

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

HAITI

**NATURAL DISASTER MITIGATION PROGRAM IN PRIORITY
WATERSHEDS, I**

(HA-L1041)

GRANT PROPOSAL

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ELECTRONIC LINKS	
REQUIRED	
Work plan	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2032176
Monitoring and evaluation plan	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2036383
Complete procurement plan	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2033570
Environmental and social management report	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2024023
OPTIONAL	
Environmental evaluation	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2036379
Summarized economic analysis	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2036385
Itemized budget	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2036388
Description of the incentive system (component II)	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2048110
Manual of procedures for incentives	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2049734
Technical assessment of the Ravine du Sud, Cavaillon, and Leogane watersheds	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2049785
Technical assessment of the Grande Rivière du Nord watershed	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2049818
Analysis of local stakeholders	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2049821
TDR pour l'acquisition d'un système informatisé de gestion et de monitoring [Terms of reference for the procurement of a computerized management and monitoring system]	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2049900
Analysis of requirements for the computerized incentive management system	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2049895

Complete economic report

<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2037423>

Environmental vulnerability in Haiti

<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2047984>

Thirty years of natural disasters 1974-2003: The numbers

<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2050062>

ABBREVIATIONS

BAC	Bureau Agricole Communal [Community Agriculture Office]
BCP-PIA	Bureau de Coordination du Programme—Programme d'intensification Agricole [Program Coordination Office—Agricultural Intensification Program]
CIAT	Comité Interministeriel pour l'Aménagement du Territoire et la Gestion des Bassins [Interministerial Committee for Land and Watershed Management]
CIDA	Canadian International Development Agency
CNIGS	Centre National de l'Information Géo-Spatiale [National Geospace Information Center]
DDA	Direction Départementale Agricole [Departmental Agricultural Directorate]
DPC	Direction de la Protection Civile [Civil Protection Directorate]
IRR	Internal rate of return
MARNDR	Ministère de l'Agriculture des Ressources Naturelles et du Développement Rural [Ministry of Agriculture, Natural Resources and Rural Development]
MDE	Ministère de l'Environnement [Ministry of the Environment]
ONEV	Observatoire Nationale de l'Environnement et de la Vulnérabilité [National Observatory of the Environment and Vulnerability]
PEU	Program executing unit
PNAP	Programme Nationale d'Alerte Précoce en Cas d'Inondation [National Flood Alert Program]
SNRE	Service National des Ressources en Eau [National Water Resources Service]
USAID	United States Agency for International Development

PROJECT SUMMARY

HAITI NATURAL DISASTER MITIGATION PROGRAM IN PRIORITY WATERSHEDS, I (HA-L1041)

Financial Terms and Conditions ¹			
Beneficiary of the nonreimbursable funding: Republic of Haiti		Amortization period:	N/A
Executing agency: Ministry of Agriculture, Natural Resources, and Rural Development (MARNDR)		Grace period:	N/A
		Disbursement period:	5 years
Source	Amount	Inspection and supervision fee:	N/A
IDB nonreimbursable facility	US\$30,000,000	Credit fee:	N/A
Local	-	Currency:	US dollars
Total	US\$30,000,000		
Project at a glance			
<p>Objective: The objective of the program is to reduce over the long term the natural disaster vulnerability of 360,000 people living in an area of 162,500 ha in three selected watersheds through disaster prevention and mitigation actions divided into three components: <u>Component I</u> investments in protective infrastructure; <u>Component II</u> direct support to promote sustainable agriculture; and <u>Component III</u> institution building for sustainable watershed management.</p> <p>Special contractual clauses: Precedent to the first disbursement: (i) evidence of the appointment of the coordinator and of the selection of the procurement specialist, the accountant, and the financial specialist of the program executing unit (PEU) (paragraph 3.2); (ii) establishment of the steering committee (paragraph 3.3); and (iii) entry into force of the program operations manual (paragraph 3.6). Other conditions: (i) entry into force of the subsidiary participation agreement between the executing agency and the municipality will be a condition precedent to start up of the procurement process for works in its jurisdiction (paragraph 3.5); (ii) creation of the respective watershed management committee (paragraph 3.4) will be a condition precedent to the first disbursement of funds for that particular watershed; (iii) signature of operating agreements between the executing agency and the financial institutions participating in the component II disbursement mechanism will be a condition precedent to disbursement of the financial supports envisaged in that component (paragraph 3.10). Advance from the first disbursement: To facilitate compliance with the conditions precedent to the first disbursement and contracting of staff for the PEU, it is proposed that a partial advance from the first disbursement of up to US\$100,000 be made, upon fulfillment of the conditions precedent to disbursement established in clauses 3.01 and 3.03 of the general conditions of the grant contract, with the exception of clause 3.01(c) (paragraph 3.7).</p> <p>Exceptions to Bank policies: N/A.</p>			
<p>Project consistent with country strategy: Yes [X] No []</p> <p>Project qualifies as: SEQ [X] PTI [X] Sector [X] Geographic [] Headcount []</p>			

I. FRAME OF REFERENCE

A. Natural disasters and risk management in Haiti

- 1.1 The 2004 United Nations Development Programme publication entitled *Reducing Disaster Risk* classified Haiti among the countries with the highest risk indexes in the world, noting that in the last 50 years, the country has suffered almost 40 hydrometeorological events, an internationally-recognized catastrophe every two years,¹ and a major catastrophe every four to six years. In that same year, a study by the Disaster Epidemiology Research Centre (2004) estimated that between 1974 and 2003, Haiti was affected by 38 hydrometeorological events (floods and related threats), 11 of which occurred between 1999 and 2003. More recently, Hurricane Jeanne in 2004 caused losses equivalent to 7% of GDP and more than 3,000 deaths, and in 2008, two storms and two major hurricanes in less than three weeks left more than 1,100 dead and estimated damage of US\$900 million (15% of GDP) in the agricultural (US\$200 million), housing (US\$180 million), and transportation (US\$130 million) sectors. The events in 2008 led parliament to pass a Natural Catastrophe Emergency Declaration Act and the government declared the country to be in a state of emergency.
- 1.2 Haiti's high exposure to natural disasters such as floods and landslides is due mainly to two factors: (i) its geography, given that 80% of the country is mountainous, with 54 main watersheds and subbasins; and (ii) rural farming practices, given that 60% of the rural population lives in extreme poverty and has no access to cost-effective farming practices that promote soil conservation, discourage deforestation, and reduce pressure on plant cover. The 2007 USAID study, *Environmental Vulnerability in Haiti*, found that over one half of the country's watersheds are extremely vulnerable to the effects of erosion, population, and infrastructure. The medium-term effects of climate change may lead to a significant increase in the number and impact of hydrometeorological events of a catastrophic nature.
- 1.3 In response to Hurricane George (1998), the country with the Bank's support prepared a national risk and disaster management plan, approved in 2001, that ushered in a process of decentralizing risk management capacity to the local level and strengthened emergency response capacity. The plan's guidelines were taken up as cross-cutting elements of the national strategy for growth and poverty reduction approved in 2007. The plan established a Permanent Risk Evaluation and Disaster Management Secretariat which, headed by the Civil Protection Directorate (DPC), coordinates emergency response and preparedness. Taking a more comprehensive approach, in March 2009 the government established an Interministerial Committee for Land and Watershed Management (CIAT), chaired by the prime minister and composed of six ministries, with a view to planning and

¹ An internationally-recognized catastrophe is one that is reported in the International Disaster Database (EM-DAT) of the Disaster Epidemiology Research Centre. This means it meets at least one of the four following criteria: at least 10 deaths, 100 people affected, declaration of a state of emergency, and call for international assistance.

coordinating programs to prevent and mitigate natural disaster risks in watersheds. The Ministry of Agriculture, Natural Resources, and Rural Development (MARNDR) is the ministry in charge of prevention and mitigation works in rural areas and the country's agricultural policy.

B. Country actions for watershed risk prevention and mitigation

- 1.4 As part of its national risk and disaster management plan, the government has been taking steps to reduce the impact of recurring natural threats on the population and key infrastructure in highly-vulnerable watersheds. Such actions are of two kinds: (i) works (particularly in lower watersheds) to mitigate damage caused by flooding; and (ii) assistance for farmers (particularly in upper watersheds) to introduce farming practices to reduce soil erosion and control landslides.
- 1.5 One of the main experiences in risk prevention is being carried out in the Artibonite Valley, the country's main rice-growing region, which was affected by Hurricane George. Through MARNDR the government has been executing an agricultural intensification program (PIA) with Bank support (1490/SF-HA and 1917/GR-HA) for a total of US\$54.44 million, which includes US\$15 million for flood-control works (dikes, river banks) and protection of irrigation infrastructure valued at over US\$100 million and partly financed by the Bank in three operations that preceded the PIA. The PIA program will conclude in 2012. Complementing the actions in the valley's lower watershed, the Canadian International Development Agency (CIDA) and OXFAM-Quebec are supporting farmers in the upper watershed with technical assistance.
- 1.6 Drawing on the lessons learned from previous operations, including loan operation 1490/SF-HA, the government, with Bank support, began work on part of the Ennery-Quinte watershed, one of the country's main mango-producing regions. Through the Ennery-Quinte agricultural intensification program (loan 1646/SF-HA for US\$27.4 million) being executed by MARNDR since 2005, the government has been promoting soil conservation techniques in the upper watersheds (dry walls, living fences, perennial crops), which are intended to raise productivity and therefore the incomes of close to 10,000 farming families. Operation 1646/SF-HA is the first large-scale watershed protection experience in Haiti through the introduction of economically feasible and environmentally adequate technologies for hillsides.
- 1.7 In addition to the activities in Artibonite and Ennery-Quinte, since 2005 the government has been implementing a national flood early-warning program (loan 1668/SF-HA for US\$5 million) to cover the country's 13 largest watersheds. The equipment and training for local communities in flood management are about to begin in the southeast and south of the country and the system as a whole should be up and running in December 2010. The operation also includes strengthening for the Ministry of the Environment (MDE) so that it can carry out its regulatory role, stressing the development of institutional capacity for evaluating and monitoring the country's environmental situation.

- 1.8 As a result of the progress in Artibonite and Ennery-Quinte, this combined strategy for activities in upper and lower watersheds is being adopted in different parts of the country through activities financed by other donors—CIDA in Artibonite, the Spanish International Cooperation Agency in Jacmel, the United Nations Development Programme in Gonaïves, and USAID in Gonaïves, Limbé, Montrouis/Cabaret, and Cul de Sac. USAID is executing two four-year programs for a total of US\$150 million, which include interventions to mitigate the risk of flooding in many of the country's most heavily populated areas, except for Cap Haïtien and Les Cayes which will be attended by the proposed program. All these actions are being coordinated through a technical group, which is part of the donor coordination system that resulted from the 2005 Paris agreements, in which the Bank is an active participant.

C. Lessons learned about watershed protection and mitigation measures

- 1.9 The experience built up through the execution of the above-mentioned Bank operations teaches the following three main lessons: (i) mitigation and protection measures should be designed with the active participation of local stakeholders as part of watershed management master plans; (ii) producers should derive economic benefit in the short term from the introduction of the proposed technological change; and (iii) participation by and strengthening of local institutions is vital to ensuring that protective public infrastructure will be maintained. The proposed program has incorporated these lessons into its design.

D. Program design

- 1.10 The program has been conceived as the first operation of a long-term strategy that seeks to promote comprehensive natural disaster risk management in Haiti, with a focus on priority watersheds, since the country is vulnerable on account of such factors as climate and the mountainous terrain. The actions included in the strategy are the two the Bank has been implementing in the Artibonite and Ennery-Quinte operations and now being adopted by the international donors' community in other watersheds to prevent and mitigate loss of human life and basic and productive infrastructure: (i) in upper watersheds, promotion of cost-effective agricultural practices for soil management and erosion control to reduce the risks of landslides and enable producers to adapt to climate change; and (ii) in lower watersheds, sustainable investments in flood control and riverbed protection to reduce the risks to human life and economic losses caused by natural threats. The interventions are accompanied by actions to strengthen the national institutional framework for watershed management to make it sustainable. The design of the interventions takes account of the lessons learned in Bank operations in the sector and the interventions will be coordinated with the international community through the technical group.
- 1.11 It was agreed with the government to use the USAID study on environmental vulnerability (paragraph 1.2) to prioritize the watersheds to be targeted by the program and eventually the natural disaster risk management strategy. For the proposed program, consideration was given to watersheds that are also subject to

prior government intervention for natural disaster management, particularly the installation of early warning systems. Based on these criteria, the program will help the Haitian government gradually implement this integrated strategy in three vulnerable watersheds: (i) Grande Rivière du Nord (64,000 ha); (ii) Cavaillon (32,500 ha); and (iii) Ravine du Sud (66,000 ha), which is classified as the second most vulnerable after the Cul de Sac watershed (metropolitan area of Port-au-Prince). These three watersheds contain two irrigation systems covering more than 5,000 ha (La Tannerie and Avezac) and two hydroelectric plants (Caracol and Saut Mathurine).

- 1.12 The program actions in the Ravine du Sud and Cavaillon watersheds will be complemented by a sustainable land management project in the upper watersheds of southwestern Haiti (HA-X1002). The objective of the latter project, which is receiving funding of US\$3.44 million from the Global Environment Fund, is to address and contain environmental degradation in those parts of the country through actions to promote sustainable forest and soil management technologies, land-use planning, and clarification of land tenure inside and around Macaya National Park.
- 1.13 The proposed program HA-L1041 includes investments to avoid and reduce probable losses from frequently-recurring weather events that bring higher economic returns than other risk management tools. The program is consistent with the Integrated Disaster *Risk Management* Approach (OP-47) developed by the Bank in 2008 to help countries in the region achieve efficient and effective natural disaster risk management to reduce vulnerability. The program also complements other actions being carried out by the country to promote greater catastrophic risk cover through the financial markets (i.e. participation in the Caribbean Catastrophe Risk Insurance Facility).
- 1.14 The proposed program fits in with the Bank's country strategy with Haiti (document GN-2465). Specifically, it will contribute to the objective of consolidating economic growth by building up the agriculture sector. It is also consistent with the reconstruction and economic rehabilitation program presented by the government to the Haiti Donors' Conference in Washington, D.C. in April 2009, which singles out risk and disaster management as a key pillar in the country's reconstruction.

E. Objective, beneficiaries, components, and costs

- 1.15 The objective of the program is to make residents of the Grande Rivière du Nord, Ravine du Sud and Cavaillon watersheds less environmentally and socioeconomically vulnerable to natural disasters through prevention and mitigation activities. This operation covers 162,500 ha (6% of the country) and will benefit 360,000 people. To attain its objective, the program includes actions grouped into the three components as described below.
- 1.16 Component 1. Investments in protective infrastructure works (US\$10.7 million). Consists of preinvestment studies and construction of works, including technical and environmental supervision to limit torrential flows and protect infrastructure

and property exposed to flooding or landslides (riverbank consolidation, changes in river profiles, landslide control, protection of productive infrastructure). The works will be built in about 45 vulnerable zones already identified in the three watersheds targeted by the program.

- 1.17 Component II. Direct support for sustainable agriculture in the watersheds (US\$11.3 million). Includes nonreimbursable financial support for eligible legally-recognized producer groups or independent farmers in the most vulnerable parts of the watersheds, who agree to adopt erosion control farming practices from a menu of technological options set by the executing agency. The financial support will consist of a fixed sum for each eligible technology to a cumulative maximum per producer during the life of the program. The amounts will be determined before the beneficiaries make their technology selections. For each technology, the value of the program-financed support will include the cost of inputs, labor, transport, and technical assistance. The amounts will be agreed annually during the annual program review by the Bank and the executing agency. This component will also include engaging technical service providers to assist with dissemination, technology verification, and monitoring associated with the direct support.
- 1.18 Component III. Institution building for sustainable watershed management (US\$4.3 million). Taking into account the institutional and legal consolidation of the watershed management committees and the national watershed management policy, this component will include technical assistance, training, and materials for eight municipalities in the three selected watersheds, local organizations, and the departmental offices in charge of natural resource management, disaster risk management, and/or implementation of watershed management plans in the areas of environmental monitoring, integrated watershed management, administrative management for maintenance of public assets, and applied research on sustainable production techniques and systems in watersheds.

F. Main outcomes indicators

- 1.19 The main outcomes expected will be to make the watersheds selected less vulnerable (Annex II: Results Matrix).

Table I-1
Main anticipated outcomes

Outcomes	Base 2009	Target level	Comments
1. By the end of the program, the expected economic losses from flood events occurring once every 10 years are lower in the selected watersheds.	The frequency and intensity of the most recent floods will be estimated, including measurements of the flow in the main watercourses in the watersheds.	A reduction in the intensity of flooding by the end of the program of more than 20%, compared to the intensity in 2009.	The hydrological data (rainfall and flows in the rivers) put out by the National Water Resources Service (SNRE) and the National Flood Alert Program (PNAP) will allow this indicator to be monitored.
2. By the end of the program, the number of hectares with permanent plant cover and protective structures is larger than at present.	The area currently with plant cover will be calculated in the baseline through the interpretation of satellite images from the National Geospace Information Center (CNIGS)	An increase in the area with plant cover by the end of the program of more than 20% compared to the area in 2009.	The CNIGS is the beneficiary of European Union financing to develop an environmental monitoring system in priority watersheds.

II. FINANCING STRUCTURE AND PRINCIPAL RISKS

A. Financing instruments

- 2.1 The program will finance specific investments and activities to attain its objective, through a grant from the resources of the Bank's nonreimbursable financing facility allocated to Haiti in 2009. The estimated cost of the program is US\$30 million. The costs are summarized by investment category in the table below.

Table II-1
Estimated cost by investment category

Investment category	Bank (US\$ thousands)	%
I. Program administration and monitoring	2.2	7.3
II. Direct costs	26.3	87.7
2.1 Investments in protective infrastructure	10.7	35.7
2.2 Direct support to promote sustainable agriculture	11.3	37.7
2.3 Institution building for sustainable watershed management	4.3	14.3
III. Evaluations and external financial auditing	0.9	3.0
IV. Contingencies	0.6	2.0
Total	30.0	100

- 2.2 The program will be carried out in five years. The disbursement period will be 4.5 years. A revolving fund of up to 5% equivalent of the total grant will be set up to provide liquidity for disbursements. The grant is expected to be disbursed as follows: year 1: 13%; year 2: 19%; year 3: 33%; year 4: 28%; and year 5: 7%.

B. Feasibility

1. Technical feasibility

- 2.3 The works envisaged for component I are similar in nature and cost to those designed and implemented by the executing agency in other projects, including operations 1490/SF-HA (Artibonite) and 1646/SF-HA (Ennery-Quinte). This experience and technical expertise ensure that the quality of the feasibility studies and final plans will be adequate and that technical supervision during construction will be appropriate. The studies and final plans for the works are being prepared under technical-cooperation project ATN/SF-11564-HA.
- 2.4 Some of the agricultural technologies listed in the menu of options for component II (paragraph 1.17) have been tested in other projects, such as farm-forestry, fruit crops, and different soil conservation practices, and will be introduced by the executing agency in operation 1646/SF/-HA. Also, during execution MARNDR will evaluate new technologies being developed in the country under operation 1794/SF-HA (rural chains) or by different nongovernmental institutions, such as the Organization for the Rehabilitation of the Environment. The management programs for the three selected watersheds which will determine the zones eligible for financial support under component II are being prepared under technical-cooperation project ATN/SF-11564-HA.

2. Economic feasibility

- 2.5 The economic feasibility was evaluated using a model to simulate its direct impact on the program in the three selected watersheds (see electronic references). The estimated incremental benefits of the situation without the project include: (i) a reduction in agricultural yield and income; (ii) a reduction in the capacity of productive infrastructure (two hydroelectric plants and two irrigated areas); and (iii) economic losses resulting from devastation in nearby urban zones. The incremental costs include the investments planned under the program and their operation and maintenance. Considering a 15-year horizon, the economic evaluation produce an internal rate of return (IRR) of between 13% and 42%, depending on the hypotheses used for current trends in natural resource degradation in the reference scenario. Those rates demonstrate that the program is economically feasible.
- 2.6 With respect to specific investments, a least-cost cost evaluation of the works envisaged will be performed for component I because of their anticipated scale and cost. However, for more expensive individual works or when a series of individual works to mitigate the same risk are more expensive, a cost-benefit analysis will be carried out, to include a calculation of the present value discounted at 12% and/or the IRR of the flow of net benefits for a horizon of at least 10 years. In this case, only works with a positive net present value or an IRR of over 12% will be eligible.
- 2.7 With regard to the financial support included in component II, the analysis of the returns on the technologies will be based on the conservative assumption that they

will be used in typical farm production. In each case, the costs will be calculated using technical ratios for labor and inputs associated with cultivation and harvesting valued at efficiency prices. The benefits will be calculated based on average yields or productivity losses avoided owing to soil degradation, valued at efficiency prices. The expected changes in costs and benefits associated with the introduction of a technology will be estimated using parameters obtained from field trials. The IRR for the flow of incremental net benefits over a 10-year horizon will be used to measure the return on investment. The subsidy will be calculated as the additional amount that results in an IRR of at least 100% for the technology, considering its use on crops bringing the lowest returns.

C. Socioenvironmental

- 2.8 Provided that the selected watersheds are not hit by major weather events during the operation, the program will generate positive socioenvironmental impacts by reducing the vulnerability of fragile zones and improving the living conditions of low-income rural families. It is expected that the vast majority of the investments will involve the construction of minor works or the consolidation of existing ones, (i.e. engineering works for which standard construction and operating practices exist to reduce negative environmental impact). Since the impact of minor infrastructure works is easily identifiable and since the prevention and mitigation measures are standard, these works will be subjected to simplified environmental evaluations.
- 2.9 Following the guidelines of the Bank's Environmental and Safeguards Compliance Policy (OP-703 and OP-704), the program was classified in category B. Given its classification, a socioenvironmental analysis of the program was performed. This analysis included: (i) consultation and information workshops; (ii) identification of the potential impacts or environmental risks and the measures necessary to manage them; (iii) analysis of the legal and institutional frameworks; (iv) determination of the actions required during the program to avoid, minimize, and/or mitigate the identified impacts; (v) an environmental management plan for the new operation; (vi) determination of institutional and financial responsibilities, the timetable and corresponding budget for implementing the proposed measures; and (vii) development of a monitoring mechanism with clearly-identified indicators of environmental impacts throughout program execution.

D. Fiduciary risks

- 2.10 During preparation of the program, the fiduciary risks were evaluated on the basis of two factors: (i) the executing agency's experience with previous Bank-financed operations; and (ii) the auditors' reports on those operations. It was not considered pertinent to conduct a specific analysis of the executing agency's institutional capacity using the institutional capacity assessment system (ICAS) methodology.
- 2.11 The executing agency has been satisfactorily executing four Bank-financed projects since 2003 (1490/SF-HA, 1642/SF-HA, 1646/SF-HA, and 1917/GR-HA). These projects have operations manuals that have permitted the executing agency to

- bolster its capacity to program activities, with annual plans that have been presented as agreed and in accordance with the criteria established in the respective manuals. That experience has enabled the executing agency to institute procedures for the financial administration of resources that include payments, accounting records, and presentation of accounts. With regard to the administration of goods and services, the new Procurement Act approved in 2009 guarantees transparency and equity in public bidding, which will facilitate fiduciary control.
- 2.12 The auditors' reports presented by the executing agency for operations 1490/SF-HA, 1642/SF-HA, 1646/SF-HA, and 1917/GR-HA point to the quality of the financial information provided, and the existence of an adequate accounting system and internal control structure for the fiduciary management of the four programs administered by the BCP-PIA for a total of more than US\$86.5 million. The auditors have not issued any reservations concerning the financial statements or compliance with accounting and financial standards in any of the reports on these four programs received to date, and accordingly, on 16 March 2009 the Bank changed the fiduciary supervision process to ex post control of payments.
- 2.13 Despite the low fiduciary risk associated with the program, it was felt the executing agency's administrative and financial structure should be bolstered with a full-time accountant, a financial specialist, and a procurement specialist. The program operations manual will establish specific financial administration procedures, including provisions governing administrative/financial, accounting, and disbursement control, settlement of costs and payments, and audit procedures to be applied by the executing agency. Disbursements will be based on ex ante reviews.
- 2.14 Auditing. The executing agency will present semiannual audits of the financial statements within 60 days after the end of each six-month period and annual audits within 120 days after the close of each year. The audits will cover the finances (review of amounts received and payments) and the internal control system implemented by the executing agency.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Program execution and administration

- 3.1 The program beneficiary will be the Republic of Haiti and the executing agency will be MARNDR, under the authority of its director general, through a program executing unit (PEU) set up for the program. Based on experience with operations 1490/SF-HA and 1646/SF-HA, the PEU's structure will include experienced staff working full time on program implementation. The staff may include public officials assigned to the program or personnel contracted subject to the Bank's no objection. The Bank's past experience with the executing agency indicates that the quality of the human resources assigned to the unit will be a factor determining the executing agency's capacity to keep to the operation's timetable.

- 3.2 The executing agency will be responsible for the general administration, supervision, and evaluation of the program. In discharging these duties, the PEU will have a coordinator drawn from the staff of the executing agency, who will receive support from a specialist for each component, an information specialist, and an administrative team consisting of an accountant, a financial specialist, and a procurement specialist. Also, an official from the Ministry of the Environment (MDE) will act as deputy coordinator and be tasked with program monitoring and evaluation. A memorandum of understanding between MARNDR and the MDE will govern cooperation between the two in the PEU. The PEU will receive technical support from the natural resources services of the Departmental Directorates of Agriculture, which are deconcentrated units of MARNDR in the selected watersheds, for the processes of bidding, technical supervision, and final acceptance of the works, and for subsequent maintenance of works under their jurisdiction. **Evidence of the appointment of the coordinator of the PEU and the selection of the accountant, the financial specialist, and the procurement specialist will be conditions precedent to the first disbursement.**
- 3.3 A program steering committee will be established to ensure adequate coordination during execution. The committee will approve the operations manual, the annual work plans, and the project status reports prepared by the executing agency. The members of the committee will be the Director General of MARNDR, who will preside, the Director General of the MDE, and the Secretary of CIAT. Establishment of this Committee will be a condition precedent to the first disbursement.
- 3.4 To ensure active participation by local bodies during the program, watershed management committees will be formed in each of the selected watersheds, each of which will be composed of one representative of MARNDR, who will preside, one representative of each of the municipalities in the watershed, and two representatives of the main local civil society organizations. The committees will approve the management plans of their respective watersheds and countersign the program evaluation reports before submission to the Bank for its no objection. **Establishment of a watershed management committee will be a condition precedent to the first disbursements of funds for any given watershed.**
- 3.5 The executing agency will be required to demonstrate to the Bank that the land where the program works are to be built is unoccupied and publicly owned. Accordingly, to ensure that the activities mentioned below are carried out, the executing agency must reach agreement with the municipalities where the program works are to be built on the terms of their participation and cooperation. The following municipal responsibilities have been identified: to help arrange for authorizations, permits, and any other local formality that the investments require; to approve the terms of reference for goods and services and the studies and final designs of works in their jurisdiction; to permit free access to the construction zones by the executing agency, contractors, external auditors, and the Bank during the program; to operate and properly maintain the works under their jurisdiction in

accordance with generally-accepted technical standards; and to report each year to the executing agency on the status of the works. These responsibilities will be set out in subsidiary participation agreements with the executing agency. **The entry into force of the subsidiary participation agreement between the executing agency and a municipality will be a condition precedent to opening the procurement and contracting process for works in the municipality's jurisdiction.**

- 3.6 Program operations manual. Program administration will be governed by an operations manual. The manual, a preliminary version of which already exists, sets out in detail the procedures to be followed by the executing agency and the other institutions associated with program execution with regard to programming activities, fiduciary management, procurement and contracting, audits, and program monitoring. For the financial supports envisaged in component II, the manual will spell out the operating/financial mechanism, eligibility criteria for technical service providers, financial institutions, and technology suppliers, the maximum amounts per individual producer and group, and the selection and verification of technologies. Any substantial modification to the manual must be agreed on with the Bank. **Entry into force of the operations manual is a condition precedent to the first disbursement.**
- 3.7 Partial advance of the first disbursement. To facilitate compliance with the conditions precedent to the first disbursement and the hiring of staff for the PEU, it is proposed that a partial advance of up to US\$100,000 from the first disbursement be made, once the conditions precedent in clauses 4.01 and 4.03 of the General Conditions of the grant contract have been fulfilled.

B. Operating/financial mechanism of component II

- 3.8 Prior to the start of each agricultural cycle, the executing agency, through technical service providers hired for this purpose, will publicize the objectives, scope, and requirements for gaining access to the supports offered by the program, stressing the eligibility criteria, the operating/financial mechanism, the technologies included in the menu of eligible options, and the levels of financial support corresponding to each technology. The technical service providers will be responsible for dissemination. The tasks consist of coordinating and promoting departmental and municipal activities. The local media may be used for that purpose.
- 3.9 The technologies eligible for financing under the program must meet the following criteria: (i) they must contribute to the program objective; (ii) they must be economically profitable, with an IRR of at least 12%; (iii) they must be applicable to the agroecological conditions where their use is promoted; (iv) they must have neutral or positive environmental impacts that encourage the beneficiaries to adapt to climate change; (v) it must be easily verifiable that the beneficiary has actually adopted the technologies; and (vi) the quality of the inputs and goods associated with each technology must be certified by a competent authority. For each technology, the executing agency will have a technical specifications fiche that

- includes a description of the technology, the expected impact on productivity, the set of goods and services included, and the expected cost of implementation. All producers who demonstrate they are working land in vulnerable areas declared eligible in the respective watershed management master plan will qualify for financial support.
- 3.10 Financial institutions will help the executing agency make the support payments once the beneficiaries have been identified. The financial institutions will be subject to the pertinent rules of supervision and regulation and will have experience in rural services, adequate geographic coverage, and computerized information systems in their branches for client service. The responsibilities of the participating financial institutions are described in the operations manual. Their participation will be formally established in each case in an agreement with the executing agency, as indicated in the manual. **Signature of operating agreements between the executing agency and the financial institutions participating in the component II disbursement mechanism will be a condition precedent to disbursement of the financial support envisaged in that component.**
- 3.11 Through the technical service providers, the executing agency will make random checks to ensure that the technologies financed by the program have been effectively adopted by the beneficiaries, using a procedure specified by the executing agency and agreed with the Bank. After the verification process, verification reports will be prepared containing information for input into the program monitoring system. The reports will: (i) certify that the technology has been introduced on the beneficiary's land and meets program technical specifications; (ii) certify the identify of the technology provider and ensure that the provider is listed in the program's register of providers; (iii) validate the receipt of technologies by the beneficiaries; and (iv) immediately inform the program about any noncompliance found during the verification process. The verification reports will be attached to documentation in support of expenditures for component II to be presented by the executing agency to the Bank.

C. Procurement

- 3.12 Procurements of works, goods, and related services using program funds will be carried out by the PEU in accordance with the "Policies for the procurement of works and goods financed by the IDB" (document GN-2349-7). The selection and contracting of consulting services will be carried out in accordance with the "Policies for the selection and contracting of consultants financed by the IDB" (GN-2349-7).
- 3.13 Procurements will adhere to the limits described in the procurement plan. In keeping with Bank policies, the PEU agreed on a procurement plan with the Bank for at least the first 18 months (Annex III). The executing agency will update the procurement plan annually as required or when substantial changes are made. All proposals to revise the plan must be agreed with the Bank. All contracts for works,

goods, and consulting services in excess of US\$5,000 will be subject to ex ante review.

- 3.14 The goods and services acquired under the program for the beneficiaries of the financial support offered in component II will be subject to an ad hoc control review as described in the terms of reference for the monitoring and management information system. This process includes a mechanism for prior approval of the eligibility of the beneficiaries and of the goods and services requested. The program audits will also include management of the subsidy envisaged in component II.

D. Monitoring and evaluation

- 3.15 Monitoring. The executing agency will prepare and send to the Bank a program status report within 30 days after the end of each semiannual period for the duration of the program. The executing agency will have an information system (project monitoring and management system) that integrates the operation's financial and accounting management and the outputs achieved. The reports will describe extent to which the output indicators have been reached and the progress made in attaining the outcomes set out in the results matrix (Annex II), analyze any problems found, and indicate the corrective measures adopted, if applicable. The reports for the second half of the year will also include the annual work plan for the following year with a projection of disbursements, and an updated procurement plan. Adjustments to the program based on discussion of these reports will be agreed with the Bank during the monitoring meetings with the executing agency.
- 3.16 Evaluation. As part of program evaluation, the executing agency will present a midterm evaluation report to the Bank when 45% of the resources have been disbursed, and a final evaluation within 90 after the date on which 90% of the grant resources have been disbursed. These reports will include an evaluation of the quality of the prevention and mitigation actions promoted by the program, the effectiveness of the operating/financial mechanism for the financial supports under component II in terms of administrative costs and responsiveness, and progress in meeting the annual goals and targets of the expected outputs and outcomes established in the results matrix. These evaluations will use a baseline established in advance of the indicators associated with the results matrix. They will also use the data generated periodically by the National Center for Geospace Information (CNIGS), which will monitor the environmental reference indicators using satellite images. Both evaluation reports should include a review of the operation and maintenance of the works financed by the program and their impact.
- 3.17 The evaluations will be conducted independently by a firm engaged by the executing agency out of the Bank's contribution. Once they are validated by the watershed management committees and accepted by the Bank, the reports will be made available to the public and serve as a basis for financing to the Haitian government for natural disaster mitigation through sustainable watershed management.

**NATURAL DISASTER MITIGATION PROGRAM IN PRIORITY WATERSHEDS
HA-L1041
RESULTS MATRIX**

***Program objective:** To reduce the vulnerability of humans and of economic infrastructure by promoting sustainable land and water management in selected watersheds*

PROGRAM FOR NATURAL DISASTER MITIGATION – RESULTS INDICATORS			
RESULTS	BASE 2009	TARGET LEVEL	COMMENTS
1. By the end of the program, the expected economic losses from the 10-year event are lower in the selected watersheds.	The frequency and intensity of the most recent floods will be estimated, including measurements of the flow in the main watercourses in the watersheds.	By the end of the program the intensity of flooding is over 20% lower than the intensity in 2009.	The hydrological data (rainfall and river flows) put out by the National Water Resources Service (SNRE) and the National Flood Alert Program (PNAP) will allow this indicator to be monitored.
2. By the end of the program, the number of hectares with permanent plant cover and protective structures is larger than at present.	The area currently with plant cover will be calculated in the baseline through the interpretation of satellite images from the National Geospace Information Center (CNIGS)	By the end of the program, the area with plant cover is over 20% greater than in 2009.	The CNIGS is the beneficiary of European Union financing to develop an environmental monitoring system in priority watersheds, including the three watersheds in the program.

NATURAL DISASTER MITIGATION PROGRAM– OUTPUT INDICATORS								
NATURAL DISASTER MITIGATION PROGRAM – ACTIVITIES INDICATORS (1/2)								
COMPONENT/OUTPUT	Baseline	End year 1	End year 2	End year 3	End year 4	End year 5	Total end of program	Comments
OUTPUT COMPONENT 1: INVESTMENT IN PROTECTIVE INFRASTRUCTURE								
Number of works for prevention and mitigation of damage associated with flooding or landslides built and maintained up to standard, in vulnerable zones <i>Grande Rivière du Nord</i> <i>Ravine du Sud/Cavaillon</i>	0	0	9	29	45		45	
			3	8	15		15	
			6	21	30		30	
OUTPUT COMPONENT 2: PROMOTION OF SUSTAINABLE FARMING								
By the end of the program, 60% of the 11,000 target families in the three watersheds have improved their farm income by 30% in real terms. <i>Grande Rivière du Nord</i> <i>Ravine du Sud/Cavaillon</i>	0					6,600 families	6,600 families	A household income survey is required to establish the baseline and for use in the final evaluation.
						1,800 families	1,800 families	
						4,800 families	4,800 families	
OUTPUTS COMPONENT 3: INSTITUTION BUILDING								
By the end of the program, the watershed management committees have internal regulations and records of meetings showing that they are monitoring the master plan for the watershed and maintenance of the works. <i>Grande Rivière du Nord</i> <i>Ravine du Sud/Cavaillon</i>	Watershed management committees do not exist.					3	3	
						1	1	
						2	2	
By the end of the program, a consensual proposal exists on a watershed management policy and a legal instrument to institutionalize the watershed committees in keeping with the spirit of the Environment Decree of 26 January 2006.	The decree exists but is not applied owing to the absence of legal instruments.					1	1	The proposed policy framework for watershed management and the legal instrument (law, decree ...) will be prepared consolidating the lessons learned in the three watersheds.

COMPONENT/ACTIVITY	Baseline	End year 1	End year 2	End year 3	End year 4	End year 5	Total end of program	Comments
ACTIVITIES COMPONENT 1: INVESTMENT IN PROTECTIVE INFRASTRUCTURE								
1. Prioritization of the works.	45 major works proposed in the selected watersheds.	15 works prioritized in Grande Rivière du Nord.	30 works prioritized in Cavaillon and Ravine du Sud.					HA-T1091 will permit master plans for the watersheds and technical studies for the works to be prepared in advance.
2. Execution of the works. <i>Grande Rivière du Nord Ravine du Sud/Cavaillon</i>	0	0	9 3 6	29 8 21	45 15 30		45 15 30	
3. Maintenance of the works. Establishment of a maintenance plan for each work and its implementation by the local authorities. <i>Grande Rivière du Nord Ravine du Sud/Cavaillon</i>	0		9 3 6	29 8 21	45 15 30		45 15 30	The maintenance plans for the works will be approved before the construction company is engaged.
ACTIVITIES COMPONENT 2: PROMOTION OF SUSTAINABLE AGRICULTURE								
1. Menus of technologies for each selected watershed are approved by the ministry. <i>Grande Rivière du Nord Ravine du Sud/Cavaillon</i>	Proposed menu established through watershed analyses 1 2	3 1 2	3 1 2	3 1 2	3 1 2	3 1 2	3 1 2	The menus proposed during program identification must be validated by MARNDR and kept permanently up to date.
2. Registers of producers and borrowers are established in the selected watersheds. <i>Grande Rivière du Nord Ravine du Sud/Cavaillon</i>	No registers exist 0 0 0	6 2 4	6 2 4	6 2 4	6 2 4	6 2 4	6 2 4	
3. Percentage of target producers who have adopted at least one of the proposed technological changes. <i>Grande Rivière du Nord Ravine du Sud/Cavaillon</i>	0%	10% 10%	30% 30%	70% 70%	100% 100%	100% 100%	100% 100%	

NATURAL DISASTER MITIGATION PROGRAM – ACTIVITIES INDICATORS (2/2)								
COMPONENT/ACTIVITY	Baseline	End year 1	End year 2	End year 3	End year 4	End year 5	Total end of program	Comments
ACTIVITIES COMPONENT 3: INSTITUTION BUILDING								
Establishment of three watershed management committees, one in each selected watershed. <i>Grande Rivière du Nord</i> <i>Ravine du Sud/Cavaillon</i>	No watershed committees exist.	3	3	3	3	3	3	
		1	1	1	1	1	1	
		2	2	2	2	2	2	
Training (100 people) in sustainable farming. <i>Grande Rivière du Nord</i> <i>Ravine du Sud/Cavaillon</i>	No systematic training exists.	0	45	100	100	100	100	
		0	15	30	30	30	30	
		0	30	70	70	70	70	
Three applied research programs are conducted on sustainable agriculture techniques.	No applied research exists.			1	3	3	3	The Limbé training and applied research center will be rehabilitated by the program.
Implementation of a complete monitoring system.	No environmental monitoring exists.	30%	60%	100%	100%	100%	100%	This activity will be carried out in close coordination with CNIGS and ONEV.
Preparation of a draft and updating regulatory framework for watershed management to mitigate disasters.	Incomplete legal framework.			30%	60%	100%	100%	Includes watershed management policy, implementation strategy, decree establishing the watershed management committees, legal instruments for territorial groups.

REPUBLIC OF HAITI
NATURAL DISASTER MITIGATION PROGRAM IN PRIORITY WATERSHEDS –HA-L1041
SUMMARIZED PROCUREMENT PLAN

n°	Description of the procurement contract	Estimated cost (US\$)	Procurement method	Review	Financing (%)		Prequalification (yes/no)	Programming		Status	Comments
					IDB	Other		Publication	Completion		
1 – WORKS											
1.1	Rehabilitation PEU offices in MARNDR	15,000	PS	Ex ante	100%	0%	no	2009-Q4	2010-Q1	Pending	
1.2	Rehabilitation DDA/BAC north offices	40,000	PS	Ex ante	100%	0%	no	2010-Q1	2010-Q2	Pending	
1.3	Rehabilitation DDA/BAC northeast offices	60,000	PS	Ex ante	100%	0%	no	2010-Q1	2010-Q2	Pending	
1.4	Rehabilitation DDA/BAC south offices	40,000	PS	Ex ante	100%	0%	no	2010-Q1	2010-Q2	Pending	
1.5	Rehabilitation Limbé center	40,000	PS	Ex ante	100%	0%	no	2010-Q2	2010-Q3	Pending	
1.6	Protective works Grande Rivière (3)	600,000	LLB	Ex ante	100%	0%	no	2011-Q2	2011-Q4	Pending	Average cost = US\$200,000 per work
1.7	Protective works Grande Rivière (5)	1,000,000	LLB	Ex ante	100%	0%	no	2012-Q2	2012-Q4	Pending	“
1.8	Protective works Grande Rivière (7)	1,400,000	LLB	Ex ante	100%	0%	no	2013-Q2	2013-Q4	Pending	“
1.9	Protective works Ravine du Sud (4)	800,000	LLB	Ex ante	100%	0%	no	2011-Q2	2011-Q4	Pending	“
1.10	Protective works Ravine du Sud (10)	2,000,000	LLB	Ex ante	100%	0%	no	2012-Q2	2012-Q4	Pending	“
1.11	Protective works Ravine du Sud (6)	1,200,000	LLB	Ex ante	100%	0%	no	2013-Q2	2013-Q4	Pending	“
1.12	Protective works Grande Rivière (2)	400,000	LLB	Ex ante	100%	0%	no	2011-Q2	2011-Q4	Pending	“
1.13	Protective works Grande Rivière (5)	1,000,000	LLB	Ex ante	100%	0%	no	2012-Q2	2012-Q4	Pending	“
1.14	Protective works Grande Rivière (3)	600,000	LLB	Ex ante	100%	0%	no	2013-Q2	2013-Q4	Pending	“
2 – GOODS											
2.1	Vehicles for the PEU (4) and the DDAs (9)	390,000	ICB	Ex ante	100%	0%	no	2009-Q4	2010-Q1	Pending	Pick-ups, exempt
2.2	Minibus for Limbé	40,000	NCB	Ex ante	100%	0%	no	2010-Q2	2010-Q2	Pending	Exempt
2.3	Motorcycles for Limbé	8,000	PS	Ex ante	100%	0%	no	2010-Q2	2010-Q2	Pending	175 cc., exempt
2.4	Computer equipment including maintenance contract	100,000	NCB	Ex ante	100%	0%	no	2010-Q1	2010-Q2	Pending	Includes 41 desktops, 4 servers, 25 printers, 32 UPS, 8 scanners
2.5	Photocopiers (2) including maintenance contract	15,850	PS	Ex ante	100%	0%	no	2010-Q1	2010-Q2	Pending	
2.6	Internet access (5)	12,500	PS	Ex ante	100%	0%	no	2010-Q1	2010-Q2	Pending	Communications materials, cables
2.7	Software licenses (37)	11,100	PS	Ex ante	100%	0%	no	2010-Q1	2010-Q2	Pending	Licenses for the Microsoft package
2.8	Numerical projectors (2)	4,000	PS	Ex ante	100%	0%	no	2010-Q1	2010-Q2	Pending	
2.9	GPS (24)	12,000	PS	Ex ante	100%	0%	no	2010-Q1	2010-Q2	Pending	
2.10	Numerical cameras (12)	3,600	PS	Ex ante	100%	0%	no	2010-Q1	2010-Q2	Pending	
2.11	Cellular telephones (8)	1,600	PS	Ex ante	100%	0%	no	2010-Q1	2010-Q2	Pending	
2.12	Television set and DVD for training	1,000	PS	Ex ante	100%	0%	no	2010-Q3	2010-Q4	Pending	
2.13	Technical materials for training in sustainable soil management	11,000	PS	Ex ante	100%	0%	no	2010-Q3	2010-Q4	Pending	Includes risograph tools

n°	Description of the procurement contract	Estimated cost (US\$)	Procurement method	Review	Financing (%)		Prequalification (yes/no)	Programming		Status	Comments
					IDB	Other		Publication	Completion		
2.14	Electric generators (7)	84,000	NCB	Ex ante	100%	0%	no	2010-Q1	2010-Q2	Pending	
2.15	Electric inverters (7) and batteries (120)	31,900	NCB	Ex ante	100%	0%	no	2010-Q1	2010-Q2	Pending	Change of batteries after 2 years
2.16	Office equipment	38,650	NCB	Ex ante	100%	0%	no	2010-Q1	2010-Q2	Pending	Includes desks, tables, chairs, cabinets, metal filing cabinets
2.17	Inputs for demonstration plots	16,000	PS	Ex ante	100%	0%	no	2010-Q4	2013-Q4	Pending	Seeds and fertilizers
2.18	Office supplies	25,450	NCB	Ex ante	100%	0%	no	2009-Q4	2014-Q4	Pending	Paper, files, ...
2.19	Computer supplies	15,300	PS	Ex ante	100%	0%	no	2009-Q4	2014-Q4	Pending	Printer ink, DC, DVD
2.20	Support for the procurement of equipment and infrastructure for 45 agricultural companies (group incentives)	3,600,000	NCB	Ex ante	100%	0%	no	2011-Q1	2013-Q4	Pending	Grant for 45 potential beneficiaries (US\$80,000 on average)
3 – SERVICES											
31,- Firms											
31.1	Incentive operator	3,900,000	ICB-QCBS	Ex ante	100%	0%	yes	2009-Q4	2014-Q4	Pending	
31.2	Firm for the design of the evaluation system and baseline	600,000	ICB-QCBS	Ex ante	100%	0%	yes	2010-Q1	2014-Q4	Pending	
31.3	Firm for semiannual audits	250,000	NCB-QCBS	Ex ante	100%	0%	no	2009-Q4	2014-Q4	Pending	
31.4	Design of software for incentives	250,000	ICB-QCBS	Ex ante	100%	0%	no	2009-Q4	2014-Q4	Pending	
31.5	Production of maps and photographs	160,000	NCB-QBS (DC ?)	Ex ante	100%	0%	no	2010-Q2	2011-Q1	Pending	CNIGS is the only operator present in Haiti; possibility of DC
31.4	International technical assistance (experts)	600,000	ICB-QCBS	Ex ante	100 %	0%	no	2010-Q1	2014-Q4	Pending	32 consultant months, a single contract
31.5	Specific studies (17)	340,000	NCB-FBS	Ex ante	100%	0%		2011-Q1	2014-Q4	Pending	Thematic studies on support for comp. 3
31.6	Publicity and production of information materials on the program	138,600	NCB-FBS	Ex ante	100%	0%	no	2010-Q2	2014-Q4	Pending	Includes production of information on subsidies
31.7	Training in GPS techniques	18,750	NCB-FBS	Ex ante	100 %	0%	no	2010-Q2	2010-Q4	Pending	
31.8	Individual incentives (11,000) for technical assistance services	5,500,000	DC	Ex ante	100%	0%	no	2010-Q3	2014-Q1	Pending	Corresponds to 11,000 potential beneficiaries,US\$500 average
31.9	Edition, publication, and distribution of reports (5)	50,000	LCS	Ex ante	100%	0%	no	2010-Q4	2014-Q4	Pending	Corresponds to various price quotes (one per publication)

n°	Description of the procurement contract	Estimated cost (US\$)	Procurement method	Review	Financing (%)		Prequalification (yes/no)	Programming		Status	Comments
					IDB	Other		Publication	Completion		
31.10	Edition of educational materials	20,000	LCS	Ex ante	100%	0%	no	2011-Q1	2014-Q4	Pending	Booklets and manuals on sustainable management.
32 – Individual consultants											
32.1	Procurement specialist	32,500	SCQ-LC	Ex ante	100 %	0%	no	2010-Q1	2010-Q4	Pending	Annual contract, renewable
32.2	Administration specialist	32,500	SCQ-LC	Ex ante	100 %	0%	no	2010-Q1	2010-Q4	Pending	Annual contract, renewable
32.3	Computer specialist	29,900	SCQ-LC	Ex ante	100 %	0%	no	2010-Q1	2010-Q4	Pending	Annual contract, renewable
32.4	Specialist component 1	26,000	SCQ-LC	Ex ante	100 %	0%	no	2010-Q1	2010-Q4	Pending	Annual contract, renewable
32.5	Specialist component 2	26,000	SCQ-LC	Ex ante	100 %	0%	no	2010-Q1	2010-Q4	Pending	Annual contract, renewable
32.6	Specialist component 3	26,000	SCQ-LC	Ex ante	100 %	0%	no	2010-Q1	2010-Q4	Pending	Annual contract, renewable
32.7	Departmental monitoring specialists (3)	58,500	SCQ-LC	Ex ante	100 %	0%	no	2010-Q1	2010-Q4	Pending	Annual contracts, renewable
32.8	Secretaries (2)	16,900	SCQ-LC	Ex ante	100 %	0%	no	2010-Q1	2010-Q4	Pending	Annual contracts, renewable
32.9	Research teams component 3, Limbé center (2)	39,000	SCQ-LC	Ex ante	100 %	0%	no	2010-Q1	2010-Q4	Pending	Annual contracts, renewable
32.10	Research assistants Limbé center (2)	26,000	SCQ-LC	Ex ante	100 %	0%	no	2010-Q1	2010-Q4	Pending	Annual contracts, renewable
32.11	Agricultural technicians Limbé center (2)	19,500	SCQ-LC	Ex ante	100 %	0%	no	2010-Q1	2010-Q4	Pending	Annual contracts, renewable
32.12	Drivers (2)	9,100	SCQ-LC	Ex ante	100 %	0%	no	2010-Q1	2010-Q4	Pending	Annual contracts, renewable
32.13	Support staff (2)	5,850	SCQ-LC	Ex ante	100 %	0%	no	2010-Q1	2010-Q4	Pending	Annual contracts, renewable

Works and goods: ICB: international competitive bidding; NCB: national competitive bidding; PS: price shopping; DC: direct contracting.

Consulting firms: QCBS: quality and cost-based selection; QBS: quality-based selection; FBS: fixed-budget selection; LCS: least-cost selection; SFQ: selection based on the firm's qualifications; DS: direct selection.

Individual consultants: SCQ-LC: selection based on consultant's qualifications, local consultants; SCQ-IC: selection based on consultants' qualifications, international consultants.