievements and outputs of the project, lessons learned, objectives met or unmet, structures and systems implemented, capacities development, among others. Together with the independent final evaluation, the project terminal report is one of two definitive statements of the project's activities during its lifetime. The project terminal report will also recommend further steps, if necessary, in order to ensure sustainability and replicability of the project outcomes and outputs.

194. An independent mid-term evaluation (MTE) will be undertaken at the end of the second year of project implementation. The MTE will determine progress being made towards the achievement of outcomes and will identify corrective actions, as needed. The MTE will focus on: a) the cost-effectiveness, efficiency and timeliness of project implementation and performance; b) highlight issues requiring decisions and actions; and c) present initial lessons learned about project design, implementation and management. It will also include the updated CD monitoring scorecard. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between UNDP, MLE and NEPA. The Terms of Reference for this MTE will be prepared by the UNDP-CO based on guidance from the UNDP-GEF Regional Coordinating Unit.

195. An independent final evaluation will take place three months prior to the terminal tripartite review meeting, and will focus on the same issues as the mid-term evaluation; including an update of the CD monitoring scorecard. The final evaluation will also look at project outcomes and their sustainability. The final evaluation should also provide recommendations for follow-up activities, as appropriate. The terms of reference for the final evaluation will be prepared by the UNDP-CO based on guidance from the UNDP-GEF Regional Coordinating Unit.

196. The PM will provide the UNDP Resident Representative with certified periodic financial statements and an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in UNDP’s Programming and Finance manuals. The audit will be conducted by the legally recognized auditor of UNDP Jamaica.

## **D. FINANCING**

### **D.1 Financing Plan**

197. Table 4 below shows the allocation of the project by output to achieve the expected outcomes. Both GEF and co-financing from the Government of Jamaica is provided. Local and international consultants in Table 5 below are those who are hired for functions related to the management of project, whereas Table 6 below lists those consultants that are to provide technical assistance for special services. Project management is estimated at 11.7% of the total GEF budget, not including project preparatory funds. Table 7 provides the estimate budget for contractual services, such as arrangements for the training, sensitization, and public awareness workshops.

Table 4. Outcome and Output Budget for GEF and Co-financing

<b>Project Components</b>		<b>Co-financing (\$)</b>	<b>GEF (\$)</b>	<b>Total (\$)</b>
<b>Outcomes</b>	<b>Outputs</b>			
1. Developing natural resource evaluation tools and estimating the opportunity costs of healthy ecosystems	1.1 Development of natural resource valuation tools	0	155,000	<b>155,000</b>
	1.2 Piloting EIA using natural resource valuation	15,000	109,750	<b>124,750</b>
2. Better decisions made to select environmentally sound and sustainable development alternatives	2. Training on the use and interpretation of natural resource valuation	7,000	150,500	<b>157,500</b>
	3. Project management budget/cost*	60,000	55,000	<b>115,000</b>
<b>Total project costs</b>		<b>82,000</b>	<b>470,250</b>	<b>552,250</b>

\* This item is the aggregate cost of project management. The breakdown of the aggregate amount is presented in the table in Table 5 below.

Table 5: Estimated project management budget/cost (estimated cost for the entire project)

<b>Component</b>	<b>Estimated Staff weeks</b>	<b>GEF(\$)</b>	<b>Other Sources (\$)</b>	<b>Project Total (\$)</b>
Locally recruited personnel	120	45,000		<b>45,000</b>
Internationally recruited consultants				
Office facilities and communications			60,000	<b>60,000</b>
Travel		10,000		10,000
<b>Total project management cost</b>		<b>55,000</b>	<b>60,000</b>	<b>115,000</b>

Table 6: Consultants for technical assistance components (estimated for entire project)

<b>Component</b>	<b>Estimated Staff weeks</b>	<b>GEF (\$)</b>	<b>Other Sources (\$)</b>	<b>Project Total (\$)</b>
Local Economic Expert undertakes in-depth review of natural resource valuation	16	10,000		10,000
Local Economic Expert develops Sourcebook of best practices for undertaking natural resource valuation	8	5,000		5,000
International Actuary Expert develops actuarial data that attaches values to natural resource commodities and functions with specific references to pilot project site (fee, travel, DSA)	8	18,000	10,000	28,000
Local Economic Expert regularly updates actuarial data	20	12,000		12,000
International Economic Expert conducts independent assessment of natural resource valuation tools and techniques developed under the project (fee, travel, DSA)	3	15,000		15,000
Local Economic Expert develops an implementation plan for integrating natural resource valuation into EIA process	24	10,000	5,000	15,000
Local Economic Expert undertakes policy negotiations to integrate natural resource valuation within EIA process	120	75,000		75,000
Local EIA Expert prepares Cockpit Country NRV/EIA project proposal	10	10,000		10,000
Local Economic Expert undertakes technical consultations to facilitate institutionalizing NRV calculations into planning processes (including providing training)	136	84,750		84,750
Local Economic Expert develops natural resource valuation training curriculum	8	5,000		5,000
Local Economic Expert negotiates the integration of NRV training module into course offerings of academic and training institutions (including providing training)	16	10,000		10,000
Local consultant prepares Lessons Learned material	12	7,500		7,500
International Economic/Actuary Expert undertakes Independent Final MSP Evaluation (fee, airfare, DSA)	4	19,500		19,500
<b>Total</b>		<b>281,750</b>	<b>15,000</b>	<b>296,750</b>

Table 7: Estimated cost of contractual services (for entire project)

<b>Contractual Services</b>				
Publish Sourcebook, Internet and hardcopy		10,000		10,000
Publish NRV Training material		10,000		10,000
Training institutions implement course offerings on integrated NRV/EIAs		30,000		30,000
Training workshops on interpreting and using NRV		32,000	4,000	36,000
Sensitization and public awareness workshops on the importance of NRV		21,500	3,000	24,500
Publish Lessons Learned Material		15,000		15,000
Contractual services for travel and stay during site visits to Cockpit Country for the piloting of the NRV/EIA		15,000		15,000
<b>Total</b>		<b>133,500</b>	<b>7,000</b>	<b>140,500</b>

## D.2 Cost Effectiveness

198. This project is a stand-alone project, meeting the eligibility criteria of the new Capacity Development Strategic Priority (CB-2). This project only makes sense as a stand-alone project, attaching an economic value to an ecosystem function that is not necessarily defined as being solely a function of biodiversity conservation, climate change or land degradation. EIAs are not prepared as separate exercises for each of these areas, but rather an integrated approach to consider the environmental impacts of natural resource functions as a whole. For example, the socio-economic value of coral reefs is not only determined by their important contribution as nursing and feeding for important marine fish, but also for the protection they afford from storm surges during times of hurricanes.

199. The cost-effectiveness of the project arises by the opportunity created by the capacity development activities undertaken through the ENACT Programme, which strengthened, among others, the EIA process, and developed the Strategic Environmental Assessment Policy as a new approach to catalyze Jamaica's path toward environmental friend, sound and sustainable development policies, programmes and plan. This project will 'top-up' a number of ENACT's SEA project activities, namely in the area of awareness and training to include the use and interpretation of natural resource valuation tools within the institutional framework of EIAs and towards meeting global environmental objectives.

## D.3 Co-financing

200. NEPA is providing in-kind support to the project in respect of office space and administrative support to the Project Management Unit, as well as the organization of workshops and consultative meetings. GEF funds will be managed by UNDP as the implementation agency. The implementation of the pilot EIA project will be financed directly by the private sector bauxite mining companies, agreed upon during the early phase of MSP implementation. Consultations with the Jamaica Bauxite Institute, which oversees proposed bauxite operations and is responsible for reviewing and approving permits and licenses per the EIA process, will facilitate negotiations with the bauxite companies to finance the EIA within the appropriate timeframe of the project. As a result, the financing for the EIA is considered as associated financing.

Table 8: Sources of Co-financing

<b>Co-financier</b>	<b>Classification</b>	<b>Type</b>	<b>Amount (US\$)</b>	<b>Status</b>
NEPA	GoJ	Co-financing	82,000	In-kind
UNDP, Bauxite Mining Companies, through JBI	Private Sector	Associated financing	50,000	To be committed for EIA
<b>Sub-Total Co-financing</b>			<b>132,000</b>	

## E. INSTITUTIONAL COORDINATION AND SUPPORT

### **E.1 Core Commitments and Linkages**

201. In addition to the National Reports and Communications prepared with the support of UNDP and GEF, a number of other projects are under development and implementation by UNDP. A Sustainable Land Management (SLM) medium-size project is presently at the PDF-A stage, and is expected to be completed by May 2006. The overall goal of the SLM project is to maintain and enhance the health, integrity, stability, functions of Jamaica's critical ecosystems, while also promoting sustainable livelihoods and poverty alleviation. The immediate objective of the project is to improve the state of Jamaica's forests and consequential forest functions (protective against flood and drought). This will be accomplished through the development of strategies to generate awareness, interest and participation in achieving sustainable land management for all sectors and levels of society. The development of a sustainable management plan, which aims to mainstream land management issues into policy and legislation, and build national and local capacity for SLM, will be another objective of the project. Another goal is to develop and execute a demonstration project that uses SLM techniques to address land degradation issues in a particularly vulnerable area identified during the PDF-A process, keeping in mind the sites to be selected through the UNEP-GEF regional Caribbean Integrated Watershed and Coastal Areas Management (IWCAM) project. The MSP will also support implementation of identified follow up measures addressing loss in biodiversity, losses in soil fertility and climate change. The expected outcomes of the MSP project include:

- a. Increased awareness, interest and participation in sustainable land management for all sectors and levels of society;
- b. Demonstration projects which show how SLM can be used to address land degradation issues in Jamaica;
- c. A sustainable land management plan for Jamaica with strategies to address land degradation and related issues, to mainstream land management issues into policy and legislation, and build national and local capacity for SLM; and
- d. An Investment plan which will include the identification of follow up projects and potential donors.

202. Another UNDP-GEF project aims to prepare the Second National Communication to the FCCC, which will include a national inventory of anthropogenic emissions by sources and removal by sinks of all GHGs not covered by the Montreal Protocol on Substances that deplete

the Ozone layer and a general description of steps envisaged to implement the Convention. The project will suggest mechanisms and priorities for improving capacity and prioritize the activities needed to address climate change issues both in terms of mitigation as well as adaptation and reduction of vulnerability. Capacity building elements will be incorporated in all proposed activities. Among the planned activities will be assessments of national circumstances and mitigation options, and the exploring of opportunities for transfer of environmentally sound technologies. The incorporation of climate change into national development policy and a sustainable programme to facilitate education and public awareness of climate change will also be specially targeted. This project is due to begin in mid-2006.

203. Jamaica became a signatory to the “Stockholm” Convention on Persistent Organic Pollutants (POPs) in May 2001, joining some 90 countries to have signed that Convention. With support from GEF and UNDP, this project serves to prepare a National Implementation Plan, which will include inventories and assessments, and the setting of priorities and strategies to fulfilling the Jamaica’s obligations under the Convention. The project also aims to facilitate Jamaica’s ratification of the Stockholm Convention, to engage the relevant stakeholders in discussions surrounding the implementation of the convention, and to establish coordinating mechanisms and organizing processes for POPs activities. This project is close to being operationally completed.

## **E.2 Implementation and Execution Arrangements**

204. UNDP will act as the GEF Implementing Agency for this project. As an implementing agency, UNDP brings to the table a wealth of experience working with governments in the arena of reform, and is well-positioned to assist in both capacity building and institutional strengthening. As always, the UNDP Country Office and UNDP-GEF Regional Coordination Unit (Panama) will be answerable as the agency responsible for transparent practices, appropriate conduct and professional auditing. Staff and consultants will be contracted according to the established rules and regulations of the United Nations and all financial transactions and agreements will similar follow the same rules and regulations.

205. The National Environment and Planning Agency (NEPA) will execute this project under NEX guidelines, with technical assistance from UNDP as implementing agency. Management of the project will be the direct responsibility of the Projects Unit, supported by a Project Manager and Assistant hired under the present project.

206. In its capacity as executing agency, NEPA will be responsible for the achievement of the results expected from the project and, in particular, for ensuring that the outputs are produced through effective management and use of project funds. In obtaining project-funded inputs, NEPA is accountable for their quality, timeliness and effectiveness. NEPA is expected to apply the rules and procedures of the Government of Jamaica, provided that these rules and procedures are compatible with UNDP principles. In cases of incompatibility or where no GOJ procedure exists, UNDP procedures and practices may be applied.

207. A Project Steering Committee will be constituted, to include senior representatives from the full cross-section of agencies responsible for land and natural resource management, including, but not limited to NEPA, PIOJ, Agriculture, Forestry, JBI, WRA, and Mining. The Steering Committee will also include an environmental NGO representative selected by UNDP on the basis of stakeholder consultations. The project steering committee (PSC) has the key role of assessing the performance and progress towards achieving planned outputs, as well as ensuring that the lessons learned are incorporated into the national policy-making process, specifically the

institutionalization of natural resource valuation tools and techniques within JBI, PIOJ, UDC, WRA, among others. The PSC will meet once every 6 months to assess project performance as well as to provide guidance for project implementation. More frequent bilateral meetings may be necessary in order to ensure timely supervision and follow-up on project activities.

208. A Project Manager will be contracted to oversee the daily operations of the project, and be located within the central offices of NEPA. The Project Manager will act as the primary liaison between the NEPA and UNDP and other cooperating agencies, and who will ensure that the relevant reports are prepared and submitted as required by UNDP or the Government and agreed upon by the Steering Committee. The Project Manager will report to the Steering Committee. The UNDP Country Office will assist project execution by providing the implementation support services.

209. A Project Director from within the NEPA will be assigned to provide general project oversight (part of their co-financing). NEPA will also establish a Project Management Unit (PMU) for the day-to-day management of project activities, providing office space and administrative overhead to the Project Manager and Project Assistant. NEPA will make available their resources to the Project Management Unit in the performance of their duties, including but not limited to, office supplies, telephone, computer, printing and Internet privileges. Through UNDP, NEPA may also subcontract specific components of the project to specialized government departments, research institutions, as well as NGOs.

210. Project implementation will take the approach of adaptive collaborative management, whereby project activities proceed as a process of learning; mistakes, errors or failures are considered as normal occurrences; local and non-local stakeholders participated in the process of setting goals, planning, management and evaluation; and uses a variety of methods to create new knowledge on ecosystem changes (natural or anthropogenic as to origin).

211. The Project Steering Committee (PSC) meetings are critical to review the implementation of the project, in particular to identify barriers to effective management. On this basis, the PSC should make recommendations for changes in the project strategy, which would be taken up in a Local Project Advisory Committee (LPAC). The LPAC would make recommendations to UNDP-GEF for modifications to the present project approach in order to management arrangements to meet project objectives.

212. The Project Manager will act as the Secretary to the PSC. The PSC will avail of the set of monitoring and evaluation tools to assess project performance. See Section C.5 on Monitoring and Evaluation above. The Project Manager will also attend all meetings of the NRCA Board and NEPA tribunals, as an observer to determine critical issues to take into account in the EIA and natural resource valuation process.

213. Proper acknowledgement to GEF and UNDP for providing funding and support, the GEF and UNDP logos are to appear on all relevant UNDP-GEF project publications, project hardware, among other items. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgment to GEF.

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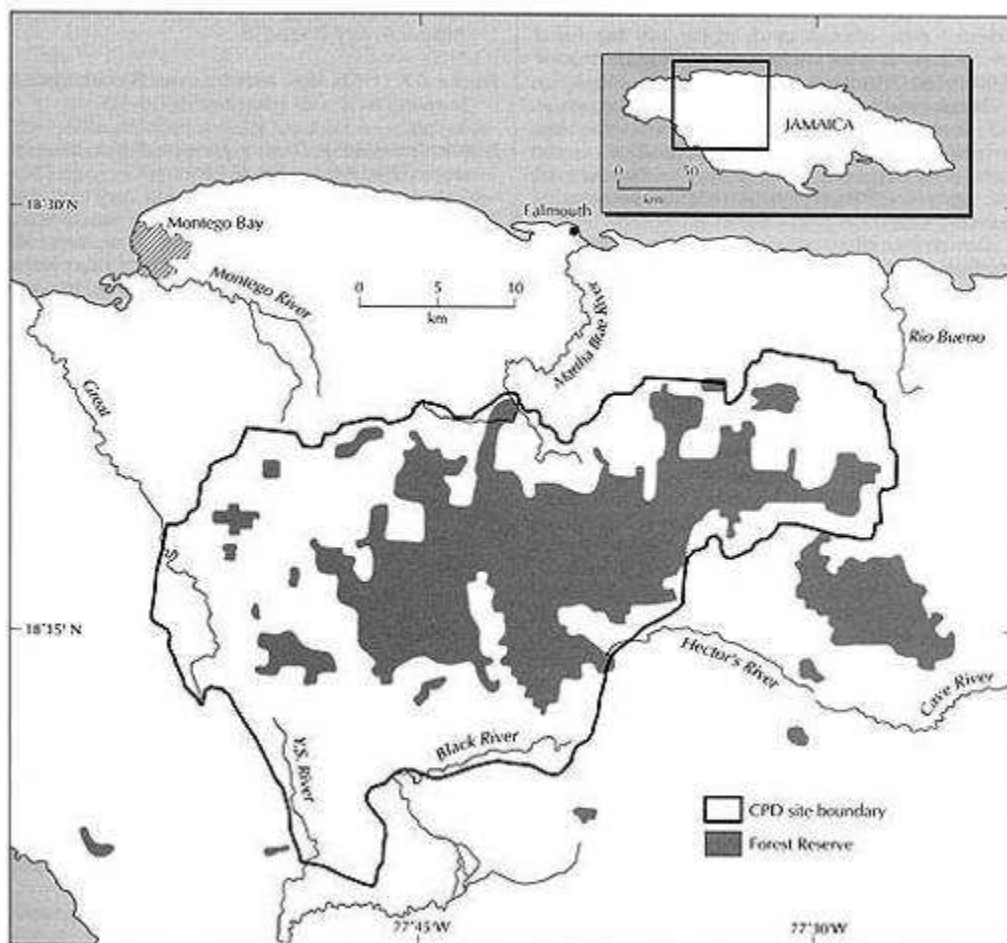
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## ***Annex 1: The Cockpit Country: Description and Significance***

A high priority of the National Biodiversity Strategy and Action Plan is the expansion on of the system of protected areas to include the Cockpit Country, among other globally significant biodiversity rich ecosystems.

The Cockpit Country is characterized by well developed, conical or “cockpit” karst topography, and supports a high degree of biodiversity and species endemism. At least 1,000 species of vascular plants, two species of tree frogs, one species each of gecko and galliwasp (a species of lizard) are found only in this area. The hillsides and tops usually have little or no soil, while the depressions or ‘cockpits’ contain deposits of highly fertile soil, which when undisturbed, support the growth of very large trees. The much shorter dense forests of the rocky hills remain in a more pristine condition and are richer in species than the cockpits that have often been cleared for agriculture. Valuable timber trees have been extensively cut throughout Cockpit Country (NBSAP, July 2003:9). In addition to threats from subsistence farming, illegal logging, fire and road building, bauxite mining is a major threat looming on the horizon. The map below delineates the boundary of the Cockpit Country as a Centre of Plant Diversity (CPD).



Map: Davis, S.D., Heywood, V.H., Herrera-MacBryde, O., Villa-Lobos, J. and Hamilton, A. (eds.). 1997. *Centres of Plant Diversity: A Guide and Strategy for Their Conservation*. Volume 3: The Americas. IUCN Publications Unit, Cambridge, England. <http://www.nmnh.si.edu/botany/projects/cpd/>.

## **Global Significance of the Cockpit Country**

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<http://www.nmnh.si.edu/botany/projects/cpd/ma/cb11.htm>

### **Geography**

The Cockpit Country is an expanse of land in central-western Jamaica that has an unusual "eggbox" topography of limestone karst hills and valleys. The area extends between approximately 18°06'-18°25'N latitude and 77°27'-77°55'W longitude, in the parishes of Trelawny, St James, upper St Elizabeth, Manchester, Clarendon and part of St Ann. To the east of the main block lies the "central inlier", composed of bedrock other than limestone, which supports different vegetation. This is surrounded on the north and south sides by extensions of the Cockpit Country limestone, which support vegetation similar to, and as diverse as, the Cockpits themselves.

The majority of the Cockpit Country is Government-owned Forest Reserve. The main areas are Cockpit (223.3 km<sup>2</sup>), Fyffe and Rankine (9.6 km<sup>2</sup>), Peru Mountain and Thicketts (2.5 km<sup>2</sup>), Chatsworth (3.8 km<sup>2</sup>) and Cooks Bottom (2 km<sup>2</sup>). These figures include unforested land: the total area of land worth conserving has yet to be delimited. Some privately-owned areas on the periphery are worth conserving.

Rainfall in the Cockpit Country area varies between c. 1900 and 3800 mm per annum. Little of this is retained on the steep dry slopes, but flows into underground aquifers beneath the more fertile valleys.

### **Vegetation**

The forest vegetation may be described as mesic limestone forest, in the evergreen seasonal forest formation of Beard (1955). The forests are, however, poorly known. Kelly et al. (1988) recorded 75 tree species in a total area of 1000 m<sup>2</sup>; 27 of the 75 species were represented by one individual only. The canopy height was between 16 and 24 m, and was dominated (in patches) by species such as *Guapira fragrans* (*Pisonia fragrans*). Rubiaceae and Myrtaceae were frequent in the tree and shrub layers, but the ground flora was dominated by ferns (22 of 30 ground herbs were pteridophytes). Orchidaceae and Bromeliaceae were frequent epiphytes and mosses were plentiful on rock outcrops and tree bases.

Limestone cliff vegetation supports many local endemics. There are some landslide formations as well as modified vegetation types, including pasture and cropland.

### **Flora**

The native flora of the whole of the Cockpit Country includes an estimated 1500 vascular plant species (C.D. Adams, personal estimate 1992), about 42% of the Jamaica's native vascular flora. About 60% (500 species) of Jamaica's endemic vascular plant flora occurs in the Cockpit Country. In the more restricted area of high biodiversity, covering about 202.5 km<sup>2</sup> according to JCDT (1992), there are an estimated 800-900 vascular plant species (C.D. Adams, personal estimate 1992).

According to Proctor (1986), there are 106 species that, in Jamaica, are only found in the Cockpit Country. These include 100 species of angiosperms and one species of fern that are strictly endemic to the Cockpit Country and five other species that are not endemic to Jamaica. The strict endemics are best represented in the families Rubiaceae (11 spp.), Compositae (9 spp.), Gesneriaceae (8 spp.), Euphorbiaceae (7 spp.), Orchidaceae (7 spp., all in the genus *Lepanthes*) and Myrtaceae (6 spp.). Floristic studies indicate that each limestone knoll can support many different plants from the next, including plants which are endemic to just one knoll.

There have been few floristic studies in the forests of the Cockpit Country. A total area of 1000 m<sup>2</sup> of forest on the fringes of the Cockpit Country was found by Kelly et al. (1988) to support 235 higher plant species (206 species of angiosperms and 29 of pteridophytes); 75 species of tree >2 m tall were recorded. The high diversity

may be explained by the intermediate-rainfall character of the forests: species tolerant of very wet conditions (e.g. *Guzmania lingulata*) can co-exist with those adapted to dry conditions (e.g. *Hylocereus triangularis*). (The study area from which these figures were obtained has, unfortunately, been cut over and no forest remains there now.)

### **Useful plants**

There are a number of ornamental endemic plant species with great horticultural potential. These include: *Portlandia coccinea*, *Lisianthus capitatus*, *Palicourea pulchra* and *Piper verrucosum*. Two strictly endemic trees are valuable for their timber: *Terminalia arbuscula* and *Manilkara excisa*. Other endemics, not confined to the Cockpit Country, are valuable timber species. Two wild relatives of edible yam occur: *Rajania cyclophylla*, endemic to the Cockpit Country, and *R. cordata*, restricted in Jamaica to the Cockpits but also occurring in other West Indian islands. Some plants are used locally for medicinal purposes, but there is no published information on these.

### **Social and environmental values**

The population of the Cockpit Country is sparse and generally confined to places accessible by road. Of the estimated 4,500 inhabitants, most are farmers (cultivation extending deep into the area). The rugged terrain and the paucity of surface water have helped to prevent forest clearances for timber and cultivation. Although much of the valley forests have been cleared, the steep slopes and hill summits have only been minimally disturbed.

A total of 36 restricted-range land birds occur on Jamaica, of which 28 are endemic to the island (the highest total for any Caribbean island). Most of the birds occur in the mountain forests throughout the island, an exception being the recently split red-billed and black-billed streamertails, *Trochilus polytmus* and *T. scitulus*, which are confined to western/central and eastern Jamaica (including the John Crow Mountains) respectively.

### **Threats**

The greatest threats are clearance for agriculture, illegal cutting of timber and firewood collection. The rate of deforestation between 1981-1987 is estimated at 15.8% (2.8% per year) (Eyre 1989). Until recently, interior forests were very inaccessible. However, roads are being built into the area, which will inevitably lead to increased deforestation and selective cutting. The area is, therefore, severely threatened.

### **Conservation**

The Cockpit Country has not yet been formally declared a protected area, although much of the area has Forest Reserve status no plant may be removed without permission of the Forest Department.

Because of the amount of human activity in the area, as well as some of the area being in private ownership, designation of the area to allow for continuation of some human uses is possibly more appropriate than National Park status. Some form of protection is being recommended to the Government in JCDT (1992).

Conservation efforts on a more localized scale would be beneficial, as some of the knolls that are the type localities for a number of the endemics, are privately owned.

***Annex 2: Description or Category of Enterprise, Construction or Development that require Environmental Impact Assessment, NRCA Act Section 38(1)***

Industrial projects

- Power generation plants
- Electrical transmission lines and substations 115 KV or greater
- Chemical manufacturing plants
- Wood pulp and paper processing
- Paint manufacture
- Petroleum refinery
- Food processing large scale
- Fish and meat processing, large scale
- Tanneries
- Electroplating/metal plating
- Ferrous and non-ferrous metal processing
- Mining and mineral processing

Bauxite

Peat

Sand and minerals

Detergent manufacture

- Distillery
- Cement and lime production
- Textile manufacture
- Pesticide or other hazardous or toxic substances manufacture

Development projects

- Subdivisions of 10 or more lots
- Housing projects of 10 houses or more
- Highway and road construction or remodeling
- Railway lines
- Hotel/resort complex of 12 rooms or more
- Airports including runway expansion greater than 20%
- Harbour and port including dredging
- Office complex >5000 sq. meters
- Pipelines and conveyors >15 cm including underground cables, gas lines
- Construction of new highways, arterial roads and major road improvement
- River basin development projects

Other projects

- Cemeteries and crematoriums
- Solid waste treatment and disposal facility including agricultural waste
- Water treatment facilities (water supply, desalination plants sewage and industrial waste water)
- Hazardous waste storage, treatment and disposal facilities

**Annex 3: ENACT Work Plan Targets and Activities**

The following pages describe the planned targets for the period April 1, 2005 to March 31, 2007. For each Component a summarized strategic focus is given emphasizing how the long-term sustainability of each area is planned. Targets for this fiscal year are identified for each Activity. Each Activity is referenced by its WBS number (See Appendix 1: Work Breakdown Structure). A description of the planned activities to reach these targets is given for each Activity. Additionally, the contribution to the Expected Outputs from the LFA is given for each set of targets.

WBS	Targets for 2005-2007	Planned Activity	Contribution to Expected Outputs
2000	<p><b>Greening of Government</b>  <b><i>Strategic Focus:</i></b>                      The Greening of Government component will focus primarily on long term sustainability and institutionalisation through the support for the implementation of the Environmental Stewardship and Strategic Environmental Assessment policies as well as the development of accountability mechanisms and monitoring frameworks to support institutionalisation of activities. Much of the work has started and is at an advanced stage of completion but careful placement of certain activities as well as some institutional capacity building is necessary to ensure long term sustainability.</p>		
2200	<p><b>Environmental Stewardship in Government Operations</b></p> <ul style="list-style-type: none"> <li>▪ Implementation of GOJ Environmental Stewardship Policy &amp; Guidelines</li> </ul>	<ul style="list-style-type: none"> <li>▪ Publication, communication and dissemination of Environmental Stewardship Policy and revised Environmental Stewardship Guidelines</li> <li>▪ Development of a user-friendly reference guide that accompanies the Environmental Stewardship Policy and provides a step-by-step approach on implementing the policy</li> <li>▪ Presentations/broad based sensitisation to approximately 25 - 40 ministries and agencies as well as sensitisation of permanent secretaries, head of executive agencies and executive directors, of GOJ on Environmental Stewardship Policy and Guidelines. Workshops will focus on using unique applications such as video, in operations management and staff requirements with respect to policy</li> <li>▪ Development of standardised presentation to guide presentations and sensitisation to ministries and agencies</li> <li>▪ Official launch of Environmental Stewardship Policy</li> <li>▪ 4-6 workshops to be held across GOJ to assist ministries and agencies in the development of ministry/agency specific environmental stewardship action plans as per policy directive; to provide guidance with respect to the methodology to be employed by ministries and agencies in data collection and reporting on progress of stewardship programme</li> <li>▪ 4 training workshops in environmental stewardship to be provided to persons in ministries/agencies with responsibility for policy implementation – target group will include: procurement officers, heads of administration and finance, property managers etc. of ministries and agencies of GOJ</li> </ul>	<ul style="list-style-type: none"> <li>▪ An adopted “Environmental Stewardship” programme across Government geared towards reducing costs, increasing efficiencies and good environmental practices</li> <li>▪ Ministries and agencies have the capacity to incorporate environmental stewardship concepts in government operations as evidenced by data collection and reporting provided by MLE</li> <li>▪ Procurement officers; administration and finance personnel and other public sector employees are aware of roles and responsibilities towards the implementation of Environmental Stewardship Action Plans and can incorporate environmental considerations in operations management</li> </ul>

WBS	Targets for 2005-2007	Planned Activity	Contribution to Expected Outputs
		<ul style="list-style-type: none"> <li>▪ Establishment of GOJ Environmental Stewardship Committee as per Policy</li> <li>▪ Development and implementation of 2 environmental stewardship demonstration projects within MLE (e.g. water, energy conservation etc.)</li> <li>▪ Establishment of monitoring and management mechanisms, including the development of tools to enable the Office of the Prime Minister to track actions, progress and implementation of policy by ministries and agencies; to track data provided by ministries and agencies and to provide quarterly reports to the NEPA, Cabinet Office and Ministry of Finance and Planning on a timely basis. This will also involve the collection of baseline data on consumption patterns related to environmental stewardship areas.</li> </ul>	
2300	<b>Strategic Environmental Assessment (SEA) Policy</b>		
	<ul style="list-style-type: none"> <li>▪ Implementation of SEA Policy</li> </ul>	<ul style="list-style-type: none"> <li>▪ Publication, communication and dissemination of GOJ SEA Policy to ministries and agencies</li> <li>▪ Development of “SEA Guidelines and Tool Kit” by international technical expert – procedural document for use by GOJ SEA Committee (as per policy) and will outline methodologies for conducting as well as reviewing and evaluating SEAs</li> <li>▪ Training on the use of the “SEA Guidelines and Tool Kit” to be provided by international Expertise for GOJ SEA Committee</li> <li>▪ Publication, communication and dissemination to ministries and agencies of SEA Guidelines and Tool Kit</li> <li>▪ Purchase of resource materials on SEA such as books, reference materials for use by GOJ SEA Committee</li> <li>▪ Development and provision of entity-specific training for pilot ministries/agencies as identified in policy to ensure capacity is built within pilot ministries/agencies as defined in policy to appropriately assess policies, plans and programmes (PPPs). 5 days of training per entity (12 pilot ministries/agencies) as identified in policy; training will include general training in SEA (similar to the Holistic Governance SEA course offered at MIND) and sector-specific training on different policies of particular sectors and the associated environmental impacts.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Policy analysts in pilot ministries/agencies as defined by policy are familiar with SEA and have capacity to conduct strategic environmental assessments</li> <li>▪ GOJ SEA Committee has the capacity to review and effectively evaluate SEAs</li> </ul>
2400	<b>Environmental Awareness &amp; Training in Public Sector</b>		
	<ul style="list-style-type: none"> <li>▪ Review and Revision of “Holistic Governance: Sustainable Development in Action” Programme</li> </ul>	<ul style="list-style-type: none"> <li>▪ Review of the 10 courses developed under previous phase in partnership with MIND to ensure relevance and to consolidate materials/courses where appropriate</li> <li>▪ Continue to support the incorporation of environmental issues into MIND’s core courses, particularly those which are yet to be reviewed for the inclusion of environment and sustainable development issues (e.g. trade policy; policy development etc.)</li> </ul>	<ul style="list-style-type: none"> <li>▪ 10 courses reviewed and made more appropriate where applicable</li> <li>▪ More than 70% of MIND’s core curricula has been reviewed and environmental considerations incorporated</li> </ul>

WBS	Targets for 2005-2007	Planned Activity	Contribution to Expected Outputs			
3000	<p><b>Strengthening NEPA Capacity</b>  <u>Strategic Focus</u></p> <ul style="list-style-type: none"> <li>• <i>Continued Strengthening of linkages among MLGCDS, NEPA and the Local Planning Authorities</i> <ul style="list-style-type: none"> <li>○ Support the implementation of a national applications management system, through the web-enabling of the AMANDA data base management system.</li> </ul> </li> <li>• <i>Capacity Development for Compliance and Enforcement</i> <ul style="list-style-type: none"> <li>○ Compliance and enforcement training; continued support to the development of the sewage regulations; and support the development of a multi-agency strategy for enforcement.</li> </ul> </li> <li>• <i>Modernisation of Legislative Framework</i> <ul style="list-style-type: none"> <li>○ Support the development of a new/revised legal regime for environment and planning through: <ul style="list-style-type: none"> <li>▪ Support of the review of existing legal framework for environment and planning</li> <li>▪ Support stakeholder consultations; and the development of interim solutions</li> <li>▪ Support the development of appropriate drafting instructions as defined by the participatory stakeholder process.</li> </ul> </li> </ul> </li> </ul>					
3100	<p><b>Continued Strengthening of linkages among MLGCDS, NEPA and the Local Planning Authorities</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="205 716 569 1175" style="width: 25%;"> <ul style="list-style-type: none"> <li>▪ Support the enabling of the Internet/web function of the AMANDA system</li> </ul> </td> <td data-bbox="569 716 1453 1175" style="width: 45%;"> <ul style="list-style-type: none"> <li>▪ Acquisition of Web Transaction Server and Web Transaction Software</li> </ul> </td> <td data-bbox="1453 716 1940 1175" style="width: 30%;"> <ul style="list-style-type: none"> <li>▪ NEPA is strengthened to implement its mandate to protect and conserve resources through the Permit and Licence System including a more efficient web-based applications management system; access by local authorities and the public to applications information; reduced turn-around time for external reviewing agencies; post-permit monitoring officers with increased access to data and networking facility</li> </ul> </td> </tr> </table>			<ul style="list-style-type: none"> <li>▪ Support the enabling of the Internet/web function of the AMANDA system</li> </ul>	<ul style="list-style-type: none"> <li>▪ Acquisition of Web Transaction Server and Web Transaction Software</li> </ul>	<ul style="list-style-type: none"> <li>▪ NEPA is strengthened to implement its mandate to protect and conserve resources through the Permit and Licence System including a more efficient web-based applications management system; access by local authorities and the public to applications information; reduced turn-around time for external reviewing agencies; post-permit monitoring officers with increased access to data and networking facility</li> </ul>
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	<ul style="list-style-type: none"> <li>▪ Develop compliance and enforcement capabilities for NEPA and partner agencies</li> </ul>	<ul style="list-style-type: none"> <li>▪ Complete the implementation pilot training courses based on training strategy in enforcement and compliance for GOJ agencies</li> <li>▪ Review institutionalisation of training programme with MIND</li> <li>▪ Support further sensitisation of the ISCF and the JCF in enforcement</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased knowledge of laws, procedures and skills for enforcement</li> <li>▪ Efficient implementation of environmental and planning legislation towards sustainable development</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Support the completion of the sewage regulations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Support the development of the guideline document to accompany waste water regulations for NEPA staff</li> <li>▪ Support the development of the guideline document to accompany waste water regulations for Proponents</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased capacity to implement regulations <ul style="list-style-type: none"> <li>○ Increased ability of NEPA staff to process applications</li> <li>○ Increased ability of the regulated community to understand the requirements for compliance with regulations.</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>▪ Complete editing of training resource materials</li> </ul>	<ul style="list-style-type: none"> <li>▪ Format and print edited material for enforcement training. (These documents will support the multi-agency work, enforcement training through MIND and work with the Police.)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Access to enforcement information for training and reference contributing to enhanced capacity in enforcement and compliance</li> </ul>
3400	<b>Modernisation of Legislative Framework</b>		
	<ul style="list-style-type: none"> <li>▪ Review of existing legal framework for environment and planning</li> </ul>	<ul style="list-style-type: none"> <li>▪ Research and development of issues paper in collaboration with component 4100</li> <li>▪ Convene stake consultations on legal regime for environment and planning</li> <li>▪ Defining interim solution on legal framework</li> <li>▪ Preparation of cabinet submission on interim solutions to legal framework</li> </ul>	<ul style="list-style-type: none"> <li>▪ A modernized legal framework for environment and planning contributing a seamless implementation of legislation and consequently enhanced protection of natural resources, increased human well-being and economic growth towards a sustainable future for Jamaica</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Developing revised legal framework for environment and planning in Jamaica</li> </ul>	<ul style="list-style-type: none"> <li>▪ Convene stakeholder consultations on drafting instructions using a Regulatory Impact Analysis approach</li> <li>▪ Develop drafting instructions defined by the interim solutions</li> </ul>	
4000	<b>Local Sustainable Development Planning</b> <u>Strategic Focus:</u> <i>Towards the Enhanced Institutionalisation of Local Sustainable Development Planning in Jamaica</i> <ul style="list-style-type: none"> <li>○ Establishment of a National Framework for Sustainable Development incorporating LSDP</li> <li>○ Modernisation and Implementation of a National Planning Framework and Process <ul style="list-style-type: none"> <li>▪ Completion of legislation relating to a modernised planning framework</li> </ul> </li> </ul>		



WBS	Targets for 2005-2007	Planned Activity	Contribution to Expected Outputs
		<ul style="list-style-type: none"> <li>▪ Applications of LSDP in Portland and Kingston &amp; St. Andrew</li> <li>▪ Capacity development support to key local partners Portland Parish Council and PDC, KSAC and KSA PDC</li> <li>▪ Capacity development support to key national agencies NEPA, MLGCDS, Office of the Cabinet and MLE</li> </ul>	
4100	<b>National Initiatives</b>		
	<ul style="list-style-type: none"> <li>▪ National Framework for Sustainable Development in place that is supportive of local sustainable development planning and action.</li> </ul>	<ul style="list-style-type: none"> <li>• Preparation of National SD Framework in collaboration with UNDP Project, Cabinet Office, PIOJ, MLE, MLGCDS, NEPA etc. <ul style="list-style-type: none"> <li>○ Support to comprehensive scoping exercise incorporating LSDP and long-term sustainability of PDCs.</li> <li>○ Continue to build on processes, policies and programmes to develop national vision, goals and objectives on SD</li> <li>○ Identify national strategies and actions</li> <li>○ Complete national SD indicators (SDI)</li> <li>○ Develop local SD indicators, building on Portland LSDP.</li> <li>○ Identify and document Sustainable Development Indicators applicable to Port Antonio</li> <li>○ Establish clear governance framework to establish NSDF. (This will include linkages with component 2000 and incorporation of the “Multi Agency Action Plan for the Long Term Institutionalisation of LSDP”)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Development of a National SD Framework.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Modernised Planning Framework in place that is supportive of local sustainable development planning and action</li> </ul>	<ul style="list-style-type: none"> <li>• Completion of an Issues Paper that provides analysis of the existing legal and institutional arrangements and includes the issues and implications of harmonization of the existing planning and environmental legislation (in support of activity 3400)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Modernised Planning Framework supported by legislation</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Enhanced integration of LSDP into NEPA’s IPED’s modernised planning processes and staff capacities</li> </ul>	<ul style="list-style-type: none"> <li>• Transfer of the NEPA related functions of the LSDP Advisor/Coordinator into the IPED. This includes definition of TOR and assignment of LSD Planner in IPED.</li> <li>• Preparation of action plan for institutionalisation of LSDP into the IPE Division</li> <li>• Implementation of action plan</li> <li>• Technical support for application of LSDP principles and processes within demonstrations in Portland and Kingston &amp; St. Andrew</li> <li>• On-the-job-training of LSDP principles and processes in other long-term development planning activities in which the IPED is engaged.</li> <li>• Implementation of training activities designed to strengthen staff capacity in sustainable development planning <ul style="list-style-type: none"> <li>○ Technical exchanges (study tour or field visits) with Canadian-based entities such as CIP, municipalities etc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ LSDP institutionalised in NEPA with increased staff capacity to implement LSDP.</li> </ul>

WBS	Targets for 2005-2007	Planned Activity	Contribution to Expected Outputs
	<ul style="list-style-type: none"> <li>▪ Enhanced integration of LSDP into MLGCDS planning reform processes for Parish Councils</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation of the LSDP Training Strategy for Parish Councils' staff engaged in planning and development. This carried out through the primary process of the MLGCDS and includes:               <ul style="list-style-type: none"> <li>○ Rapid training needs assessment</li> <li>○ Curriculum development for LSDP training</li> <li>○ Design and implementation of LSDP training exercises.</li> <li>○ Evaluation</li> </ul> </li> <li>• Technical support for application of LSDP principles and processes within demonstrations in Portland and Kingston &amp; St. Andrew</li> </ul>	<ul style="list-style-type: none"> <li>▪ Parish Council planners trained in LSDP. (MLGCDS in collaboration with the councils and NEPA have established Planning and Development Divisions in each local planning authority (LPA). These divisions were also equipped with mapping (GIS) tools and computers through PIDP. Training in LSDP will complement this effort and add to the capacity of the parish councils to do long term forward planning).</li> </ul>
4200	<b>LSDP Documentation</b>		
	<ul style="list-style-type: none"> <li>▪ LSDP local applications documented</li> </ul>	<ul style="list-style-type: none"> <li>• Preparation of 3 Case Studies documenting aspects of LSDP experiences in Portland and Kingston &amp; St. Andrew. (Case study framework prepared in previous ENACT phase will be used as a guide to prepare these case studies)</li> <li>• Wide-scale dissemination of case studies through the MLGCDS process for spinning out LSDP to other parishes.</li> </ul>	<ul style="list-style-type: none"> <li>▪ LSDP applications documented and spun out to all parishes across the island</li> </ul>
4300	<b>LSDP Implementation in Portland</b>		
	<ul style="list-style-type: none"> <li>▪ Sustainable Development Plan for Port Antonio and Interim Development Order for Portland</li> </ul>	<ul style="list-style-type: none"> <li>• Recommitment and full support of the core partnership comprised of MLGCDS, NEPA, SDC, GOJ/CIDA ENACT, PPC, and PPDC to Portland being the demonstration parish for applied LSDP and to the completion of the full cycle of the LSDP process</li> <li>• Support to stakeholders' consultations and dissemination of information in the planning process for the preparation of the SD Plan and Interim Development Order. (This support within the context of the overall process to prepare the plan and order for Portland. This initiative is a combination of the local partnership with the PC and PDC as well as the national process spear-headed by the Development Division under the mandate of the Prime Minister).</li> <li>• Technical support to the PC/UDC and NEPA in preparation of the SD plan for Port Antonio.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sustainable Development Plan for the urban center of Port Antonio</li> <li>▪ Commencement of a Portland-wide SD Plan/Order</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Enhanced Portland Parish Council Capacity to undertake Local Sustainable Development Planning</li> </ul>	<ul style="list-style-type: none"> <li>• Support for a Parish Council generated and led proposal to build its capacity for public information and relations as it relates to LSDP</li> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>▪ Parish Council ability further enhanced to undertake LSDP process</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Institutional support to participatory process for</li> </ul>	<ul style="list-style-type: none"> <li>• Technical and Financial support to PDC Secretariat and Committees</li> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>▪ Continued enhancement of PDC to undertake specific functions relating to</li> </ul>

WBS	Targets for 2005-2007	Planned Activity	Contribution to Expected Outputs
	Portland LSDP		LSDP
	<ul style="list-style-type: none"> <li>▪ Early actions</li> </ul>	<ul style="list-style-type: none"> <li>• Support PDC/PC to develop and undertake income-generating project(s) for sustaining PDC.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Built public awareness of the PC &amp; PDC roles in the development of the parish</li> <li>▪ Informed public for participation in the planning process</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Measurement of the progress of Port Antonio LSD planning process</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct SDI Workshop</li> <li>• Develop and Implement Monitoring and Evaluation Framework</li> </ul>	<ul style="list-style-type: none"> <li>▪ Evaluation of the effectiveness of the implementation of LSDP in Portland</li> </ul>
4400	<b>Kingston &amp; St. Andrew (KSA) Development Strategy</b>		
	<ul style="list-style-type: none"> <li>▪ SD Plan and Development Order for KSA</li> </ul>	<ul style="list-style-type: none"> <li>• Support NEPA, KSAC and KSA PDC to complete research and assessment and land use mapping within the participatory framework defined (include innercity mapping and profiles)</li> <li>• Final SD Plan for wide-scale dissemination <ul style="list-style-type: none"> <li>○ Public consultations for broad-based input and endorsement of Draft SD Plan</li> <li>○ Input and endorsement of Draft SD Plan among relevant authorities including TCPA, KSAC and Cabinet</li> <li>○ Identification of gaps in Draft SD Plan and research and writing that is feasible to fill the gaps</li> <li>○ Incorporation of maps and pictorials in Draft SD Plan</li> <li>○ Editing and design of desktop publishing layout of Draft SD Plan inclusive of artistic impressions</li> <li>○ Cabinet submission and endorsement through MLE and MLGCDS</li> <li>○ Publication and wide-scale dissemination of Final KSA SD Plan and mounting on website</li> </ul> </li> <li>• Preparation and promulgation of KSA Development Order informed by the KSA SD Plan. <ul style="list-style-type: none"> <li>○ Field validation of proposed land use strategy</li> <li>○ Neighbourhood/DAC profiles completed with associated land use policies determined</li> <li>○ Consultations (workshops, seminars, etc.) on KSA Development Order inclusive of the TCPA, KSAC, public sector, private sector and community (civil society on a whole)</li> <li>○ TCPA input and endorsement of Draft Development Order</li> <li>○ Provisional Development Order published for public consultation</li> <li>○ Revision of Provisional Development Order and submission through TCPA to Minister of Land and Environment</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Finalisation of KSA SD Plan and incorporation of Plan into the main stream of public sector agencies.</li> </ul>

WBS	Targets for 2005-2007	Planned Activity	Contribution to Expected Outputs
		<ul style="list-style-type: none"> <li>○ Publication of Confirmed Development Order</li> <li>○ Dissemination of KSA Confirmed Development Order</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ Capacity assistance to KSAC</li> </ul>	<ul style="list-style-type: none"> <li>• In collaboration with MLGCDS and KSAC/PDC, support capacity development exercise for councilors and staff relating to in depth/detailed understanding of KSA SD Plan and the role of the KSAC in implementation, monitoring and amendment procedures of Plan</li> <li>• Support to the preparation of KSAC Management Audit in collaboration with KSAC, MLGCDS, NEPA among others.</li> <li>• Collaboration with NEPA, MLGCDS and KSA PDC to finalise data base re KSA SD Plan and transfer the data to the Planning Department of the KSAC (will include transfer of two computers with data base).</li> </ul>	<ul style="list-style-type: none"> <li>▪ KSAC capacity enhanced to implement sustainable development planning at the local level</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Institutional support to participatory process in KSA</li> </ul>	<ul style="list-style-type: none"> <li>▪ Secretariat Staff Support for PDC to assist in process management <ul style="list-style-type: none"> <li>○ Transfer of KSA PDC Planner in to KSAC</li> </ul> </li> <li>▪ Technical Support to Secretariat and Committees</li> <li>▪ Support to various stakeholders inclusive of key national partners, community, private sector and civil society to deliver capacity development workshops relating to the planning process</li> <li>▪ Facilitate mechanism supporting long-term sustainability of KSA PDC</li> </ul>	<ul style="list-style-type: none"> <li>▪ Parish Development Committee enhanced to undertake specific functions relating to the sustainable development planning process at the local level.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Public Relations strategy to increase awareness on the KSA planning process</li> </ul>	<ul style="list-style-type: none"> <li>▪ Support to KSAC/PDC to define and implement Public Relations Strategy for KSA</li> </ul>	<ul style="list-style-type: none"> <li>▪ Built Public Relations strategy to increase awareness on the KSA planning process</li> </ul>
<b>5000</b>	<p><b>Environmental Education for Sustainable Development</b></p> <p><b><i>Strategic Focus:</i></b>  The ENACT Extension will focus on three areas: supporting the National Environmental Education Committee and on establishing the NEEC Secretariat within NEPA's Public Education and Corporate Communication Branch; developing and implementing a public awareness strategy within NEPA and institutionalising EESD within the formal education sector, through MOEYC, JBTE and the teacher education institutions.</p>		
<b>5100</b>	<b>NEEC Institutionalization</b>		
	<ul style="list-style-type: none"> <li>▪ NEEC Secretariat institutionalized</li> </ul>	<ul style="list-style-type: none"> <li>▪ Finalise arrangements for NEEC Secretariat within NEPA PECC Branch <ul style="list-style-type: none"> <li>○ Revise job descriptions of PECC staff to include support for NEEC</li> <li>○ Enhance capacity of Secretariat for EESD delivery and networking among stakeholders.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ An established and effectively operating NEEC Secretariat</li> </ul>
	<ul style="list-style-type: none"> <li>▪ NEEC membership and governance revised</li> </ul>	<ul style="list-style-type: none"> <li>▪ Finalise NEEC Constitution to be agreed by NRCA and adopted by NEEC membership</li> </ul>	<ul style="list-style-type: none"> <li>▪ NEEC Constitution adopted</li> </ul>
	<ul style="list-style-type: none"> <li>▪ NEEC operations supported</li> </ul>	<ul style="list-style-type: none"> <li>▪ Conduct 10-12 Executive Committee meetings</li> <li>▪ Conduct 4 workshops (2 per year) for the professional development of NEEC members; 1 of these workshops per year will also include an Annual General Meeting to discuss NEEC business.</li> </ul>	<ul style="list-style-type: none"> <li>▪ An effectively operating NEEC</li> <li>▪ An up-to-date database of EE resources and skills, used by EE practitioners</li> <li>▪ A commitment to EESD by institutions</li> </ul>

WBS	Targets for 2005-2007	Planned Activity	Contribution to Expected Outputs
		<ul style="list-style-type: none"> <li>▪ Create a database of EE resources and skills and develop maintenance/update mechanism</li> <li>▪ Follow-up to the NEEAPSD Review               <ul style="list-style-type: none"> <li>○ Meet with stakeholders to discuss and get commitment to implementing recommendations</li> </ul> </li> </ul>	with a responsibility for EESD
5200	<b>Public Awareness Strategy</b>		
	<ul style="list-style-type: none"> <li>▪ NEPA Public Awareness Strategy</li> </ul>	<ul style="list-style-type: none"> <li>▪ In collaboration with other government agencies (e.g. NSWMA) and NGOs, develop and implement public awareness activities with respect to issues such as:               <ul style="list-style-type: none"> <li>○ Solid waste management</li> <li>○ Water management (watersheds, wetlands, water quality)</li> </ul>               This will be linked to the NEEC public awareness campaign on burning being funded by the NRCA.             </li> </ul>	<ul style="list-style-type: none"> <li>▪ Level of public awareness about solid waste and water management issues increased.</li> </ul>
5300	<b>EESD in the Formal Education Sector</b>		
	<ul style="list-style-type: none"> <li>▪ Institutionalisation of EESD within MOEYC</li> </ul>	<ul style="list-style-type: none"> <li>▪ Develop framework for including EESD in MOEYC professional development programme</li> <li>▪ Incorporate EESD into existing MOEYC policies and guidelines</li> <li>▪ Revise job descriptions to include responsibilities for EESD within MOEYC, the proposed Regional Education Authorities (REAs), colleges and schools</li> <li>▪ Provide in-depth training for resource persons at MOEYC and any REAs that have been established, using some of the Holistic Governance courses at MIND as well as custom-designed courses</li> <li>▪ Document whole school model and identify elements for replication</li> </ul>	<ul style="list-style-type: none"> <li>▪ EESD institutionalised within MOEYC policies, programmes and guidelines.</li> <li>▪ Capacity of education officers and resource teachers built to promote EESD.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Institutionalisation of EESD in teachers' colleges</li> </ul>	<ul style="list-style-type: none"> <li>▪ Develop a policy for a "whole college approach" for EESD within JBTE</li> <li>▪ Document and Disseminate Whole College Model developed by the 2 pilot colleges in the previous ENACT phase. Expand activities into 3 more colleges.</li> <li>▪ Provide in-depth training for college resource persons using some of the Holistic Governance courses at MIND as well as custom-designed courses</li> <li>▪ Develop and disseminate environmental education for primary schools elective and train tutors to deliver course</li> <li>▪ Sensitise curriculum writers for infusion of EESD into any new JBTE curricula to be written</li> </ul>	<ul style="list-style-type: none"> <li>▪ EESD institutionalised within JBTE and college policies, programmes and curricula.</li> <li>▪ Capacity of persons within Boards of study built to incorporate EESD into all subjects</li> <li>▪ Capacity of resource persons within colleges to incorporate EESD into all aspects of college life.</li> <li>▪ Capacity built of tutors to deliver new EE course for Primary schools.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Support EESD in schools</li> </ul>	<ul style="list-style-type: none"> <li>▪ Produce resource materials for schools               <ul style="list-style-type: none"> <li>○ Finalise and disseminate Teachers and Principals handbooks, linking them with the Schools Environment Programme (SEP) Manual</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ EESD activities implemented in schools throughout Jamaica</li> <li>▪ Capacity of teachers and trainers</li> </ul>

WBS	Targets for 2005-2007	Planned Activity	Contribution to Expected Outputs
		<ul style="list-style-type: none"> <li>○ Other</li> <li>▪ Conduct “ENGOS in schools” workshops, in collaboration with MOEYC</li> <li>▪ Support teacher workshops for 350 schools within the Schools Environment Programme</li> </ul>	<ul style="list-style-type: none"> <li>enhanced to deliver EESD in schools</li> <li>▪ EESD resource materials disseminated</li> </ul>
6000	<p><b>Environmental Management in Private Sector</b>  <b><i>Strategic Focus:</i></b>  This workplan period will build on the previous phase, but make greater investments towards enabling the private sector to recognise the relationships among natural capital, eco-efficiency and profitability thereby facilitating and encouraging the sector to put in place the necessary systems to achieve long-term business/corporate sustainability and improve the competitive and comparative advantage of the Jamaican private sector.</p>		
6100	<p><b>Partnerships, Training and Documentation</b></p>		
	<ul style="list-style-type: none"> <li>▪ Support activities to be conducted by the Business Council for the Environment (BCE), the Jamaica Manufacturers’ Association (JMA), and the Jamaica Institute of Environmental Professionals (JIEP) such as SD Forums, energy conservation strategies; use of economic instruments and incentives and environmental information dissemination</li> </ul>	<ul style="list-style-type: none"> <li>▪ Support the implementation of energy management strategies articulated in paper “Improving the Competitiveness of Jamaica’s Manufacturing Sector through Energy Management”. This would include implementation of recommendations articulated in the paper such as the implementation of incentives for cleaner technology to be achieved through greater collaboration between the private and public sectors; as well as the development of an energy conservation plan for the manufacturing sector</li> <li>▪ Increase information dissemination/environmental communications to BCE, PSOJ, JMA members using information networks such as EnviroNet and mailing lists; print media and quarterly newsletters etc.</li> <li>▪ Support for the development of a corporate/environmental responsibility strategy to be adopted by private sector that sets clear guidelines for incorporating environmental issues into maintenance of green areas; advertising, sporting events, conferences and other sponsorship type events</li> <li>▪ 10 seminars conducted over the period in areas such as cleaner technologies for manufacturing; triple bottom line; corporate responsibility and environmental responsibility; The GOJ EMS Policy and implications for Private Sector; implications for profitability as a result of the degradation of natural capital; Relationships among ISO 14000, ISO 9000 and HACCP Standards etc; trade and ISO 14000 etc.</li> <li>▪ Support the JIEP Second National Conference on Environment</li> </ul>	<ul style="list-style-type: none"> <li>▪ Integrated environmental actions between private sector organisations and public sector on energy management strategies such as the introduction of incentives to the manufacturing sector for the adoption of cleaner technologies in production.</li> <li>▪ Developed and disseminated information related to EMS to the private sector</li> <li>▪ Increased corporate/environmental responsibility within the private sector</li> </ul>
6200	<p><b>Environmental Management</b></p>		
	<ul style="list-style-type: none"> <li>▪ Support implementation of Environmental Management Systems within the private sector</li> </ul>	<ul style="list-style-type: none"> <li>▪ Support development and implementation of EMS within 10 – 15 private sector organisations. (Small, medium and large-sized organisations will be co-opted to be part of this activity. Emphasis will, however, be placed on small and medium-sized organisations.) through provision of technical</li> </ul>	<ul style="list-style-type: none"> <li>▪ Environmental Management Systems (EMS) developed and implemented within lead agency focal points and selected private sector companies</li> </ul>

WBS	Targets for 2005-2007	Planned Activity	Contribution to Expected Outputs
		<p>support on the development of procedures as per ISO 14000, documentation and training, as well as the conduct of initial environmental reviews (IER). This activity will also build upon the momentum and investment of the EAST Project. Links will be made with this activity and work undertaken on the Environmental Stewardship of Government Operations project.</p> <ul style="list-style-type: none"> <li>▪ Study tour to Canada of those private sector companies committed to developing and implementing EMS (a group of about 15 – with the JMA contributing 25 – 35% of cost for the study tour)</li> <li>▪ Strengthen the capacity of NEPA in the promotion of EMS within the private sector</li> </ul>	contributing to sustainable development
7000	<p><b>Project Management</b>  <u>Strategic Focus:</u>  The emphasis will be on the institutionalisation of ENACT processes, services and products to maximise the long term sustainability of ENACT achievements.</p>		
	<ul style="list-style-type: none"> <li>▪ Clear programme strategic directions emphasising long term sustainability and institutionalisation of results</li> <li>▪ A well managed and administered programme; including good financial management</li> <li>▪ 8 quarterly progress reports with the report for the end of the fiscal year being converted to an annual report</li> <li>▪ Contribute to end of CIDA-NEPA contract report</li> <li>▪ A well documented programme emphasising long term sustainability and institutionalisation of achieved results</li> </ul>	<ul style="list-style-type: none"> <li>▪ Manage and administer the Programme; emphasising long-term sustainability and institutionalisation of results. Participate to steering and management committee meetings;</li> <li>▪ Production of progress reports and other management reports such as reports for the PSC members and end of CIDA-NEPA contract report;</li> <li>▪ Staff training for professional development</li> <li>▪ Supervise the implementation of the programme; including strategic direction and guidance, review of programme design and long term sustainability and participation to PSC meetings;</li> <li>▪ Conduct an output mapping exercise to document list of deliverables and achieved results</li> <li>▪ Conduct an impact assessment of programme outputs</li> <li>▪ Communicate/disseminate programme results through reports and through the support of conferences, seminars, etc.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Efficient and effective programme implementation</li> <li>▪ Sustainability of programme results maximised</li> <li>▪ Results of ENACT increasingly incorporate a gender equity perspective which contributes to sustainable development and empowerment</li> <li>▪ Efficient and effective programme implementation</li> <li>▪ Well documented programme outputs and their impacts</li> </ul>

#### ***Annex 4: Key Accomplishments of the ENACT Programme's first phase***

(From Work Plan 2005 – 2007, Environmental Action (ENACT) Programme CIDA Extension Project Document, Sept. 19, 2005)

##### **Greening of Government**

- 10 environmental training courses were designed for and targeted various levels of public sector officials including policy analysts, senior and middle management; technical and operational staff.
- Training materials were developed to accompany all training courses.
- Training was delivered to over 3,200 persons between 2001 and 2004, representing over 1,500 hours of teaching and learning over 250 days
- Over 19 Environmental Stewardship Action Plans by departments were developed and implemented. Departments included the Office of the Prime Minister, Jamaica Constabulary Force, Ministry of Finance and Planning; and Management Institute for National Development.
- GOJ Environmental Stewardship Policy and its 11 accompanying Environmental Stewardship Guidelines were developed. The policy and guidelines were written by over 45 officials in the public sector.
- Over 2000 persons in the public sector have been trained on how to use the Government of Jamaica Environmental Guide to Green Procurement.
- Environmental issues have been into public sector service contracts.
- The “Strategic Environmental Assessment Handbook” was developed; this is a 311-page manual developed to provide policy analysts and senior officials in the public sector with the information necessary to formulate environmentally sound policies, plans and programmes.
- Training was received by over 200 policy analysts of the GOJ in conducting SEA
- SEA has been used in the development of national policies dealing with: transportation; port and harbour development; and water
- The draft GOJ Strategic Environmental Assessment Policy was developed using participatory and consultative processes
- MIND has engaged in the incorporation of environmental issues in many of their existing curricula, such as its General Management Post Graduate Diploma; Public Sector Senior Management; Supplies Management; Supervisory Management and; Project Management.

##### **Strengthening NEPA**

- The regulatory process now includes more hands-on technical development and review of various environmental guidelines and regulations (e.g. air quality, waste management, bird-shooting enforcement and EIA approval process)
- An applications procedures manual and applications screening tool were developed.
- A manual was developed for the review of EIA as well as a generic set of terms of reference for the conducting of EIAs.
- The capacity of the legal division was built through training and procurement of legal resources
- The ability was enhanced to perform Regulatory Impact Analysis (RIA) to ensure better capacity in the development of future regulations. (The establishment of this RIA process is now internalized and will be followed to scope all future regulations by NEPA.)
- ENACT has also supported the enhancement of the technical, process management and participatory development skills of key staff within the organization, and through the acquisition and use of this new set of skills, will help to establish regulations that are recognized as legitimate by various sectors of government and society (e.g. line ministries concerned, private sector, NGOs, etc).
- The project has raised the competency of enforcement officers through training and through the development of NEPA's Compliance and Enforcement manuals, including A Pocket Guide to



Environmental and Planning Laws of Jamaica, and made these officers more effective through the procurement of a tool kit of field resources for officers.

- Symposia for the judiciary were held.
- A training strategy in enforcement and compliance of environmental and planning regulations was developed as well as training resource materials in five courses
- A training mechanism was set-up at MIND for enforcement officers to ensure the continuous updating of their skills.

#### **Local Sustainable Development Planning**

- Two participatory planning processes have been successfully established in Portland and KSA.
- An LSDP Framework, endorsed by the Minister of Land and Environment and the Minister of Local Government, Community Development and Sport, was published and over 3000 copies disseminated.
- Both NEPA and MLGCDS have adopted LSDP as part of their planning process and Local Government Reform respectively.
- SDC has incorporated LSDP in their vision and mission and trained staff are currently working in support of LSD.
- Discussions on macro SD Framework have begun to incorporate LSDP considerations.
- LSDP is central to practice and projects of local Parish Councils and Parish Development Committees in Manchester, Portland and Kingston and St. Andrew.
- Sensitization activities have promulgated sustainable development planning in St. Elizabeth, Hanover and other parishes across Jamaica.

#### **Environmental Education for Sustainable Development**

- The National Environmental Education Action Plan for Sustainable Development was developed by the National Environmental Education Committee. This plan, endorsed by the Ministers of Education and Culture and Environment and Housing, was officially launched in 1998 by the Governor General. It has been used extensively as an education planning tool throughout Jamaica and is a model internationally. 4,000 copies have been disseminated and it is frequently downloaded from the Internet.
- Lead Agency Focal Points were successfully established at MOEYC and UWI School of Education.
- EESD training was conducted, in collaboration with MOEYC, for more than 5,000 teachers in Grades 2, 3, 5 and 6 island-wide.
- EESD has been incorporated through Joint Board of Teacher Education in Teacher Education syllabuses for Physics, Chemistry, and Biology; 13 Early Childhood Education courses; and a new elective, Environmental Education for Secondary School Teachers.
- EESD has been incorporated into the Professional Development programme at Teachers' Colleges.
- EESD has been included in MOEYC procedures (e.g., School standards, School Development Planning) and the Ministry's Professional Development Programme (supporting Primary, ROSE and CXC curricula)
- EESD Resource materials for schools and communities have been produced. These include: Lifeline: Environmental Education Resource Kit to Promote Sustainable Development in Jamaica, An Environmental Steward's Handbook, Guidelines for Environmental Clubs, Enhancing Environmental Education in the Curriculum: A Workshop Session for Teachers in Jamaican Primary Schools, DRAFT: Handbook for Leadership Development in Environmental Education for Sustainable Development, DRAFT: Teaching and Learning Activities for Environmental Education for Sustainable Development
- The capacity of ENGOs has been enhanced in areas such as networking and relationship-building,

and EESD methodologies.

- There is a growing and diverse use of “Environment Logo.”

#### **Environmental Management in the Private Sector – Creating Sustainable Businesses**

- A waste exchange system specific to the Jamaican business domain was developed and is now being used by the National Solid Waste Management Authority as part of its delivery of the Solid Waste Management Strategy.
- Environmental Codes of Practice were developed and adopted by sectoral clusters such as the Sugar Industry, the Coffee Industry and the Motor Repairers Association, enhancing environmental performance by these industrial clusters through reductions in solid waste and discharges to soil, air and waterways; energy and water conservation and greater emphasis on the relationships between environmental degradation and human health.
- ENACT supported the development of two infrastructure support mechanisms, namely the Jamaica Institute of Environmental Professionals (JIEP) and the Business Council for the Environment (BCE), thereby enabling sustainable development and environmental issues to be placed at the forefront of the private sector agenda.

**Annex 5: Logical Framework**

Project Strategy	Objectively verifiable indicators			Sources of verification	Assumptions
	Indicator	Baseline value	Target value and date		
<b>Long-term goal:</b> To strengthen the review and approval processes of development projects in order to catalyze environmentally sound and sustainable development.					
<p><b>Project objective:</b> To develop, pilot, and institutionalize natural resource valuation tools, techniques, data and information within the framework of Environmental Impact Assessments (EIAs).</p>	<p><b>Outcome Indicators:</b></p> <ul style="list-style-type: none"> <li>▪ NEPA, NRCA Advisory Board, and Technical Review Committee (TRC) capacitated to interpret natural resource valuation</li> <li>▪ Increased selection of development alternatives that are environmentally friendly, sound, and sustainable.</li> <li>▪ The financial and economic values of ecosystem goods and services are determinant variables in the permitting and licensing process of development projects.</li> <li>▪ A cadre of local expertise developed to apply natural resource valuation skills within the framework of EIAs.</li> <li>▪ Actuarial data developed are readily available and accessible for use in future EIAs.</li> <li>▪ Capacity development monitoring scorecard rating</li> </ul>	<ul style="list-style-type: none"> <li>▪ EIAs are limited to the scientific assessment of possible environmental impacts that could arise from proposed development.</li> <li>▪ The recommendations and conditions included in EIA reports do not provide a financial or economic assessment of the opportunity costs saved by pursuing alternative options to development.</li> <li>▪ Government capacities to interpret economic and financial values associated with development are weak.</li> <li>▪ The capacities of NEPA are insufficient to implement EIAs for all development projects otherwise required. The ENACT Programme is implementing capacity development activities</li> <li>▪ <i>Ratings to be completed at projet inception phase</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ By the end of the project, natural resource valuation tools and techniques will have been demonstrated to at least 50 government representatives</li> <li>▪ By the end of the project, training will have been provided to at least 50 professionals expert in the performance of business plans, feasibility studies, and/or market analyses on the application of natural resource valuation tools and techniques</li> <li>▪ By the end of year 1, the ENACT Programme has committed to the piloting of an SEA that integrates the use of natural resource valuation tools.</li> <li>▪ <i>Targerts to be completed at projet inception phase</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ PSC Meeting Minutes.</li> <li>▪ Technical Review Committee and NRCA Advisory Board meeting minutes</li> <li>▪ UNDP Quarterly reports.</li> <li>▪ APRs and PIRs</li> <li>▪ Independent midterm and final evaluation reports.</li> <li>▪ Rio Convention national reports and communications</li> <li>▪ Newspaper articles</li> </ul>	<ul style="list-style-type: none"> <li>▪ There is a risk that the decision-makers will not adequately consider the estimated economic values of ecosystem goods and services.</li> <li>▪ The project will be executed in a holistic, adaptive, collaborative, integrative, and iterative manner.</li> <li>▪ The GoJ and UNDP-GEF continue to support this project strategy, in particular key agencies such as PIOJ, and key Ministers, such as the Minister of Land and Environment.</li> <li>▪ Long-term sustainability of project benefits assured by GoJ budgetary appropriations and not by extra-budgetary resources.</li> <li>▪ Relevant individuals within key government agencies actively participate in the training and sensitization workshops.</li> <li>▪ Recommendations for the institutionalization of best practices from the piloting of natural resource valuation tools and techniques are politically, technically and financially feasible.</li> </ul>

Project Strategy	Objectively verifiable indicators			Sources of verification	Assumptions
	Indicator	Baseline value	Target value and date		
<b>Output 1.1:</b> Natural resource valuation tools developed	<ul style="list-style-type: none"> <li>▪ A primer/sourcebook on tools and techniques for the use of natural resource valuation specific to the Jamaican context developed</li> <li>▪ Guidelines developed for the application of natural resource valuation tools and techniques within the EIA process</li> <li>▪ Development of actuarial products initiated</li> <li>▪ Independent expert analysis of natural resource valuation tools confirms their high scholarship</li> <li>▪ An implementation plan developed for undertaking natural resource valuation tools within the framework of EIAs</li> </ul>	<ul style="list-style-type: none"> <li>▪ The evaluation of development projects are skewed towards short-term socio-economic benefits</li> <li>▪ The cost-basis of environmental impacts are not assessed</li> <li>▪ Significant experience exists in the application of natural resource valuation tools and techniques in other countries</li> <li>▪ Actuarial data on ecosystem functions not available</li> </ul>	<ul style="list-style-type: none"> <li>▪ Within six months of project initiation, an assessment of current experiences and theories in the use of natural resource valuation tools and techniques conducted</li> <li>▪ By the beginning of year 2, an independent assessment of the natural resource valuation sourcebook conducted</li> <li>▪ By the end of the project, the natural resource valuation sourcebook updated to incorporate lessons learned from the pilot EIA project</li> <li>▪ By the end of year 1, actuarial products will be available for testing in pilot EIA project</li> <li>▪ By the end of year 1, new guidelines for EIAs developed that incorporate natural resource valuation, and updated periodically during project implementation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sourcebook prepared, with accompanying in-depth review of literature</li> <li>▪ Evaluation report</li> </ul>	<ul style="list-style-type: none"> <li>▪ The use of natural resource valuation does not represent too high a transaction cost in the EIA process, e.g., furthering delaying the review and approval timeline of EIAs or making EIAs prohibitively expensive</li> </ul>

Project Strategy	Objectively verifiable indicators			Sources of verification	Assumptions
	Indicator	Baseline value	Target value and date		
<p><b>Output 1.2:</b> Natural resource valuation tools piloted within the framework of an EIA</p>	<ul style="list-style-type: none"> <li>▪ Pilot EIA project proposal that integrates the use of natural resource valuation developed and approved</li> <li>▪ Independent evaluation of the pilot EIA project conducted</li> <li>▪ Lessons learned from pilot project are widely disseminated</li> <li>▪ Recommendations for the development SEA implementation guidelines provided</li> <li>▪ Actuarial products developed in Output 1.1 are tested in pilot EIA project.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Bauxite mining companies have already secured leases in the Cockpit Country. Bauxite mining will therefore proceed</li> <li>▪ EIA guidelines were updated in 2005</li> <li>▪ Bauxite mining companies are required by law to finance the undertaking of an EIA of proposed future operations in the Cockpit Country</li> <li>▪ No actuarial data on the economic value of Jamaican ecosystem goods and services</li> </ul>	<ul style="list-style-type: none"> <li>▪ By the end of year 1, the pilot EIA project proposal is developed</li> <li>▪ By the end of year 2, the pilot EIA has been implemented</li> <li>▪ By the end of year 2, actuarial products updated</li> </ul>	<ul style="list-style-type: none"> <li>▪ Independent evaluation of the EIA pilot project</li> <li>▪ Technical Review Committee and NRCA Advisory Board meeting minutes</li> <li>▪ Consultations with local stakeholders (Public review workshops)</li> </ul>	<ul style="list-style-type: none"> <li>▪ The bauxite mining companies will be ready to implement the pilot EIA no later than the end of the project's second year, and not before the natural resource valuation tools have been developed</li> <li>▪ No waiver to undertake an EIA in the Cockpit Country</li> </ul>

Project Strategy	Objectively verifiable indicators			Sources of verification	Assumptions
	Indicator	Baseline value	Target value and date		
<p><b>Output 2:</b> Capacities strengthened to use natural resource valuation within the framework of their review and approval processes</p>	<ul style="list-style-type: none"> <li>▪ Curriculum on natural resource valuation developed and incorporated as a course offering in MIND.</li> <li>▪ Natural resource valuation curriculum integrated into course offerings of other academic institutions of higher learning</li> <li>▪ NEPA staff and members of the NRCA Advisory Board and TRC responsible for reviewing proposed developments are trained on interpreting natural resource valuation data and information</li> <li>▪ NGOs involved in community-based development actively participated in sensitization workshops on valuation tools.</li> <li>▪ Media outlets publish regular accounts of the issues concerning developments, subjected to EIAs, with particular reference to the opportunity costs of natural resource and environmental degradation.</li> <li>▪ Lessons learned publication widely disseminated</li> </ul>	<ul style="list-style-type: none"> <li>▪ No training available on natural resource valuation</li> <li>▪ Local communities recognize and appreciate the socio-economic values of ecosystem good and services, but not in terms of replacement and opportunity costs</li> </ul>	<ul style="list-style-type: none"> <li>▪ By the end of year 1, MIND has a course offering on natural resource valuation</li> <li>▪ By the end of year 2, at least four training sessions conducted, and at least 10 people in each trained</li> <li>▪ By the end of the project, all NEPA staff and members of the NRCA Advisory Board and TRC responsible for reviewing EIAs trained on the interpretation of natural resource valuation information.</li> <li>▪ By the end of the project, at least 50 professionals trained in natural resource valuation tools and techniques,</li> <li>▪ By the end of the project, at least five professionals trained within accredited training institutions as trainers of natural resource valuation tools.</li> <li>▪ By the end of the project, at least 10 sensitization workshops on natural resource valuation</li> <li>▪ By the end of the project, lessons learned presented to at least one international (or regional) conference/workshop</li> </ul>	<ul style="list-style-type: none"> <li>▪ Course offerings publications</li> <li>▪ Monitoring and evaluation reports (e.g., APR/PIR, UNDP quarterly progress reports, independent evaluations)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Trainees are willing to learn natural resource valuation tools and techniques</li> <li>▪ Stakeholders remain committed to the use of natural resource valuation</li> <li>▪ Trained professionals remain available for future sub-contract opportunities</li> <li>▪ Low NEPA staff turnover</li> </ul>



**Annex 6: Capacity Development Monitoring Scorecard**

Project/Programme Name:

Project/Programme Cycle Phase:

Date:

Capacity Result / Indicator	Staged Indicators	Rating	Score	Comments	Next Steps	Contribution to which Outcome
<b>CR 1: Capacities for engagement</b>						
Indicator 1 – Degree of legitimacy/mandate of lead environmental organizations	Institutional responsibilities for environmental management are not clearly defined	0				
	Institutional responsibilities for environmental management are identified	1				
	Authority and legitimacy of all lead organizations responsible for environmental management are partially recognized by stakeholders	2				
	Authority and legitimacy of all lead organizations responsible for environmental management recognized by stakeholders	3				
Indicator 2 – Existence of operational co-management mechanisms	No co-management mechanisms are in place	0				
	Some co-management mechanisms are in place and operational	1				
	Some co-management mechanisms are formally established through agreements, MOUs, etc.	2				
	Comprehensive co-management mechanisms are formally established and are operational/functional	3				
Indicator 3 – Existence of cooperation with stakeholder groups	Identification of stakeholders and their participation/involvement in decision-making is poor	0				
	Stakeholders are identified but their participation in decision-making is limited	1				
	Stakeholders are identified and	2				



Capacity Result / Indicator	Staged Indicators	Rating	Score	Comments	Next Steps	Contribution to which Outcome
	regular consultations mechanisms are established					
	Stakeholders are identified and they actively contribute to established participative decision-making processes	3				
.... Add your own indicator(s)						
<b>CR 2: Capacities to generate, access and use information and knowledge</b>						
Indicator 4 – Degree of environmental awareness of stakeholders	Stakeholders are not aware about global environmental issues and their related possible solutions (MEAs)	0				
	Stakeholders are aware about global environmental issues but not about the possible solutions (MEAs)	1				
	Stakeholders are aware about global environmental issues and the possible solutions but do not know how to participate	2				
	Stakeholders are aware about global environmental issues and are actively participating in the implementation of related solutions	3				
Indicator 5 – Access and sharing of environmental information by stakeholders	The environmental information needs are not identified and the information management infrastructure is inadequate	0				
	The environmental information needs are identified but the information management infrastructure is inadequate	1				
	The environmental information is partially available and shared among stakeholders but is not covering all focal areas and/or the information management	2				

Capacity Result / Indicator	Staged Indicators	Rating	Score	Comments	Next Steps	Contribution to which Outcome
	infrastructure to manage and give information access to the public is limited					
	Comprehensive environmental information is available and shared through an adequate information management infrastructure	3				
Indicator 6 – Existence of environmental education programmes	No environmental education programmes are in place	0				
	Environmental education programmes are partially developed and partially delivered	1				
	Environmental education programmes are fully developed but partially delivered	2				
	Comprehensive environmental education programmes exist and are being delivered	3				
Indicator 7 – Extend of the linkage between environmental research/science and policy development	No linkage exist between environmental policy development and science/research strategies and programmes	0				
	Research needs for environmental policy development are identified but are not translated into relevant research strategies and programmes	1				
	Relevant research strategies and programmes for environmental policy development exist but the research information is not responding fully to the policy research needs	2				
	Relevant research results are available for environmental policy development	3				

Capacity Result / Indicator	Staged Indicators	Rating	Score	Comments	Next Steps	Contribution to which Outcome
Indicator 8 – Extend of inclusion/use of traditional knowledge in environmental decision-making	Traditional knowledge is ignored and not taken into account into relevant participative decision-making processes	0				
	Traditional knowledge is identified and recognized as important but is not collected and used in relevant participative decision-making processes	1				
	Traditional knowledge is collected but is not used systematically into relevant participative decision-making processes	2				
	Traditional knowledge is collected, used and shared for effective participative decision-making processes	3				
.... Add your own indicator(s)						
<b>CR 3: Capacities for strategy, policy and legislation development</b>						
Indicator 9 – Extend of the environmental planning and strategy development process	The environmental planning and strategy development process is not coordinated and does not produce adequate environmental plans and strategies	0				
	The environmental planning and strategy development process does produce adequate environmental plans and strategies but there are not implemented/used	1				
	Adequate environmental plans and strategies are produced but there are only partially implemented because of funding constraints and/or other problems	2				
	The environmental planning and strategy development process is	3				

Capacity Result / Indicator	Staged Indicators	Rating	Score	Comments	Next Steps	Contribution to which Outcome
	well coordinated by the lead environmental organizations and produces the required environmental plans and strategies; which are being implemented					
Indicator 10 – Existence of an adequate environmental policy and regulatory frameworks	The environmental policy and regulatory frameworks are insufficient; they do not provide an enabling environment	0				
	Some relevant environmental policies and laws exist but few are implemented and enforced	1				
	Adequate environmental policy and legislation frameworks exist but there are problems in implementing and enforcing them	2				
	Adequate policy and legislation frameworks are implemented and provide an adequate enabling environment; a compliance and enforcement mechanism is established and functions	3				
Indicator 11 – Adequacy of the environmental information available for decision-making	The availability of environmental information for decision-making is lacking	0				
	Some environmental information exists but it is not sufficient to support environmental decision-making processes	1				
	Relevant environmental information is made available to environmental decision-makers but the process to update this information is not functioning properly	2				
	Political and administrative decision-makers obtain and use updated environmental	3				

Capacity Result / Indicator	Staged Indicators	Rating	Score	Comments	Next Steps	Contribution to which Outcome
	information to make environmental decisions					
.... Add your own indicator(s)						
<b>CR 4: Capacities for management and implementation</b>						
Indicator 12 – Existence and mobilization of resources	The environmental organizations don't have adequate resources for their programmes and projects and the requirements have not been assessed	0				
	The resource requirements are known but are not being addressed	1				
	The funding sources for these resource requirements are partially identified and the resource requirements are partially addressed	2				
	Adequate resources are mobilized and available for the functioning of the lead environmental organizations	3				
Indicator 13 – Availability of required technical skills and technology transfer	The necessary required skills and technology are not available and the needs are not identified	0				
	The required skills and technologies needs are identified as well as their sources	1				
	The required skills and technologies are obtained but their access depend on foreign sources	2				
	The required skills and technologies are available and there is a national-based mechanism for updating the required skills and for upgrading the technologies	3				

Capacity Result / Indicator	Staged Indicators	Rating	Score	Comments	Next Steps	Contribution to which Outcome
.... Add your own indicator(s)						
<b>CR 5: Capacities to monitor and evaluate</b>						
Indicator 14 – Adequacy of the project/programme monitoring process	Irregular project monitoring is being done without an adequate monitoring framework detailing what and how to monitor the particular project or programme	0				
	An adequate resourced monitoring framework is in place but project monitoring is irregularly conducted	1				
	Regular participative monitoring of results in being conducted but this information is only partially used by the project/programme implementation team	2				
	Monitoring information is produced timely and accurately and is used by the implementation team to learn and possibly to change the course of action	3				
Indicator 15 – Adequacy of the project/programme monitoring and evaluation process	None or ineffective evaluations are being conducted without an adequate evaluation plan; including the necessary resources	0				
	An adequate evaluation plan is in place but evaluation activities are irregularly conducted	1				
	Evaluations are being conducted as per an adequate evaluation plan but the evaluation results are only partially used by the project/programme implementation team	2				
	Effective evaluations are conducted timely and accurately and are used by the	3				

Capacity Result / Indicator	Staged Indicators	Rating	Score	Comments	Next Steps	Contribution to which Outcome
	implementation team and the Agencies and GEF Staff to correct the course of action if needed and to learn for further planning activities					
<i>.... Add your own indicator(s)</i>						

**Annex 7: Output Budget – GEF Contribution and Co-financing**  
**3619 - Output Budget - GEF Contribution and Co-financing**

	Unit Cost	Year 1	Year 2	Year 3	GEF	Co-financing
<b><u>Output 1.1</u></b>	<b><u>170,000</u></b>					
<b>Natural Resource Valuation Sourcebook</b>	<b>25,000</b>					
Undertake an in-depth review of literature pertaining to natural resource valuation. Organize literature as a set of readily available and accessible references (hard copy within NEPA and Internet).	10,000	1			10,000	
Develop a Sourcebook of best practices for undertaking natural resource valuation within the Jamaican context.	15,000	1			15,000	
<b>Develop actuarial data on natural resource goods and services</b>	<b>40,000</b>					
Using actuarial skills, initiate the development of data and information to attach values and costs to natural resource commodities and functions. Data will be limited to the pilot project site.	18,000	1			18,000	10,000
Revise and update actuarial data. Data to be reviewed on a biennial basis by specialized expertise.	12,000			1	12,000	
<b>Undertake an independent assessment of the tools, techniques and data developed using internationally accepted standards.</b>	<b>15,000</b>					
Independent consultant evaluation (fee, international travel, DSA)	15,000		1		15,000	
<b>Integrating natural resource valuation within EIAs</b>	<b>90,000</b>					
Develop guidelines (implementation plan) for undertaking an integrated natural resource valuation/EIA.	10,000	1			10,000	5,000
Policy negotiations to integrate natural resource valuation within the EIA process, particularly the NRCA Board and private sector associations	25,000	1	1	1	75,000	
<b>Sub-Total</b>					<b>155,000</b>	<b>15,000</b>
<b><u>Output 1.2*</u></b>	<b><u>109,750</u></b>					
<b>Develop and implement pilot EIA project</b>	<b>25,000</b>					
Develop the pilot EIA/NRV implementation plan for the Cockpit Country.	10,000	1			10,000	
Implementation of the pilot EIA (to be committed when EIA is required).	50,000	1				[50,000]*
Pilot EIA project site visits (airfare; petrol; periodic overnight visits)	5,000	1	1	1	15,000	
<b>Institutionalizing lessons learned from pilot EIA project</b>	<b>84,750</b>					
Technical consultations with development and planning agencies to negotiate modifications to existing decision-making and approval processes.	28,250	1	1	1	84,750	
<b>Sub-Total</b>					<b>109,750</b>	<b>[50,000]*</b>



	Unit Cost	Year 1	Year 2	Year 3	GEF	Co-financing
<b><u>Output 2</u></b>	<b><u>157,500</u></b>					
<b>Training module on natural resource valuation.</b>	<b>55,000</b>					
Develop training module/curriculum	15,000	1			15,000	
Integrate training module among the offerings of MIND of at least three (3) accredited academic institutions of higher learning. (materials, administrative costs)	10,000	1			10,000	
Implement course offerings in MIND and other training institutions. (materials, tuition)	10,000		3		30,000	
<b>Provide training on the interpretation of natural resource valuation data and information (e.g., field trips, workshops, consultations)</b>	<b>36,000</b>					
Government staff involved in the EIA review and approval process (2 per year; \$2,000 venue and travel expenses)	2,000	2	2	2	12,000	
Environmental and community development NGOs (2 per year; \$2,000 venue and travel expenses)	2,000	2	2	2	12,000	
Jamaica Institute of Environmental Professionals (2 per year; \$2,000 venue and travel expenses; 4 funded by GEF and 2 funded by GoJ)	2,000	2	2	2	8,000	4,000
<b>Implement sensitization and public awareness workshops on the utility and importance of natural resource valuation</b>	<b>24,500</b>					
Workshops for decision-makers, in particular NEPA Board (\$500 venue expenses)**	500	3	2	2	500	3,000
Workshops for the local stakeholders of development projects (2 per year; \$2,500 venue expenses)	2,500	2	2	2	15,000	
Workshops for the private sector (2 per year; \$1,000 venue expenses)	1,000	2	2	2	6,000	
<b>Preparation of Lessons Learned Material</b>	<b>22,500</b>					
Preparation, publications and distribution of Lessons Learned Material	7,500	1	1	1	22,500	
<b>Independent Final Evaluation (fee, airfare, DSA)</b>	<b>19,500</b>				19,500	
<b>Sub-Total</b>					<b>150,500</b>	<b>7,000</b>
<b><u>Project Management</u></b>	<b><u>115,000</u></b>					
Project Assistant, \$15,000 per year	15,000	1	1	1	45,000	
NEPA provide office space and administrative overhead	20,000	1	1	1		60,000
Local transportation	10,000				10,000	
<b>Sub-Total</b>					<b>55,000</b>	<b>60,000</b>
<b>Total</b>					<b>470,250</b>	<b>82,000</b>
					<b><u>Project Total:</u></b>	<b><u>552,250</u></b>

\* Associated co-financing from the private sector to be committed when EIA is called for.

\*\* Three workshops will be convened in the first year, with the first workshop funded by GEF.

**Annex 8: Provisional Work Plan**  
**3619 - Provisional Work Plan\***

	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Project Initiation Workshop	X											
Project Steering Committee meeting	X		X		X		X		X		X	
In-depth review of literature on natural resource valuation		X										
Development of Sourcebook on best practices for NRV, and updating			X								X	
Initiate development of actuarial data, and updating			X		X		X		X		X	
Independent assessment of NRV Sourcebook				X								
Policy negotiations to integrate NRV within EIA process	X	X	X	X	X	X	X	X	X	X	X	X
Develop an implementation plan for undertaking integrated NRV/EIAs				X								
Develop pilot NRV/EIA project proposal for Cockpit Country			X		X							
**Implement pilot NRV/EIA							X	X				
Technical consultations to institutionalize NRV into government and private sector planning	X	X	X	X	X	X	X	X	X	X	X	X
Develop training module/curriculum on natural resource valuation			X									
Integrate NRV training module among course offerings of MIND				X								
Integrate NRV training module among course offerings of other accredited academic institutions of higher learning					X							
Training institutions implement course offerings on NRV/EIA							X				X	
Provide training on natural resource valuation (Government)				X			X				X	
Provide training on natural resource valuation (NGOs)				X			X				X	
Provide training on natural resource valuation (JIEP and business analysts)				X			X				X	
***Training on the interpretation of natural resource valuation data and information				X			X				X	
***Sensitization workshops		X	X	X	X	X	X	X	X	X	X	X
Mid-term Evaluation						X						
Final Evaluation												X
Preparation and dissemination of Lessons Learned (publications and Internet)				X				X				X

\* UNDP monitoring and evaluation meetings, e.g., Tripartite Review meetings are to be determined during implementation.

\*\*The timing of this will be negotiated early in the implementation of the project with the private sector.

\*\*\*Training and sensitization workshops are to be coordinated with those organized by the ENACT Programme.

**Annex 9: Total GEF Budget and Work Plan**

<b>Award ID:</b>	00057157
<b>Award Title:</b>	PIMS 3619 CB2/MFA/MSP: Jamaica – Piloting Natural Resource Valuation within Environmental Impact Assessments
<b>Business Unit:</b>	JAM10
<b>Project Title:</b>	PIMS 3619CB2/MFA/ MSP: Jamaica – Piloting Natural Resource Valuation within Environmental Impact Assessments
<b>Implementing Partner (Executing Agency)</b>	National Environment and Planning agency

<b>GEF Outcome/Atlas Activity</b>	<b>Responsible Party/ Implementing Agent</b>	<b>Fund ID</b>	<b>Donor Name</b>	<b>Atlas Budgetary Account Code</b>	<b>ATLAS Budget Description</b>	<b>Amount Year 1 (USD)</b>	<b>Amount Year 2 (USD)</b>	<b>Amount Year 3 (USD)</b>	<b>Total (USD)</b>
<b>Output 1.1 Development of Natural Resource Valuation tools</b>	<b>MLE</b>	<b>62000</b>	<b>GEF</b>	71200	International Consultant: Actuary	18,000			<b>18,000</b>
				71200	International Consultant: Economist	15,000			<b>15,000</b>
				71300*	Local Consultant: Economist	42,000	40,000	30000	<b>112,000</b>
				72100	Contractual Services: Publish Sourcebook	10,000			<b>10,000</b>
				71600	Travel				
					<b>Sub-total GEF</b>	<b>85,000</b>	<b>40,000</b>	<b>30,000</b>	
	<b>Total Output 1.1</b>				<b>155,000</b>				
<b>Output 1.2 Natural Resource Valuation Tools piloted in an EIA</b>	<b>MLE</b>	<b>62000</b>	<b>GEF</b>	71300	Local Consultant: EIA Expert		10,000		<b>10,000</b>
				71300	Local Consultant: Economist	28,250	28,250	28,250	<b>84,750</b>
				74500	Miscellaneous				
				71600	Travel: Pilot site visits and lodging	5,000	5,000	5,000	<b>15,000</b>
					<b>Sub-total GEF</b>	<b>33,250</b>	<b>43,250</b>	<b>33,250</b>	
	<b>Total Output 1.2</b>				<b>109,750</b>				

<b>Output 2 Training and Sensitization on Natural Resource Valuation</b>	<b>MLE</b>	<b>62000</b>	<b>GEF</b>	71200	International Consultant: Economist/Actuary			19,500	<b>19,500</b>
				71300	Local Lessons Learned Consultant	2,500	2,500	2,500	<b>7,500</b>
				71300	Local Consultant: Economist	10,000	5,000		<b>15,000</b>
				72100	Contractual Services: Publish NRV training material	10,000			<b>10,000</b>
				72100	Contractual Services: Training institutions implement course offerings		15,000	15,000	<b>30,000</b>
				72100	Contractual Services: NRV/EIA training workshops	12,000	10,000	10,000	<b>32,000</b>
				72100	Contractual Services: Sensitization and Public Awareness workshops	7,500	7,000	7,000	<b>21,500</b>
				72100	Contractual Services: Publish Lessons Learned material	5,000	5,000	5,000	<b>15,000</b>
					<b>Sub-total GEF</b>	<b>47,000</b>	<b>44,500</b>	<b>59,000</b>	
					<b>Total Output 2</b>				<b>150,500</b>
<b>Project Management</b>	<b>MLE</b>	<b>62000</b>	<b>GEF</b>	71300	Local Project Assistant	15,000	15,000	15,000	<b>45,000</b>
				71600	Local Transportation	3,334	3,333	3,333	<b>10,000</b>
					<b>Sub-total GEF</b>	<b>18,334</b>	<b>18,333</b>	<b>18,333</b>	
					<b>Total Project Management</b>				<b>55,000</b>
					<b>Total Project</b>	<b>183,584</b>	<b>146,083</b>	<b>140,583</b>	<b>470,250</b>
	<b>Percentage allocated per year</b>	<b>39</b>	<b>31</b>	<b>30</b>					

**Annex 10: The GEF Supplemental Nine-Point Review Criteria <sup>16</sup>**

**GEF project title:** Piloting Natural Resource Valuation within Environmental Impact Assessments

**PIMS no:** 3619

**GEFSEC ID no:**

**Date of GEFSEC technical clearance of Concept/PDF A/MSP:** PDF A approved by UNDP-GEF based on a no-objection notice from GEF Sec on 12 January, 2006

**1. Fit with Focal Area strategy:**

Jamaica’s 2003 National Biodiversity Strategy and Action Plan (NBSAP) identified land use planning and environmental impact assessments as critical to conserving biodiversity. Jamaica’s First National Communication to the UNFCCC (2000) indicated that policy-makers need a greater awareness and understanding of climate change issues, and that mitigation and adaptation strategies be mainstreamed in the broader national sustainable development plan. Jamaica’s draft National Action Plan (NAP) for the CCD (2002) made several general comments, including strengthening the understanding of the relevant authorities and agencies of the importance of the Convention at the national level. This project will strengthen the development and implementation of environmentally sound land use policies, contributing to improved biodiversity conservation, reduced land degradation, and selection of better mitigation and adaptation strategies. This project uses adaptive collaborative management as an approach that engages stakeholders as collaborators in the design and implementation of project activities that take into account unintended consequences arising from policy interventions. **(Refer to C.1. Programme Designation and Conformity, Table 2)**

This project will contribute to the implementation of Pathway III – Targeted Cross-cutting Capacity Building - of the GEF Strategic Approach to Enhancing Capacity Building and responds to GEF strategic priorities with regard to stand alone cross-cutting capacity building – CB-2. It will also contribute the implementation of integrated and synergetic approaches to GEF focal areas by providing capacity building support that is needed across the targeted Conventions, hence generating multiple global environmental benefits across the GEF focal areas.

**2. Financing:** include all the proposed activities in the project and their associated budget to undertake these activities.

**Estimated / Actual Project Cost**

Project Components		Co-financing (\$)	GEF (\$)	Total (\$)
Outcomes	Outputs			
1. Developing natural resource evaluation tools and	1.1 Development of natural resource valuation tools	0	155,000	<b>155,000</b>

<sup>16</sup> The objective of this Annex is to supplement and strengthen the existing GEFSEC *Review Criteria for GEF Full-Sized Projects* but with renewed emphasis required by the GEF Secretariat in complying with the criteria.

estimating the opportunity costs of healthy ecosystems	1.2 Piloting EIA using natural resource valuation	15,000	109,750	<b>124,750</b>
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Project Components (continued)		Co-financing (\$)	GEF (\$)	Total (\$)
Outcomes	Outputs			
2. Better decisions made to select environmentally sound and sustainable development alternatives	2. Training on the use and interpretation of natural resource valuation	7,000	150,500	157,500
	3. Project management budget/cost*	60,000	55,000	115,000
	<b>Total project costs</b>	<b>82,000</b>	<b>470,250</b>	<b>552,250</b>

\* This item is the aggregate cost of project management; breakdown of the aggregate amount should be presented in the table in 4) below:

**3. Co-financing:** The usual co-financing table with all the sources of co-financing, types, classifications, etc. In addition, the level of co-financing amount that is certain at concept stage, and the amount that is uncertain and that will be confirmed at work program inclusion, needs to be clearly presented.

#### ESTIMATED / ACTUAL PROJECT COFINANCING

Name of Co-financier (source)	Classification	Type	Amount	
			Confirmed (\$)	Unconfirmed (\$)
NEPA	Government of Jamaica	In-kind	82,000	
Bauxite Mining Companies, through JBI	Private Sector	To be committed when EIA is called for	50,000	
UNDP	Multilateral	In cash		18,000*
<b>Total Co-financing</b>			<b>132,000</b>	<b>18,000*</b>

\* These are UNDP TRAC funds that may be committed to the project once it is approved and the allocation for such funds is made to the Country Office in 2007.

**4. Project Management Budget:** Indicate the project management costs associated with the project, including international and local consultants that will be hired to manage the project and the estimated budget for each of the items. An attachment outlining the roles and functions of the consultants and their position/titles should be included.

#### a) Estimated Project Management Budget/cost (estimated cost for the entire project)

Component	Estimated Staff weeks	GEF(\$)	Other Sources (\$)	Project Total (\$)
Locally recruited personnel*	120	45,000		45,000
Internationally recruited consultants*				
Office facilities and communications			60,000	60,000
Travel		10,000		10,000
<b>Total project management cost</b>		<b>55,000</b>	<b>60,000</b>	<b>115,000</b>

\* Local and international consultants in this table are those who are hired for functions related to the management of project. See section 5 for technical assistance consultants.

No UNDP Implementing Agency Services are being charged to the Project Budget. All such costs are being charged to the IA fee. The Government of Jamaica may request UNDP to provide a few execution services (including procurement and recruitment) under the National Execution Arrangements, and these will be charged to the Project Budget. Details of such charges can be provided after finalization and appraisal of the MSPs and FSPs through negotiations with the Government on such services.

**5. Technical Assistance Consultant Budget:** This details those consultants who are hired to undertake special task in the project, the funding of which is under the technical assistance components. These consultants are different from those who are hired to manage or coordinate project implementation.

**B) CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS** (estimated for entire project)

<b>Component</b>	<b>Estimated Staff weeks</b>	<b>GEF (\$)</b>	<b>Other Sources (\$)</b>	<b>Project Total (\$)</b>
Local Economic Expert undertakes in-depth review of natural resource valuation	16	10,000		10,000
Local Economic Expert develops Sourcebook of best practices for undertaking natural resource valuation	8	5,000		5,000
International Actuary Expert develops actuarial data that attaches values to natural resource commodities and functions with specific references to pilot project site (fee, travel, DSA)	8	18,000	10,000	28,000
Local Economic Expert regularly updates actuarial data	20	12,000		12,000
International Economic Expert conducts independent assessment of natural resource valuation tools and techniques developed under the project (fee, travel, DSA)	3	15,000		15,000
Local Economic Expert develops an implementation plan for integrating natural resource valuation into EIA process	24	10,000	5,000	15,000
Local Economic Expert undertakes policy negotiations to integrate natural resource valuation within EIA process	120	75,000		75,000
Local EIA Expert prepares Cockpit Country NRV/EIA project proposal	10	10,000		10,000
Local Economic Expert undertakes technical consultations to facilitate institutionalizing NRV calculations into planning processes (including providing training)	136	84,750		84,750
Local Economic Expert develops natural resource valuation training curriculum	8	5,000		5,000
Local Economic Expert negotiates the integration of NRV training module into course offerings of academic and training institutions (including providing training)	16	10,000		10,000
Local consultant prepares Lessons Learned material	12	7,500		7,500



International Economic/Actuary Expert undertakes Independent Final MSP Evaluation (fee, airfare, DSA)	4	19,500		19,500
<b>Total</b>		<b>281,750</b>	<b>15,000</b>	<b>296,750</b>

### C) Estimated budget for contractual services to be met by the project

<b>Contractual Services</b>				
Publish Sourcebook, Internet and hardcopy		10,000		10,000
Publish NRV Training material		10,000		10,000
Training institutions implement course offerings on integrated NRV/EIAs		30,000		30,000
Training workshops on interpreting and using NRV		32,000	4,000	36,000
Sensitization and public awareness workshops on the importance of NRV		21,500	3,000	24,500
Publish Lessons Learned Material		15,000		15,000
Contractual services for travel and stay during site visits to Cockpit Country for the piloting of the NRV/EIA		15,000		15,000
<b>Total</b>		<b>133,500</b>	<b>7,000</b>	<b>140,500</b>

### 6. Estimated Timeframe:

	Starting Date	Completion Date
Preparation	March 7, 2006	April 24, 2006
Implementation	July 2007	August 2010

7. **Impact:** Jamaica's ecosystems provide invaluable services, such as conserving endangered endemic species with a potential value to the pharmaceutical industry and protecting the ecological integrity of landscapes to reduce the risks of drought or landslides. Ecosystem functions can also help reduce the impacts of natural disasters, such as increased frequency and intensity of hurricanes. Forested ground cover allows for greater water absorption and retention, reducing the risk of flash floods associated with the heavy rains of hurricanes. These functions are currently not accounted for in Jamaica's development context. By attaching financial and economic value to ecosystem functions, Environmental Impact Assessments (EIAs) would allow for a more accurate representation of the costs associated with development. Thus, the decision-making process becomes a more holistic enterprise, one that better enables environmentally sound and sustainable development.

The project will 1) provide NEPA, NRCA Advisory Board, and Technical Review Committee (TRC) the capacity to interpret natural resource valuation; 2) increase the selection of development alternatives that are environmentally friendly, sound, and sustainable; 3) ensure the financial and economic values of ecosystem goods and services are determinant variables in the permitting and licensing process of development projects; 4) develop a cadre of local expertise to apply natural resource valuation skills within the framework of EIAs; and 5) ensure actuarial

data developed are readily available and accessible for use in future EIAs. **(Refer to Annex 5 – Logical Framework)**

The key impact will be therefore be the development and institutionalization of natural resource valuation tools, techniques, data and information within the framework of EIAs in Jamaica. This will in ensure the consequences of development policies, programmes and plans will be better evaluated so as to promote biodiversity conservation; minimize the risks associated with land degradation; encourage climate change mitigation and adaptation strategies; and promote environmentally sound and sustainable development.

**8. Risk:**

Risk	Risk scale assessment	Mitigation strategy
Natural resource valuation is a very specialized skill, situated within a highly technical field. It requires highly trained expertise in order to sediment these skills within those institutions where the existing skill set is not necessarily of the appropriate kind or level. Hence, there is a risk that those individuals responsible for EIAs may not be easily trainable in the full appreciation and interpretation of the tools, techniques and actuarial data.	Low	The project will secure specialized expertise to review, develop and implement natural resource valuation tools, producing relevant and valid data in a form usable by decision-makers reviewing EIAs and development projects. These will also be used to develop training modules to be offered to experts with necessary prerequisite training which would eventually further developed/refined and integrated among course offerings in at least three accredited academic institutions of higher learning in order to produce a national skill set.
There is a risk that the remaining transaction costs could be significant if project proponents and decision-makers see the use of these tools as additional burden of the review and approval process. Also if not institutionally supported through government investments then there is a risk that systems established under the project will break down upon termination	Low-medium	This is being address by the requirement to convene regular Project Steering Committees the members of which are senior level representatives of key agencies who are able to champion the positive outcomes of the project and lead institutional reforms within their respective agencies.

**(Refer to C.3.b Sustainability and Risks)**

**9. Innovation:** Jamaica has not carried out an economic valuation of terrestrial natural resources before. In the past a study was carried out on the valuation of the marine biological resources used for tourism in the Marine Park in Montego Bay, however, there are no biota in

Montego Bay that are endemic to Jamaica. Cockpit Country has endemic species of flora and fauna, which if extirpated by mining will become extinct. This will be the first study in Jamaica of the economic value of endemic biological resources that would be in danger of extinction if development is carried out unwisely.

## ***Annex 11: Terms of References***

### **A. Background**

Jamaica completed their National Capacity Self Assessment (NCSA) in September 2005, which served as a comprehensive examination of the country's capacity to implement the Conventions within a national institutional framework, as well as to identify the need and benefits of undertaking a coordinated and cross-sectional approach to natural resource and environmental management. The NCSA identified the issue of governance as a key area to be addressed in strengthening the institutional framework for the effective implementation of the three Rio Conventions (CBD, CCD, and FCCC). Consequently the NCSA Action Plan recommended the development of a project proposal for "Strengthening and Developing of Environmental Management Tools for Effective Governance and to Address Institutional Strengthening in Jamaica in Response to Priority Areas of Action in the NCSA".

### **B. Project Goal and Objectives**

The goal of this project is to strengthen the review and approval processes of policies, programmes, plans and development projects in order to promote environmentally sound and sustainable development that meets national socio-economic priorities while at the same time helps satisfy Jamaica's obligations to the Convention on Biological Diversity (CBD), Convention to Combat Desertification and Drought (CCD), and Framework Convention on Climate Change (FCCC), among other multilateral environmental agreements (MEAs).

The immediate objective of this project is to develop a set of natural resource valuation tools, and incorporate these into the policies and procedures governing the preparation and use of Environmental Impact Assessments (EIA). The project will demonstrate the use of these techniques to improve the decision-making process concerning economic development projects that may potentially affect the environment. The project will employ a strategy of targeted capacity development activities to develop a set of natural resource valuation tools that are particular to the Jamaican context, and provide training on the use of these tools<sup>17</sup>.

This project will contribute to the implementation of Pathway III – Targeted Cross-cutting Capacity Building - of the GEF Strategic Approach to Enhancing Capacity Building and responds to GEF strategic priorities with regard to stand alone cross-cutting capacity building – CB-2. It will also contribute the implementation of integrated and synergetic approaches to GEF focal areas by providing capacity building support that is needed across the targeted Conventions, hence generating multiple global environmental benefits across the GEF focal areas.

### **C. Project Outcomes**

At the end of the project, the Government of Jamaica will be better enabled to make more informed decisions by placing greater value to ecosystem functions within the framework of

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<sup>17</sup> This project was identified as a priority in the NCSA Final Report, p. 56.

environmental impact assessments of development projects. Specifically, the environmental impacts of all major development projects would be assessed in terms of their financial and economic values, which would be used to make more informed decisions and choices about future development.

#### **D. Technical Assistance Assignments and Functions**

The project will contract local and international expertise to provide a number of services outlined in the project work plan. These include: Economic Expert (local and international); International Actuary Expert; Local EIA Expert; and Local Lessons Learned Consultant.

##### **D1. Lead Local Economic Expert**

The lead Local Economic Expert will work under the overall guidance of the UNDP's Focal Point on Energy and Environment and the Project Coordinator, as appointed by the Government. He/she will work closely with the UNDP Country Office, UNDP's Community Programme, GEF Political and Operational Focal Point, and the National Focal Points for the UNCBD, UNFCCC, UNCCD. The technical services to be provided by the LEE are to:

- Undertake policy negotiations to integrate natural resource valuation into the EIA process (120 weeks);
- Develop an implementation plan for integrating natural resource valuation into the EIA process (24 weeks);

In addition to these technical services, the LEE will also perform a number of project management responsibilities, including

- Oversee daily project management of the project;
- Participate in the identification and selection of technical assistance consultants and contractual services;
- Support and oversee the work of other technical assistance consultants, local and international, as well as the national Project Assistant;
- Prepare detailed regular progress reports per UNDP requirements;
- Ensure that the reports submitted by the national consultants are of the best quality and in accordance with the terms of reference. Make sure that these reports are sent to the ITA within the indicated deadlines;
- Facilitate the brainstorming and cooperation within and among the project's working groups, the various project consultants and stakeholders in order to achieve a holistic approach;
- Supervise organization of the project's workshops and meetings;
- Supervise the implementation of the pilot NRV/EIA that will be implemented within the project;
- Maintain regular contact with the UNDP Country Office, UNDP's Communities Programme, GEF Political and Operational Focal Point, and the National Focal Points for Rio Conventions on the project's implementation;

- Ensure adequate information flow, discussions and feedback among the various stakeholders;
- Conduct consultations with project stakeholders at the national, regional, and local level, including but not limited to stakeholders surveys and workshops;
- Conduct the regular Project Steering Committee meetings;
- Ensure appropriate stakeholder participation in the projects' activities;
- Do other tasks as required for the successful implementation of the project

## **Qualifications**

- Post-graduate degree in economics and natural resource management
- Certification in actuarial science highly desirable
- At least five years experience in natural resource project management
- Experience in undertaking evaluations of projects greater than \$500,000.
- Extensive knowledge of Jamaica's laws and administrative regulation, programmes and policies concerning the government's management of natural resources.
- Excellent working experience with the national institutions involved in natural resource management and private sector
- Excellent understanding of the current and potential roles and partnerships between government and the private sector in the field of environmental protection
- Strong experience in working with the civil society and with participatory and collaborative approaches
- Ability to be flexible, respectful, and effective while working with others from diverse backgrounds
- Familiarity with GEF will be a significant asset
- Experience with Microsoft Office, including Word, Excel, and PowerPoint
- Excellent organizational and analytical skills
- Excellent oral and written communication skills

## **D2. Local Economic Expert(s)**

The Local Economic Expert(s) will be responsible for providing much of the technical services under the project, one of whom will also be responsible for associated management tasks. The Local Economic Expert(s) will undertake the following activities and produce associated outputs and services (e.g., reports, consultations, training):

- Undertake an in-depth review of natural resource valuation (16 weeks);
- Develop a Sourcebook of best practices for undertaking natural resource valuation (8 weeks);
- Regularly updates actuarial data prepared by international actuarial consultant (20 weeks);
- Undertake technical consultations to facilitate the institutionalization of natural resource valuation into the planning processes, including providing training on the use of natural resource valuation tools (136 weeks);
- Develop natural resource valuation training curriculum (8 weeks); and

- Negotiates the integration of natural resource valuation training module into course offerings of academic and training institutions (16 weeks).

### **Qualifications**

- Post-graduate degree in economics
- Certification in actuarial science highly desirable
- At least five years experience in the private sector working on natural resource valuation
- Experience in undertaking evaluations of projects greater than \$500,000.
- Extensive knowledge of Jamaica's laws and administrative regulation, programmes and policies concerning the government's management of natural resources.
- Excellent understanding of the current and potential roles and partnerships between government and the private sector in the field of environmental protection
- Ability to be flexible, respectful, and effective while working with others from diverse backgrounds
- Experience with Microsoft Office, including Word, Excel, and PowerPoint
- Excellent organizational and analytical skills
- Excellent oral and written communication skills

### **D3. International Actuary/Economic Expert - A:**

The International Actuary/Economic Expert will provide limited services to the project, rationalized to preserve the independent verification of actuarial data and natural resource valuation tools and techniques. The expertise to develop actuarial data is also highly specialized, the result of which the project most likely will need to source an international expert to collect and create actuarial data on natural resource commodities. Thus, the expert(s) will:

- Develop actuarial data that attaches values to natural resource commodities and functions, with specific reference to the pilot project site in the Cockpit Country (8 weeks);
- Conduct an independent assessment of the natural resource valuation tools and techniques developed within the framework of the Sourcebook (3 weeks); and

### **Qualifications**

- Post-graduate degree in economics, with certification in actuarial science
- At least five years experience in the private sector (insurance industry preferably) working on the preparation of actuarial data on natural resource valuation
- Ability to be flexible, respectful, and effective while working with others from diverse backgrounds
- Experience with Microsoft Office, including Word, Excel, and PowerPoint
- Excellent organizational and analytical skills
- Excellent oral and written communication skills

#### **D4. International Actuary/Economic Expert - B:**

The other project assignment limited to an International Actuary/Economic Expert is for the independent evaluation of the MSP (4 weeks). This evaluation will be conducted in the three months prior the anticipation completion of the project, and will:

- Assess the achievement of the project's objectives and delivery of outputs, taking into account the changing conditions during project execution
- Analyze project performance in meeting project objectives, and examine the immediate project results against anticipated project outcomes
- Assess the likelihood of the project in achieving its intended impacts, with particular attention to the sustainability of project outcomes and taking into account the institutionalization of project outputs and strategies
- Make any and all recommendations deemed necessary for the successful achievement of project objectives and project closure

The independent final evaluation will be conducted in a fully participatory manner, working on the basis that the primary purpose of the evaluation is to assess project implementation and likely impact. All relevant stakeholders must fully understand the purpose of the evaluation, even if they might disagree with its contents.

The evaluation will begin with a review of project documentation, including key reports and correspondence. Interviews (in person and by telephone, as necessary) will include individuals directly associated with the project, such as those responsible for some role in carrying out project activities, as well as with a cross-section of interested stakeholders indirectly impacted by the project. Field visits to meet with local community stakeholders in the Cockpit Country will also be required.

**Output:** At the time of the evaluation, the consultant will be provided with the general format of the final evaluation, which will generally include, but not limited to, sections that discuss: a) project design and relevance; b) implementation effectiveness; c) impacts and outcomes; d) institutional sustainability (including financial sustainability; and e) stakeholders consulted.

#### **Qualifications**

- Post-graduate degree in Economics
- Ten years or more experience with the accounting, financial management and auditing of environmental programmes
- Experience with the administration of EIAs by governmental agencies and the private sector
- Experience with researching government statutes, legislation, regulation, and directives that govern development policy and planning decisions
- Knowledge of Jamaica's institutional framework governing economic development and environmental management desirable
- Ability to be flexible, respectful, and effective while working with others from diverse



backgrounds

- Experience with Microsoft Office, including Word, Excel, and PowerPoint
- Excellent organizational and analytical skills
- Excellent oral and written communication skills

#### **D5. Local EIA Expert**

The local EIA Expert will be responsible for the preparation of the pilot project for testing the application of natural resource valuation within the construct of an EIA for the Cockpit Country (10 weeks).

The role of this EIA expert is not to prepare the EIA, but to initiate the development of the pilot project that encompasses the preparation of the EIA when called for in the Cockpit Country. Supporting the Lead Economic Expert, the local EIA Expert will help identify EIA experts that are to be contracted and financed separately by associated financing through the Jamaica Bauxite Industry and partner private sector organizations. This latter EIA will be prepared by a team of environmental and economic specialists from various disciplines, including at least one qualified environmental engineer, biologist, economist, social scientist, and physical scientist. This EIA team will be directed by an EIA Team Leader who has a good understanding of the administrative, procedural, and technical requirements of the Jamaica's EIA process and the additional guidelines and tools for the incorporation of natural resource valuation tools and techniques. The team will also be experienced with the type of development and its associated environmental impacts, i.e., bauxite mining.

#### **Qualifications**

- Post-graduate training in economics, natural resource management, or environmental/civil engineering
- Extensive EIA project management experience
- Experience on EIA projects of similar magnitude
- At least ten years prior EIA expert experience
- Project management experience (more than ten projects greater than US\$ 50,000)
- Familiarity and experience in the local area (Cockpit Country) highly desirable
- Excellent organizational and analytical skills
- History of completing projects on time and within budget
- Excellent written and oral communication skills
- Experience with Microsoft Office, including Word, Excel, and PowerPoint

#### **D6. Local Lessons Learned Consultant**

A Local Consultant will work with project experts to prepare lessons learned material. The consultant will accurately distill and summarize technical and bureaucratic information on achievements, challenges, and failures experienced by the project during the course of implementation. The presentation of these lessons learned must be in a format that is appropriate

for multiple target audiences, primarily the private sector and government agencies that have central roles in the preparation and interpretation of natural resource valuation and EIAs. Material should also be designed in such a way that the general public has a greater appreciation of the importance of natural resource valuation and EIAs. This assignment is for an estimated 12 weeks over the three years of the project.

### **Qualifications**

- College degree in journalism or environmental science
- Excellent writing proficiency
- Five years or more experience as a writer for the popular press
- Competency in the technical jargon associated with public administration and natural resource management highly desirable
- Proficiency in the use of latest publishing and graphics software
- Ability to work under pressure and short deadlines

### **D7. National Project Assistant**

The national Project Assistant (PA) will be recruited to support the daily work of the lead Local Economic Expert (LEE), and through him/her, to support the work of the other experts contracted under the project. The PA will be responsible for administrative and financial issues with the general support from UNDP Programme and Operations. The project assistant will:

- Assume overall responsibility for the reporting of funds and the related record keeping; prepare and submit to UNDP regular financial reports.
- Manage the project finance by monitoring the expenditures and resource allocation, commitments and balance of funds under the projects budget lines, and draft projects budget revisions with the help of the UNDP Focal Point for Energy and Environment;
- Assist LEE in the identification and selection of project personnel and consultants; ensure that it is done in accordance with UNDP's rules and regulations;
- Make sure that all procurement necessary within the framework of the project is made on time and in accordance with UNDP's rules and regulations;
- Assist LEE in preparation of monthly project work plans;
- Assist LEE in preparation of project progress reports;
- Assume overall responsibility for the proper handling of logistics related to all project workshops and events;
- Perform other duties as required for the successful implementation of the project

### **Qualifications**

- Degree in the field of management, environmental science or other related fields;
- Familiarity with accounting and management of the budgets;
- High proficiency of English
- Good communication and presentation skills;

- Good computer skills, especially with MS Word and Excel.

## **E. Contractual Services**

Contractual services will be required for a number of services. At least three such business enterprises will be requested to tender a competitive bid for contracting these services. UNDP, in consultation with government counterparts, and in keeping with UNDP rules and regulations, will select the winning bid. Contractual services include:

### 1. Publish Sourcebook, Internet and hardcopy

This Sourcebook will be made available through NEPA's Website, and any other website as deemed useful in reaching as wide an audience as possible. The primary mode of availability, however, will be in hard copy form, and widely circulated to all government agencies that have a role in development policy and planning decisions, as well as to private sector associations and non-government organizations with similar stakes and interests.

### 2. Publish NRV Training material

The training material for natural resource valuation will be printed and used to provide training to government and private sector representatives on the interpretation and use of natural resource valuation tools and techniques.

### 3. Training institutions implement course offerings on integrated NRV/EIAs

Training institutions, such as the Management Institute for National Development (MIND), will be contracted to provide training beyond those stakeholder individuals specifically identified under the project. The rationale of this consultancy is to initiate the institutionalization of capacity development on the use of natural resource valuation tools and techniques.

### 4. Training workshops on interpreting and using NRV

Eighteen training workshops will be carried over the course of the project, six each year, to train government staff (two per year) and other planners in the private sector (two per year) and non-governmental organizations (two per year) on how to interpret natural resource valuation (actuarial) data. These workshops should include a local site visit (not necessarily the Cockpit Country).

### 5. Sensitization and public awareness workshops on the importance of NRV

Nineteen sensitization and public awareness workshops/dialogues will be held over the course of the project on the importance of integrating natural resource valuation as part of the EIA process, as well as the economic and social benefits that are likely to accrue as a result of their use. Seven such workshops are planned for government staff, and six each for private sector planners and non-governmental organizations and civil society.

#### 6. Publish Lessons Learned Material

The material prepared by the Lessons Learned Consultant will be published in sufficiently large quantities and widely distributed to publicize the value of natural resource valuation and the other work of the project. Particular attention will be given to ensuring the published material reaches rural communities that have been or are at risk from planned development activities.

#### 7. Contractual services for travel and stay during site visits to Cockpit Country for the piloting of the NRV/EIA

The management of the pilot NRV/EIA will be contracted to a team of specialists to prepare the pilot NRV/EIA reports. This team will be supported by contracted services that will be responsible for making all necessary logistic and administrative arrangements pertaining to the smooth implementation of the pilot project. See D5, Local EIA Expert above, which outlines the role and work of the EIA Team.

### **F. Work Schedule**

The assignments are to be implemented according to the work plan and timeframes specified in the project document. An assignment may not be able to begin at its scheduled time if unforeseen consequences prevent the completion of prerequisite assignments. For example, the evaluation of the Sourcebook can not take place until after the Sourcebook has been prepared. Likewise, training on the use and interpretation of natural resource valuation tools and techniques should not begin until a training module has been prepared. Some training can take place on the basis of a provisional training module that would be revised and improved, and finalized prior to the training to be provided as course offerings in institutions such as MIND. The preparation of the final lessons learned report will also be best scheduled upon completion of the independent final evaluation. The scheduling of project tasks will be the subject of on-going review by the Local Economic Experts responsible for policy and technical consultations with government on the integration of project activities within the broader framework of development policy and planning decisions, in association and consultation with the UNDP Energy and Environment Focal Point and the National Project Director. Members of the Project Steering Committee will be kept apprised regularly of project implementation and the scheduling of tasks, and will be called upon to facilitate and catalyze timely scheduling of future project activities. The overriding principle governing the implementation of the project should be adaptive collaborative management, which serves to allow project implementation to be flexible to take into account unforeseen consequences while staying true to overall project goal and objectives, and for management decisions to be based on the highest possible level of collaboration from representative stakeholders.

### **G. Remuneration and other conditions**

Contracts will be issued by UNDP, with remuneration paid according to an agreed schedule. Travel expenses connected to the completion of assignment tasks, if necessary, will be reimbursed separately according to UNDP rates.

## ***Annex 12. References***

- Building Capacity to Review and Evaluate Environmental Impact Assessments, 1999. Cabinet Office Report, 2004.
- Capacity Development Plan National Environment and Planning Agency's (NEPA), 1998.
- Cockpit Country Parks-in-Peril-Project Water Valuation Study Update, 2005. The Nature Conservancy
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- Government of Jamaica Policy on Strategic Environmental Assessment (Draft), 2003. ENACT.
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- Jamaica's draft National Action Plan (NAP) to the CCD (2002)
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- National Capacity Self-Assessment Report, 2005. The National Capacity Self-Assessment Project – Jamaica.
- National Capacity Self-Assessment Resource Kit 2005. Global Support Programme GEF/UNDP/UNEP
- National Forest Management and Conservation Plan, 2001. Forestry Department.
- National Strategy and Action Plan on Biological Diversity in Jamaica, 2003. NEPA/Ministry of Land and Environment.
- Policy and Legal Crosscutting Report, 2005. The National Capacity Self-Assessment Project – Jamaica.
- Proposed Elements for Strategic Collaboration and a Framework for GEF Action on Capacity Building for the Global Environment, 2001. GEF
- Report on Cockpit Country Parks-in-Peril Project, 2003. Kimberley John, The Nature Conservancy.
- Review and Analysis of the EIA Process in Jamaica, 2000.
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Strategic Approach to Enhance Capacity Building, 2003. GEF.

Thematic Assessment United Nations Convention on Biological Diversity and the Cartagena Protocol on Biosafety, 2005. The National Capacity Self-Assessment Project – Jamaica.

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Watershed Management Study on the Buff Bay/Pencar Watershed Management Units 2004. Workplan 2005 – 2007, Jamaica. ENACT Programme.

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Ulibarri, C.A and K.F. Wellman (1997), “Natural Resource Valuation: A primer on Concepts and Techniques”, US Department of Energy, 86 pp.

*Annex 13. PDF/PPG Status Report*



*PDF/PPG STATUS REPORT*



**GEFSEC PROJECT ID:** PIMS 3619 CB PDF A  
**UNDP PROJECT ID:** 00070517  
**COUNTRY:** Jamaica  
**PROJECT TITLE:** Incorporating natural resource valuation tools into environmental impact assessment procedures  
**OTHER PROJECT EXECUTING AGENCY(IES):** N/A  
**GEF FOCAL AREA:** Multi-focal area  
**GEF OPERATIONAL PROGRAM:** Capacity Building  
**STARTING DATE:** January 2006  
**ESTIMATED DATE OF OPERATIONAL CLOSURE:** April 2007  
**ESTIMATED DATE OF FINANCIAL CLOSURE:** June 2007

**Report submitted by: UNDP**

<b>Name</b>	<b>Title</b>	<b>Date</b>
David Smith,	UNDP CO Environment Focal Point	April 10, 2007
Leonie Barnaby	GEF Operational Focal Point	April 10, 2007



## PART I - PREPARATORY ASSISTANCE ACHIEVEMENTS

A- SUMMARY OF ACTUAL ACHIEVEMENTS OF PREPARATORY PHASE (OUTPUTS AND OUTCOMES), AND EXPLANATION OF ANY DEVIATIONS FROM EXPECTED OUTCOMES

**Table 1: Completion status of Project Activities**

Approved			Actuals			
Proposed Activities at Approval	GEF Financing	Co-financing	Status of activities	GEF financing committed	Co-financing committed	Uncommitted GEF funds
MSP prepared through consultative process	29,750	5,000	Completed	21,427.56	5,000	8,322.44

## B – RECORD OF STAKEHOLDER INVOLVEMENT IN PROJECT PREPARATION

Stakeholders attended project development workshops, the attendance lists of which are available.

## PART II - PREPARATORY ASSISTANCE financial delivery

**TABLE 2 – PDF/PPG INPUT BUDGET – APPROVALS AND COMMITMENTS**

Input Description*	Approved			Committed		
	Staff weeks	GEF financing	Co-finance	Staff weeks	GEF financing	Co-finance
Personnel		2,500				3,500
Local consultants	12	12,500		9	10,000	
International consultant	2.5	9,000		4	6,800	
Stakeholder Consultation workshop		2,000			553.96	1,500
Office Equipment		-				
Travel		1,500			4,073.6	
Report Preparation and PMU Office Costs		1,250				
Miscellaneous		1,000				
<b>Total</b>		<b>29,750</b>			<b>21,427.56</b>	<b>5,000</b>

Additional information as relevant :

- Indicate PDF/PPG delivery rate (funds disbursed at time of operational closure as percentage of total GEF allocation) **72%**.
- Indicate whether it is expected that there will be unspent PDF/PPG funds at the time of financial closure. **It is expected that \$8,322.44 will remain uncommitted**

- Provide justification for major deviations of actual disbursement from what was planned. **The expenditure was less than budgeted as the government co financing covered some items originally budgeted for the GEF.**

**TABLE 3 : ACTUAL PDF/PPG CO-FINANCING**

Co-financing Sources for Preparatory Assistance				
Name of Co-financier (source)	Classification	Type	Amount	
			Expected (\$)	Actual (\$)
Government of Jamaica	Executing Agency	In Kind	5,000	5,000
	(select)	(select)		
Total co-financing				

Additional information as relevant:

- Provide explanation for major deviations from what was planned

**The disbursements were less than planned because the project benefited from additional assistance on workshop costs that were budgeted for originally for the GEF but were provided by the Government. Other operational costs were also not needed. In addition, the final payment for local consultant was not paid as they did not complete the final activity in the contract (revision and submission)**

PART III: GEF OFP Letter of Endorsement and Letters of Co-Financing

*GEF OFP Letter of Endorsement*



**MINISTRY OF LAND AND ENVIRONMENT**

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ANY COPY OF INFORMATION REFERRED TO IN THIS  
CORRESPONDENCE SHOULD BE ADDRESSED TO THE  
ORGANISATION INDICATED ABOVE FOR FURTHER  
INFORMATION ON THIS  
BY \_\_\_\_\_

April 20, 2006

Mr. Juan Carlos Espinola  
Resident Representative  
United Nations Development Programme  
1 Lady Musgrave Road  
Kingston 5

REF.	
X REF.	
UNDP	APR 21. RECD JA.
ACTION	INFO.

Dear Mr. Espinola,

**Piloting Natural Resource Valuation within Environmental Impact Assessments**

As GEF Operational Focal Point, I hereby endorse the proposal for a medium-sized project on **Piloting Natural Resource Valuation within Environmental Impact Assessments** resulting from the PDF A grant for the development of a follow-on project to the National Capacity Self Assessment (NCSA) Project.

The project proposal has been formulated based on the priority capacity needs identified by the national focal points of the conventions on climate change, biodiversity and land degradation/desertification under the NCSA project; and the relevant agencies and members of the NCSA Steering Committee were consulted.

We look forward to the implementation of this project which will address a critical aspect of sustainable development.

Yours faithfully

Leonie Barnaby  
for Permanent Secretary

*Letter of Committed Co-Financing*



10 & 11 Caledonia Avenue, Kingston 5, Jamaica W.I.  
Tel: (876) 754-7540/3 Fax: (876) 754-7595-6 Hotline: 1-888-991-5005  
E-mail: ceo@nepa.gov.jm, Web Site: <http://www.nepa.gov.jm>

April 21, 2006

Mr. Juan Carlos Espinola  
Resident Representative  
United Nations Development Programme  
1 Lady Musgrave Road  
Kingston 5

Dear Mr. Espinola,

Re: NEPA's Commitment to Co-Financing of Project # 3619 entitled "Piloting Natural Resource Valuation within Environmental Impact Assessments"

This is to record the commitment of the National Environment and Planning Agency (NEPA) to the co-financing of the above captioned project as outlined in Annex 6 of the Project Document. NEPA will provide in-kind support to the project in respect of office space and administrative support to the Project Management Unit, as well as the organization of workshops and consultative meetings.

We look forward to collaborating with the UNDP in the implementation of this project.

Yours sincerely:

A handwritten signature in black ink, appearing to read 'Leary Myers', is written over a faint, illegible printed name.

Leary Myers - PhD, P.E.  
Chief Executive Officer

**SIGNATURE PAGE**

Country: Jamaica

UNDAF Outcome(s): 3: Ensuring Environmental Security, Reduction of Poverty and Increased Social Inclusion for the Poor.  
UNDAF Outcome Indicator(s): Number of land management plans implemented; % increase of watershed; communities with active conservation measures; status of implementation of Coastal Zone Policy; quality of coral reefs in selected areas  
Expected Outcome(s): Increased resources to enhance capacity to conserve natural resources effectively by sustainable management, & improved ability to gather, use and disseminate infor.  
Expected Output(s) Natural resource valuation tools piloted within Environmental impact assessments  
Implementing partner: National Environment and Planning Agency

**Programme Period:** 2007-2011  
**Programme Component:** Environment  
**Project Title:** Piloting Natural Resource Valuation within Environmental Impact Assessments  
**Project ID:** 00070518  
**Project Duration:** 3 years  
**Management Arrangement:** National Execution

Total Budget	<b>552,250</b>
GEF Trust Fund	<b>470,250</b>
Allocated resources:	<b>486,000</b>
• Private sector	<b>82,000</b> _____

**Agreed by (NEPA):** \_\_\_\_\_

**Agreed by (PIOJ):** \_\_\_\_\_

**Agreed by (UNDP):** \_\_\_\_\_