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# PROJECT PAPER

## ON A PROPOSED GRANT

## IN THE AMOUNT OF SDR 12.8MILLION
## (US$ 20MILLION EQUIVALENT)

## TO THE REPUBLIC OF HAITI

## FOR AN

# EMERGENCY BRIDGE RECONSTRUCTION AND VULNERABILITY REDUCTION PROJECT

November 3, 2008

Sustainable Development Department
Caribbean Country Management Unit
Latin America and the Caribbean Region

CURRENCY EQUIVALENTS
(Exchange Rate Effective Oct 23, 2008)

Currency Unit = Haitian Gourdes
US$ 1 = GDES 39.1
GDES 1 = US$ 0.0276

FISCAL YEAR
October 1 – September 30

## ABBREVIATIONS AND ACRONYMS

| | | | |
|---|---|---|---|
| BMPAD | Bureau de Monétisation et Programmes d'Aide au Developpement | MTPTC | Ministère de Travaux Publics, Transport et Communications (*Ministry of Public Works, Transport and Communications)* |
| CNGDR | Comité National de Gestion des Risques et Désastres (*National Committee for Disaster Risk Management*) | NCB | National Competitive Bidding |
| CQ | Consultant Qualification | OCHA | UN Office for the Coordination of Humanitarian Affairs |
| DPC | Direction de la Protection Civile (*Directorat of Civile Protection*) | PDNA | Post-Disaster Needs Assessment |
| EA | Environmental Assessment | PCU | Project Coordination Unit |
| EC | European Commission | PPF | Project Preparation Facility |
| EMP | Environmental Management Plan | PRSP | Poverty Reduction Strategy Paper |
| ERDMP | Emergency Recovery and Disaster Risk Management Project | PNGRD | Plan National de Gestion des Risques et des Désastres (*National Disaster Risk Management Plan)* |
| FER | Fonds d'Entretien Routier (*Road Maintenance Fund*) | PRODEP | Projet de Développement Rural Participatif (*Community Driven Development Project - Rural)* |
| FGHI | Tropical Storm Fay, Hurricanes Gustave, Hannah and Ike | QCBS | Quality Cost Based Selection |
| FMR | Financial Management Report | SA | Special Account |
| GFDRR | Global Facility for Disaster Reduction and Recovery | SBD | Standard Bidding Document |
| GOH | Government of Haiti | SDR | Special Drawing Rights |
| ICB | International Competitive Bidding | SNGRD | Système National de Gestion des Risques et des Désastres (*National Disaster Risk Management System)* |
| IDA | International Development Association | SPGRD | Secrétariat Permanant de Gestion des Risques et des Désastres (*Permanent Secretary for Disaster Risk Management)* |
| IDB | Inter-American Development Bank | UCE | Unité Centrale d'Exécution (*Central Implementing Unit*) |
| MICT | Ministère de l'Intérieur et des Collectivités Territoriales (*Ministry of the Interior and Local Governments*) | UN | United Nations |
| MINUSTAH | UN Mission for the Stabilization of Haiti | TOR | Terms of Reference |
| MPCE | Ministère de Planification et Coopération Externe (*Ministry of Planning and External Cooperation*) | UNDP | United Nations Development Program |

| | |
|---|---|
| Vice President: | Pamela Cox |
| Country Director: | Yvonne Tsikata |
| Sector Director: | Laura Tuck |
| Sector Managers: | Jose-Luis Irigoyen/Guang Zhe Chen |
| Task Team Leaders: | Nicolas Peltier-Thiberge/Ross Gartley |

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**EMERGENCY OPERATION PROJECT PAPER DATA SHEET**

# Haiti
# Emergency Bridge Reconstruction and Vulnerability Reduction Project
# Latin America and Caribbean Region

| | |
|---|---|
| Date: October 23, 2008<br>Country Director: Yvonne Tsikata<br>Sector Manager/Director: Jose-Luis Irigoyen / Guang Zhe Chen<br>Project ID: P114292 | Team Leaders: Nicolas Peltier-Thiberge, Ross Alexander Gartley<br>Sectors: General Transportation Sector (50%), flood protection (30%), Central Government Administration (20%)<br>Themes: disaster management (30%), transportation (50%) and institutional strengthening (20%).<br>Environmental Category: B |
| Borrower: Government of Haiti<br>Responsible Agency: Ministry of Public Works, Transport and Communications<br>Ministry of Planning and External Cooperation (MPCE<br>Implementing Agency: Unité Centrale d'Exécution (UCE) / Bureau de Monétisation | |
| Type of operation:<br>New operation [X] Additional financing [ ] Existing financing (restructuring) [ ] | |
| Financing type: Loan [ ] Credit [ ] IDA Grant [X] Other [ ] | |
| Total amount: SDR 12.8 million | Expected implementation period: 4 years |
| Expected effectiveness date: Jan 15, 2009 | Expected/revised closing date: June 30, 2013 |
| Development objective: The project's development objective is to i) restore access on selected critical points of the Haitian transport system, and ii) support vulnerability reduction by strengthening the Haitian National Disaster Risk Management System. | |
| Short description: The proposed project aims to partially finance the costs associated with the reconstruction and emergency maintenance of key infrastructure destroyed or damaged by the series of hurricanes and tropical storms that struck Haiti in September 2008. The proposed support will respond to the situation by financing emergency solutions (fords, temporary overpasses) to quickly restore access on selected critical points of the main roads, as well as by financing the reconstruction of two of the four main bridges that have been destroyed by the FGHI storms (Fay, Gustav, Hanna and Ike). The project is also expected to improve the resilience of selected Haitian bridges and roads to future natural disasters. Finally, the project will finance institutional capacity building and technical assistance activities to help improve infrastructure asset management practices within the Ministry of Public Works, Transport and Telecommunications and to support vulnerability reduction activities by providing technical assistance to the National Disaster Risk Management System for, inter alia, the preparation, planning and monitoring of the national recovery and reconstruction plan. | |

Financing plan (US$m.)

| Source | Local | Foreign | Total |
|---|---|---|---|
| Borrower | | | |
| Total IBRD/IDA | 10 | 10 | 20 |
| Trust funds | | | |
| Others | | | |
| Total | 10 | 10 | 20 |

Estimated disbursements (Bank FY/US$m.)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|
| Total IBRD/IDA | 5 | 6 | 5 | 3 | 1 | |
| Trust funds | | | | | | |

| | |
|---|---|
| Does the emergency operation require any exceptions from Bank policies?<br>Have these been approved by Bank management? | Yes [ ] No [X]<br>Yes [ ] No [ ] |
| Are any critical risks rated "substantial" or "high"? | Yes [X] No [ ] |
| What safeguard policies are triggered, if any? | Ref. Annex 8. Safeguards on Environmental Assessment, Forests, Pest Management, Physical Cultural Resources, and Involuntary Resettlement |
| Significant nonstandard conditions, if any: None | |

## A. INTRODUCTION

1. This Project Paper seeks the approval of the Executive Directors to provide a grant in an amount of US$20 million to the Government of Haiti for an Emergency Bridge Reconstruction and Vulnerability Reduction Project.

2. The proposed grant would help finance the costs associated with the reconstruction and emergency maintenance of selected key infrastructure destroyed or damaged by the series of hurricanes and tropical storms that struck Haiti in September 2008. The proposed support will respond to the situation by retroactively financing emergency solutions (fords, temporary overpasses) to quickly restore access on selected critical points of the main roads, as well as by financing the reconstruction of two of the four main bridges that have been destroyed by the FGHI storms (Fay, Gustav, Hanna and Ike). The project is also expected to improve the resilience of Haitian bridges and roads to future natural disasters. Finally, the project will finance selected institutional building and technical assistance activities to help improve infrastructure asset management practices within the Ministry of Public Works, Transport and Telecommunications (MTPTC) and to support vulnerability reduction activities by providing technical assistance to the National Disaster Risk Management System for, *inter alia,* the preparation, planning and monitoring of the national recovery and reconstruction plan.

3. The proposed project is not co-financed by other multilateral or bilateral agencies. However, project activities have been closely coordinated with other donors within the *Table Sectorielle Transport* (Transport Sector Coordination Table). In particular, the project is expected to facilitate the combined intervention of USAID and MINUSTAH to help rebuild the Ennery bridge and the intervention of AFD to help rebuild the Montrouis bridge.

## B. EMERGENCY CHALLENGE: Country Context, Recovery Strategy and Rationale for Proposed Bank Emergency Project

4. Haiti is the poorest country of the Northern hemisphere. Over the past decades, the country has demonstrated a very high vulnerability to a significant number of political, economic and social crises, as well as to numerous exogenous shocks such as adverse natural events and commodity prices. Over the past twelve months, Haiti experienced a significant tropical storm in October 2007 (Noel) that resulted in flash floods and mudslides in the Western part of the country, causing 66 deaths and 14,776 families losing their house. In March 2008, rising world prices for food and oil caused great hardship in the country, and triggered violent protests in early April, which led the Senate to vote Prime Minister Jacques-Edouard Alexis out of office on April 12. Finally after a period of political instability during which the country did not have a confirmed Government, the 2008 rainy season that started at the end of August was particularly strong, with four major storms and hurricanes (Fay, Gustav, Hanna and Ike - FGHI) hitting Haiti over a four-week period. The resulting damages caused in particular a complete collapse of the transport system, as well as major crop destructions.

5. If the situation is not quickly improved, this last series of natural disasters may evolve into a new period of civil unrest and political instability that could jeopardize the relative progress observed since the political, social and economic crisis of 2004: Democratic government was restored through presidential and parliamentary elections in 2006. Security has improved, as a 9,000-strong United Nations peacekeeping force supports the national police.

Major programs of rebuilding and reform have been launched, backed by more than $2 billion of international assistance. The economy has stabilized and growth resumed, reaching 3.2 percent for FY07. However, these positive results are fragile and Haiti's future is directly linked to the capacity of the country to reduce its vulnerability to external shocks, mitigate adverse impacts and protect its democratic institutions.

6. In this context, the FGHI storms represent a particularly difficult challenge for the Haitian authorities. According to Government and OCHA figures, as of October 4th, 793 people have been killed and 301 injured. An estimated 11,000 houses have been destroyed and 35,000 damaged. Taking into account pre-disaster baseline data, contingency planning, and the impact of Hurricane Jeanne in 2004, an estimated 850,000 to 1 million people were affected throughout the country by the combined impact of the storms. This number may well rise as access improve in the coming days and weeks. According to the Government, 151,000 people are currently displaced, out of which 111,000 people are staying in temporary shelters throughout the country. A preliminary post disaster needs assessment (PDNA), financed by the World Bank hosted Global Facility for Disaster Reduction and Recovery[1] (GFDRR) estimates that the total effects of FGHI is $897 million, which represents 14.6% of Haiti's GDP. In terms of economic impact, FGHI is the largest disaster in recent history.

7. Damages to the transport sector have been particularly severe, causing several Haitian regions to be completely isolated and the economy to be almost paralyzed. The Artibonite region is in a catastrophic situation with major flooding in Gonaives and access from the North and the South made complicated by the collapse of three key bridges (Montrouis, Ennery and Mirebalais). Other smaller bridges and road sections have been either destroyed or damaged. Many weakened bridges are expected to collapse by the next rainy season and represent significant threat to the population. Several on-going road works whose drainage system had not yet been completed were also affected. A preliminary assessment was performed by a World Bank mission, comprised of civil engineers seconded by the region of Guadeloupe. The mission identified damages on priority bridges and roads for a total amount of US$37.7 million (see map in Annex 13). This list was complemented by the MTPTC to include other second-priority damages for a total amount of US$90 million.

8. The transport sector remains a major bottleneck to Haiti's social and economic development. With about 80 percent of the country's overall traffic being by land, Haiti has a very limited road network of about 3,400 km, including 700 km of national roads, 1,500 km of departmental roads and 1,200 km of rural roads. Less than 800 km of roads are paved and more than 70 percent of the network remains in poor or very poor conditions. Due to the lack of maintenance, the size of the officially registered tertiary network has decreased by more than half over the period 1991-2004. Since 2004, specific measures to rebuild a road maintenance system, with in particular the creation of the Road Maintenance Fund (FER in French) have improved the overall capacity of the Government to respond to maintenance needs. A priority investment program aiming at rehabilitating 600 km of roads (one quarter of system), has been designed by the Government for the period 2006-2011 and endorsed and tentatively financed by the international community. The prioritization of investment has been improved by the

[1] A partnership between the World Bank, the United Nations International Strategy for Disaster Reduction (ISDR), Australia, Canada, Denmark, European Commission, Finland, France, Germany, Italy, Japan, Luxembourg, Norway, OFDA/USAID, Spain, Sweden, Switzerland, and the United Kingdom.

preparation of a strategy for the transport sector for 2006-2011, with support from the World Bank, and, more recently, by the updating of the national intermodal transport plan, financed by the EU. However, actual needs remain enormous and disasters such as FGHI generate reconstruction needs that affect the capacity to implement the planned rehabilitation program. Moreover, the experience of implementing the US$2 billion of foreign aid that have been committed since 2004, of which about a quarter in the transport sector, is mixed, due to multiple limitations. These limitations range from an extremely constrained implementation capacity of both the Haitian institutions and the private sector, causing accumulated implementation delays, but also from still insufficient among all actors.

9. The FGHI emergency revealed several important shortfalls in Haiti's infrastructure policies and NDRMS. Critical identified issues include: (1) a lack of integrated approach to disaster prevention (including poor urban planning, inefficient water control and strong erosion caused by environmental deterioration); (2) inadequate technical standards for infrastructure construction; (3) lack of infrastructure maintenance; and (4) lack of technical capacity and institutional arrangements to properly handle crisis management and reconstruction. The current crisis has particularly highlighted the importance of road and bridge maintenance, since properly maintained roads and bridges were less affected.

10. In the coming weeks and months, major risk factors include the possibility of new major natural disasters since the rainy season will last until end November, as well as possible civil unrests that could affect the stability of Haitian institutions. In this context, the timeliness of the GoH's response will be critical. Results need to be shown quickly by restoring basic access on the major transport corridors. In parallel, a recovery and reconstruction program needs to be swiftly engaged, with particular attention being paid to vulnerability reduction through a more integrated approach, at the strategic, normative and operational levels within and across ministries and departments. An important trade-off to be addressed is that implementation should not be accelerated at the expense of the quality of emergency rehabilitation and vulnerability reduction. Otherwise, there would be a high risk (including reputational) to lose again key rebuilt infrastructure during the next rainy season.

11. The GoH has already initiated an immediate emergency response by restoring basic access on the major national roads. As part of the Emergency State Law (*Loi sur l'Etat d'Urgence*) promulgated on Sept 15, 2008, the GoH has directly contracted the four main Haitian construction firms, using unit prices from on-going contracts. These emergency contracts include the building of *passages a gués* (fords) to provide access where major bridges have collapsed, as well as some erosion protection works. In addition, the recently reinforced National Equipment Center (*Centre National d'Equipement*) has initiated emergency works in Gonaives and Miragoane Lake, two areas particularly affected by FGHI.

12. The proposed project would provide a comprehensive investment and technical assistance package to accompany the GoH in the post-disaster recovery and reconstruction phases with a view to contributing to improve the resilience of selected infrastructure vis-à-vis future disasters and to helping strengthen the principle actors within the NDRMS and support the preparation, implementation and monitoring of a comprehensive disaster recovery and reconstruction plan. Over the past five years, the World Bank has been one of the major donors active in the transport sector, together with the European Commission and the Inter-American Development Bank. The Bank has played a critical role in establishing and strengthening the FER . The World Bank has

also been a significant donor in the area of disaster management through the Emergency Recovery and Disaster Management Project. Through its on-going projects and policy dialogue in the transport sector as well as in disaster management, the Bank is therefore well positioned to help the GoH respond to the FGHI emergencies and, more broadly, to implement actions that would reduce Haiti's vulnerability to future disasters. The Bank is also the only donor active in Haiti with emergency procedures such as OP/BP 8.00.

13. The proposed project has been closely coordinated with the other donors through the transportation coordination entity (*Table Sectorielle Transport*) and in consultation with the United Nations Development Program's (UNDP) disaster risk management unit. Over the past years, the transportation coordination entity has been very effective to coordinate interventions and articulate policy recommendations to the Government. The World Bank is the only donor to consider a wide scale bridge reconstruction program, as an emergency response to the FGHI storms. This program will only address part of the reconstruction needs and therefore will have to be complemented by specific initiatives on individual infrastructure, financed by other donors (eg. MINUSTAH and USAID on Ennery bridge and possibly the French Development Agency (AFD) on the Montrouis bridge). Implementation will be monitored by the *Table Sectorielle Transport*.

## C. BANK RESPONSE: THE PROJECT

### 1. Brief description of Bank's strategy of emergency support

14. The World Bank has articulated a comprehensive response to the FGHI emergency. This response contributed both to the initial needs assessment phase and to the immediate emergency response, and aims to contribute through this project to the recovery, reconstruction and vulnerability reduction activities.

15. As with regard to the initial needs assessment phase, the World Bank hosted GFDRR has been co-leading a PDNA. Following a request for technical assistance from the Government, a PDNA will be conducted from Oct 7 - 21, 2008. Under the leadership of the Ministry of Planning and External Cooperation (MPCE), the World Bank, the UN, the European Commission and the IaDB pooled their respective technical resources to i) estimate the overall impact of the FGHI on the socio-economic development of the country, the affected areas and specific communities, ii) develop a preliminary strategy for early, medium and long-term recovery and reconstruction including the costing of the identified needs in all key sectors of the economy, and iii) assist the government through technical and policy assistance to strengthen their national disaster risk management system and to facilitate the coherent and effective implementation of the identified activities.

16. In order to helping address the emergency and short-term reconstruction phase, the Bank has prepared the following package of new operations and restructuring of existing projects:

- The proposed project focuses on Bridge Reconstruction and Disaster Mitigation: This project will help rebuild major bridges, improve the resilience of selected transport infrastructure and strengthen the NDRMS, with a specific focus on the preparation, implementation and monitoring of the disaster recovery and reconstruction program. Immediate funding will be made available through a Project Preparation Facility (PPF).

- A US$7.4 million additional financing grant to the Emergency Recovery and Disaster Management Project (US$12 million) to support rehabilitation and local risk reduction activities following last year's tropical storm Noel was declared effective on September 22, 2008. The rehabilitation and reconstruction activities to be financed by the additional financing grant are being revised by the government to account for the damage and losses associated with FGHI and the recovery and reconstruction priorities. The rehabilitation and reconstruction activities will address small (>$250,000) public infrastructure needs, including, but not limited to, community centers, health clinics, irrigation and drainage systems and schools. The local risk reduction activities will reinforce the 54 Community Civil Protection Committees established under the original grant and provide them with funds to execute an additional risk mitigation subproject. The additional financing will also be used to expand the local risk reduction activities to 19 new communities in the targeted departments. In addition those institutional strengthening activities programmed under component 2 of the ERDMP will benefit from the technical assistance financed under this proposed project.
- A US$8 million reallocation of funds from the Haiti Transport and Territorial Development Project to support other reconstruction activities following last year's Tropical Storm, that have been updated to include the additional damages caused by FGHI.
- A US$ 5M PCF (State and Peace Building Fund) for Rural Water and Sanitation will improve access to water supply and sanitation services in participating rural communities within the post-hurricane context, using the tested implementing arrangements of two existing Bank projects, the Community-Driven Development (CDD) project and the Rural Water and Sanitation (RWSS) project
- US$150,000 GFDRR Track III for the execution of a joint Post-Disaster Needs Assessment. Possible activation of the "Haiti Recovery and Resilience Fund" to support the recovery and reconstruction needs presented by the GoH.

17. Finally, the longer-term reconstruction and disaster prevention and mitigation challenges will be addressed by specific components and activities from the proposed project, as well as from the Rural Water and Sanitation PCF and the GFDRR Track III initiatives.

**Table 1: Summary of World Bank response to FGHI**

| | Amount (US$m) | Needs Assessment | Emergency | Reconstruction | Capacity Building |
|---|---|---|---|---|---|
| Emergency Bridge Reconstruction and Vulnerability Reduction Project | 20 | No | Yes | Yes | Yes |
| Emergency Recovery and Disaster Management Project | 7.4 (additional financing) | Yes | Yes | Yes | Yes |
| Transport and Territorial Development Project | 8 (reallocation) | Yes | Yes | Yes | No |
| State and Peace Building Fund for Rural Water and Sanitation | 5 | No | Yes | Yes | No |
| GFDRR Track III | 0.1 | Yes | No | No | No |

## 2. Project development objectives

18. The project's development objective is to i) restore access on selected critical points of the Haitian transport system, and ii) support vulnerability reduction by strengthening the Haitian National Disaster Risk Management System.

19. In addition to the emergency reconstruction of selected infrastructure, the proposed program is expected to contribute to vulnerability reduction. In particular, the proposed project will pilot integrated approaches to try reducing the impact of future adverse natural events by developing improved technical standards for bridges, promoting the preventive maintenance of infrastructure and building basic institutional capacity to handle future disasters.

20. It is important to note that the proposed operation will not have the capacity to address all shortfalls in the transport sector in Haiti, nor in the Haitian disaster management system. Instead, the proposed operation aims at demonstrating good practices and proposes a basic framework that could be expanded using other resources. A large proportion of project resources will be dedicated to physical emergency and reconstruction works, as identified by post-disaster assessments. However, significant institutional support was also included in order to build capacity for the effective and efficient execution of these works.

## 3. Summary of project components

21. The proposed project includes the following four components:[2]

22. Component 1. Reconstructing selected bridges to restore access (US$7.2 million): This component will retroactively finance – subject to conformity to Bank procurement guidelines, emergency works performed by MTPTC to restore basic access in areas where major bridges have collapsed (sub-component 1.1.). The component will also rebuild two of the four damaged main bridges (Mirebalais and Chalon), help the MTPTC acquire a stock of emergency bridges in preparation for future disasters and provide targeted assistance to bridge reconstruction works financed by other donors (sub-component 1.2.).

23. Component 2. Improving the resilience of transport infrastructure (US$4.9 million): This component will finance several repair and consolidation works on damaged or weakened bridges and road sections. An indicative list of works has been prepared by the MTPTC, with the assistance of a World Bank mission that visited Haiti immediately after the FGHI storms. This component will also finance community-based routine maintenance activities, building on both the successful experiences piloted by the FER and by the Bank-financed CDD operations in Haiti.

24. Component 3. Improving transport asset management (US$2.6 million): This component will finance a number of capacity building activities aiming at developing good practices in bridge asset management, hydrolic monitoring and at strengthening the institutional capacity of the MTPTC and its regional offices (DDTP).

[2] The total budget of the four components amounts to US$19.6 million, to which have been added US$0.4 million contingencies.

25. Component 4. Support Vulnerability Reduction by Strengthening Haiti's NDRMS (US$4.9 million): This component will finance a comprehensive technical assistance package to support the creation of a post-disaster recovery and coordination unit within the MPCE and provide technical assistance to strengthen the vulnerability reduction capacities of the NDRMS per the recommendations of the PDNA (sub-component 4.1 & 4.2). Coordination arrangements will include MTPTC, particularly with regard to the implementation of the proposed project (components 1, 2 and 3), but also other ministries and relevant institutions. This component will also pilot a more integrated approach to disaster prevention through strategic studies to be performed in selected areas particularly vulnerable to natural disasters such as Gonaives or Etang Saumatre-Lac Azuei (sub-component 4.3). This component builds on existing Bank operations in disaster risk management in Haiti, namely the ERDMP, by providing a more systematic approach to disaster risk mitigation, recovery and reconstruction at the national coordination level and within specific key ministries.

## 4. Readiness for implementation

26. The emergency reconstruction of fords and overpasses is under way, as well as the recruiting of key staff to be hired by the MTPTC's Unité de Coordination et Exécution (UCE) to implement the project. Most of works to be performed under component 2 have had a preliminary technical assessment that is being furthered and complemented in order to prepare the bidding documents. The works of component 2 have been prioritized according to the risk of losing infrastructure assets in the short and medium term. Procurement methods have been selected in response to these emergency requirements (see Simplified Procurement Plan provided in Annex 5).

## 5. Eligibility for processing under OP/BP 8.00

27. The GoH officially requested from the World Bank financial and technical assistance to support its post-disaster needs assessment and the recovery and reconstruction program following FGHI. The request was formally made to the World Bank's Country Director in a letter dated from the Minister of Economy and Finance. The preliminary results of the GFDRR lead PDNA evaluate the effects of FGHI to be $897 million, or the equivalent of 14.6% of GDP. This is a very significant event for the size of the Haitian economy and represents the largest disaster in recent history.

## 6. Consistency with country strategy (CAS or ISN)

28. Economic recovery remains a central axis of the 2006 *Haiti Interim Strategy Note*, of which the transport sector and the management of natural disasters and risks remains a key component. The strategic importance of an improved transport sector and disaster risk management for economic growth is well recognized by the GoH, who featured both as key elements of the Poverty Reduction Strategy Paper (November 2007). The project itself is pro-poor since (i) the poor are usually the most vulnerable to natural disasters; (ii) areas worst affected by FGHI targeted; and (iii) risk mitigation activities undertaken address the poor's vulnerability reduction needs.

## 7. Expected outcomes

29. The proposed project seeks to restore access on selected critical points of Haiti's transport infrastructure and reduce the system's overall vulnerability to adverse natural events. This outcome will be achieved by addressing the multiple challenges evidenced by the FGHI emergency, in coordination with other donors. The project will in particular assist the Haitian authorities in restoring basic access on critical points of the transport system and building more resilient bridges in Mirebalais and Chalon. The project will also support the overall reconstruction program by assisting other donors rebuild bridges in Ennery and Montrouis. The project will also perform maintenance and repair activities on at least 20 bridges and road sections that have been damaged or weakened by the FGHI. Innovative arrangements with communities will be promoted to routinely maintain selected infrastructure and possibly intervene in case of emergency. The proposed project also seeks to strengthen the vulnerability reduction capacities of the NDRMS as per the recommendation of the PDNA, including the creation of a coordination unit within the MPCE responsible for the preparation and monitoring of the recovery and reconstructions program. The proposed project will also pilot two specific integrated risk mitigations programs.

30. It is important to mention that the proposed project will not completely prevent future bridge collapsing in Haiti, since the occurrence of major natural disasters in the part of the world is expected to remain high and even possibly accelerate as a result of climate change. Also, the national capacity to handle such disasters is today too limited to expect any dramatic improvement in the near future. However, the proposed project is expected to reduce the vulnerability of selected infrastructure, progressively introduce good practices in terms of maintenance and asset management, and contribute to basic improvements of the national capacity to manage infrastructure and ensure coordination to improve response and mitigation.

31. Key output indicators include:

- Number of emergency fords and overpasses built in the next two months following disasters
- Number of bridges rebuilt with satisfactory technical standards
- Number of bridges and road sections that have been repaired or consolidated with satisfactory technical standards
- Number of community-based initiatives performing routine maintenance with satisfactory technical standards
- Bridge inventory completed and up to date
- Establishment of Disaster Recovery and Reconstruction Planning Unit within MPCE
- Presentation of Disaster Recovery and Reconstruction Program
- Number of Disaster Risk Management Units created within line ministries
- Integrated plans to reduce the vulnerability of Gonaives and Etang Saumâtre – Lac Azuei have been prepared.

32. Key outcome/impact indicators include:

- Disaster risk management units within key ministries are operational and sustainable, with adequate resources and staffing

- MTPTC bridge management unit is operational and sustainable, with adequate resources and staffing
- MPCE recovery and reconstruction planning unit is operational and sustainable with adequate resources and staffing
- Permanent Secretariat of Disaster Risk Management (SPGRD) unit is reinforced, operation and sustainable

33. In addition to the indicators listed in the formal results monitoring framework, other indicators will be monitored, among which:

- Days per year when even basic access on selected bridges is not possible, depending on intensity of hydrometeorological events
- Proportion of infrastructure whose resilience has been improved that have spot damages remaining more than 4 weeks, depending on intensity of hydrometeorological events
- Process to reduce the vulnerability of Gonaives and the region of Etang Saumatre – Lac Azeui has been engaged

## D. APPRAISAL OF PROJECT ACTIVITIES

34. **Economic benefits and beneficiaries.** The economic benefits of the project will be, on the short term, to contribute to restoring access and road network connectivity in selected critical points of the network and, on the longer term, to better preserve road infrastructure assets throughout enhanced infrastructure resilience. On the short term, restoring access and road connectivity will (i) improve emergency response effectiveness, (ii) enhance access to public facilities such as health centers, schools and local markets (iii) allow trade and exchanges to resume, at the national level. Haitian people at large will benefit from the project.

35. **Technical.** In the Haitian context, it is likely that the "temporary" bridges will remain as "permanent" structures. Hence, the two new bridges of *Mirebalais* and *Chalon* will have to be designed as permanent structures, according to the Haitian bridge design norms, largely based on the AASHTO; as a consequence, the technical challenge is to have these bridges reconstructed quickly, as part of the emergency response, but in a sustainable and economical manner, as part of the reconstruction phase. This may not require to build "stronger" bridges but, rather, "smarter" bridges, whose design may for example include structuring discharge channels right around the bridge structure to decrease the river flow pressure against the bridge in case of overruns. In addition, the project includes resources to work on the immediate bridge environment (stabilization of soil, protection of banks) in order to improve river-flow management. Cooperation with other institutions will also be seeked (eg. the Haitian Ministry of Agriculture which is planning to protect about 500 km of river banks from erosion by installing *gabions*). An hydrolic monitoring program will also be implemented by the new bridge unit in MTPTC under component 3. In order to reduce construction costs and delays, the two new bridges could be designed and build under a *design-and-build* contract; the contract would also include the provision of modular bridge elements that could be used later in emergency situations, immediately available in the country. Particular attention will be given to the storage conditions of these bridge elements.

36. **Institutional.** The project will be implemented by two existing Project Implementation Units (PIU) experienced in managing Bank funds. A small emergency unit, staffed with a

procurement specialist (already identified), a contract management specialist, an accountant, an environmental and social specialist an international bridge specialist will be constituted within MTPTC's UCE. Also, a provision has been included to hire international experts on short-term assignments, as specific technical needs arise. A financial management specialist (already identified) will be placed as direct advisor to the Minister of the MTPTC to follow up implementation from a financial perspective and ensure proper coordination with MTPTC and FER's regular budgets. With the international bridge specialist in place (scheduled for early November 2008), sufficient capacity will have been constituted in order to proceed with implementation. An additional support staff will be hired to support the *Bureau de Monétisation*'s Project Coordination Unit to facilitate relations with the UCE and to ensure that all reporting requirements are meet to ensure timely submission of Project Activity and Financial Management Reports.

37. **Fiduciary.** A financial management assessment has been carried out and concluded that arrangements for the Project satisfy the Bank's requirements under OP/BP10.02. It pointed to the need for improvement in several areas, which will be addressed through an action plan specifying the responsible parties and deadlines (see Annex 4). Fiduciary responsibilities will be carried out by the *Unité Centrale d'Exécution* (UCE) and the *Bureau de Monétisation des Programmes d'Aide au Développement* (BMPAD). Both implementing entities have strong financial management systems and good track record in managing the World Bank's resources.

38. Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated May 2004, Revised October 1, 2006; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004 Revised October 1, 2006, and the provisions stipulated in the Legal Agreement. The various items under different expenditure categories are described in Annex 5.

39. **Environmental/Social.** This project was classified under **Environmental Category B,** in which a complete environmental study is not necessary. The risks of triggering negative environmental and social impacts locally are minimal. However, in the context of component 1 and specific sub-projects of component 2, such as the rehabilitation of bridges, the construction of scuppers, of retaining walls, or the rehabilitation of drainage systems, such specific activities might engender negative impacts.

40. Among the 10 existing safeguard policies, 5 have been triggered to ensure the adoption of measures to adhere to these policies. These are OP/BP 4.01 on Environmental Assessment, OP/BP 4.36 on Forests, OP/BP 4.09 on Pest Management, OPN 11.03 on Cultural Property and OP/BP 4.12 on Resettlement.

41. In response to the three first policies, an Environmental and Social Management Plan was drafted and the Involuntary Resettlement Framework of another Bank-financed operation in transport will be used, after revision, for the purpose of the proposed operation. A social and environmental specialist will also be recruited by UCE. Refer to Annex 8 for a detailed description of the social and environmental framework as well as the resettlement framework.

42. **Lessons learned and reflected in the project design.** The proposed project design takes into account lessons learned from previous operations in Haiti and from Bankwide experience with emergency response operations. Those include in particular:

- Simplified objectives and scope limited to 1 or 2 sectors: While needs are enormous in many other sectors than just transport, complex multi-sector operations are difficult to implement in a low capacity environment such as Haiti, particularly under emergency procedures. The proposed project focuses instead on two single issues: (1) selected bridge reconstruction and maintenance works and (2) support vulnerability reduction by strengthening the Haitian National Disaster Risk Management System, of which the MTPTC is a key member.

- Use of reinforced existing implementing agencies: building new institutional capacity in Haiti requires delays that are not compatible with the implementation of an emergency operation. The project could have been implemented using alternative arrangements (eg. management contract with international NGOs or consulting firms). However, this would have weakened the project's longer-term objective of building capacity within Haitian government institutions to manage and prevent future disasters. The project implementing agencies that have been selected have a proven track record in implementing multilaterally-financed activities. However, acknowledging the limited experience of UCE in managing emergency activities, specific support (international consultants) will be granted to build such capacity.

- Strong technical assistance package to accompany implementation and build capacity: despite recent progress, GoH's institutions still have a very limited capacity. The FGHI emergencies also highlighted strong limitations in the NDRMS. The proposed project includes a comprehensive technical assistance package to address these weaknesses.

- Maintenance is essential to protect existing infrastructure: There is significant international evidence that maintenance remains the most cost effective investment in the transport sector. In Haiti, the experience of Noel and FGHI have shown that well-maintained infrastructure resist better to hydrometeorological events.

- Technical alternatives for bridges with proven track record in similar environments: Extreme climatic environment such as Haiti requires adequate technical solutions, particularly for highly-exposed infrastructure such as bridges. Project design includes the recommendations from experienced international emergency bridge specialists who visited Haiti on September 22-26, under a financing agreement with the EU.

43. The proposed project does not involve any exception to Bank policies.

## E. IMPLEMENTATION ARRANGEMENTS AND FINANCING PLAN

44. **Institutional arrangements.** The proposed project will be implemented by two existing Project Implementation Units (PIU) with a proven track record in managing Bank-financed operations:

- The Unité Centrale d'Exécution (UCE) will implement Components 1, 2 and 3. The UCE is part of the Ministry of Public Works, Transport and Communications (MTPTC). The UCE is currently implementing most of the externally-financed investments in transport in Haiti, with resources from the IaDB, Canada (CIDA), France (AFD) and the World Bank (Transport and Territorial Development Project). While the UCE has been very successful in assuming the fiduciary responsibility associated with these operations, it has so far demonstrated a limited capacity in handling technically complex interventions and in implementing activities under a tight schedule. However, the UCE remains the best available alternative to manage transport investments within MTPTC. In order to ensure the sound and swift implementation of the proposed emergency program, the UCE will be reinforced with the creation of a emergency unit (*cellule d'urgence*), staffed with a full time procurement specialist, a contract management specialist, an accountant, an international consultant specialized in bridges and a social and environmental specialist. This unit, to be established in the next 2 months following the FGHI events, is expected to have sufficient capacity to immediately jump start the emergency program. The international consultant will also train professional staff of the UCE in handling technically complex bridge repair and reconstruction operations. In addition, a provision has been set up to hire international experts (eg. geotechnical specialist or erosion management expert) on short-term assignments, as specific technical needs may arise. A firm will be hired to prepare bidding documents for major reconstruction works and supervise execution.

- The *Bureau de Monétisation Unité de Coordination de Projet* (BM-UCP) will implement Component 4. The *Bureau de Monétisation* is part of the Ministry of Finance and is one of the Government's principle donor financed project management institutions. The BM-UCP currently implements on behalf of the government the World Bank financed Community Driven Rural Development Project, the Community Driven Urban Development Project as well as select components of the Emergency Recovery and Disaster Risk Management Project and the Transport and Territorial Development Project. The BM-UCP has a full compliment of technical and fiduciary staff and has been very successful in the managing the implementation responsibilities associated with these operations. An additional consultant will be hired to facilitate coordination with the UCE.

45. **Project Preparation Facility (PPF).** A detailed project cost table has been prepared and validated with the Minister of the MTPTC. This table is attached in Annex 3. A Project Preparation Facility (PPF) has been requested by the MEF for an amount of US$4.83 million. This PPF will reimburse the GoH for emergency expenditures incurred to restore basic access immediately after the FGHI storms, subject to eligibility to Bank financing, and to help finance critical activities such as topographical and geotechnical studies as well as international consultants needed to rapidly build sufficient bridge-related technical expertise in UCE and MTPTC. The PPF will also support the establishment of a recovery and reconstruction coordination unit within the MPCE to help define the post-disaster development agenda and prepare the recovery and reconstruction program.

46. **Financial management and disbursement arrangements.** UCE will be responsible for the overall reporting of the project, including consolidation of financial information transmitted

by BM-UCP. UCE will ensure that on a quarterly basis the Interim Un-Audited Financial Reports (IFR) are produced and transmitted to the Bank not later than 45 days after the end of the quarter. On an annual basis, not later than four months after the fiscal year, annual audited financial statements will be sent to the Bank.

47. Disbursements will be made in accordance with procedures outlined in the Disbursement Handbook for World Bank Clients and will allow for use of advances, reimbursement, direct payment, and issuance of Special Commitment. Two designated accounts will be authorized for implementation of the activities: (i) designated account A, managed by UCE, will be used for the implementation of components 1, 2, and 3; and (ii) designated account B, managed by BMPAD, will be used for the implementation of activities under component 4.

48. **Procurement arrangements.** Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated May 2004, Revised October 1, 2006; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004 Revised October 1, 2006, and the provisions stipulated in the Legal Agreement. The various items under different expenditure categories are described in the Simplified Procurement Plan (SPP) provided in Annex 5. For each contract to be financed by the Grant, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. The works will be mostly implemented by private firms (international and local). However, some of the labor-intensive, minor repair works to be financed under component 2 might be implemented directly by the Regional Offices of MTPTC (DDTP - *Directions Departementales des Travaux Publics*).

49. **Alternative implementation arrangements considered.** Alternative implementation arrangements such as sole-source UN implementation or Bank execution were discarded due to the necessity to build capacity within Haitian government institutions to handle future disasters. Arrangements involving international NGOs or consulting firm in the management of the emergency and reconstruction program were discarded for the same reason. However, the proposed project plans to involve NGOs in the implementation of the community-based routine maintenance activities under component 2. Community-based arrangements such as the constitution of micro-enterprises have been found to be very effective to perform routine road maintenance, in many Latin American countries but also in Haiti. Other Bank projects such as the PRODEP have also evidenced the strong capacity of Haitian communities. However, communities are not suitable to rebuild technically-complex infrastructure such as large bridges.

50. **Supervision, Monitoring and Evaluation.** Speed, technical soundness and strong coordination represent the three major challenges to implement the proposed project. To better assist the Haitian counterparts, the World Bank will intensify its supervision efforts during the first year of implementation (with four to five supervision missions instead of the usual standard of two per year). The World Bank has also recently expanded its country office staff to include a full time Sustainable Development Operations Officer who, as co-TTL of the proposed project, will provide timely supervisory support to the project team. Building on the successful experience during the preparation of the proposed operation, the World Bank is expected to

benefit during implementation from the technical expertise of road engineers from the Guadeloupe region as well as from the French *Centre National des Ponts de Secours* (National Center for Emergency Bridges) and other similar international agencies. The Monitoring and Evaluation arrangements will be handled by the bridge unit (*cellule ouvrages d'art*) to be constituted in MTPTC, as part of Component 3. This unit will be trained in ensuring sound bridge asset management and in performing a thorough bridge inventory. A critical function of this unit will be to monitor the resilience of Haitian bridges and to scale up the best practice arrangements proposed under this project (particularly regarding maintenance and emergency response). Finally, donor coordination will be ensured by the *Table Sectorielle Transport*, chaired by the MTPTC and the *Groupe Sectoriel Gestion des Risques*, chaired by the UNDP.

51. **Closing date and implementation schedule.** The proposed project is scheduled to be implemented over a 4 year period with a closing date of June 30, 2013. Disbursements are scheduled to be front-loaded in FY09 and FY10. The proposed PPF is expected to accelerate implementation without having to wait for project effectiveness. The contracts for the reconstruction of the two main bridges are expected to be signed in the first trimester of CY09 so that works could be well advanced before the next hurricane season. However, delays in the procurement process and/or technical design issues may require postponing the reconstruction of major bridges after the rainy season. To cope with this risk, a provision has been established to rebuild or strengthen the on-going basic access investments (fords) at the time of the next hurricane season.

## F. PROJECT RISKS AND MITIGATING MEASURES

| Risk | Risk Mitigation Measure(s) | Risk rating after mitigation |
|---|---|---|
| Overall Country Risk | | High |
| Rebuilt infrastructures are not ready in time for the next hurricane season and delays in implementation affect credibility of Government and donors' response and contribute to civil unrest and political instability. | The project will show quick results through the building of emergency water crossings (fords) to be built within the next 2 months following the FGHI storms. Emergency works will be financed through a PPF arrangement, using a retroactive clause. Contingencies will be used to finance the rebuilding of these fords if definite bridges are not ready at the time of the next season. Communication activities will be implemented under component 4 to inform better stakeholders of project implementation and manage expectations. Close follow up of implementation will be performed through more frequent Bank supervision missions. | High |
| A combination of adverse events (additional major disasters, external shocks triggered by the world's financial crisis, domestic civil unrest) over-exceeds the capacity of Haitian institutions to respond | The project proposes a comprehensive institutional building package under component 4 to strengthen national disaster risk management system's preparation and response and recovery capacities. | High |
| Design standards are under-dimensioned to cope with the next hurricane seasons. | Reinforced construction standards (piles, abutments) will be applied and particular attention will be given not only to the infrastructure itself but also to the immediate environment (soil stabilization, protection of river banks against erosion). | Moderate |

| | | |
|---|---|---|
| MTPTC's role in reconstruction is challenged by other Haitian institutions , reducing the effectiveness of the overall reconstruction program | The MTPTC is in charge of coordinating all interventions in the transport sector. The proposed project will not intervene in areas where other institutions are active. Coordination will be sought with other Haitian institutions involved in reconstruction within the realigned disaster management and emergency response system to be implemented under component 4. The Bank will maintain active dialogue during supervision and use the *Table Sectorielle Transport* as coordination entity with the other donors. | High |
| MTPTC does not build sufficient capacity to handle emergency operations in time to address the next hurricane season | The proposed project will be implemented by the UCE, an implementing agency with a satisfactory track record in managing Bank resources. However, since UCE has had so far little involvement in emergency operations (except the ones implemented after Noel), a specific emergency unit will be constituted within UCE to implement this project. This unit will be staffed with a procurement specialist specifically trained to emergency procedures and with an international consultant specialized in bridges. A second international consultant will be placed in MTPTC to build capacity in bridge asset management within the Ministry. | Substantial |
| The reconstruction program focuses too much on quickly rebuilding damaged infrastructure and less on preventive measures and policies | Project design gives has much importance to reconstruction than to preventive activities. Maintenance activities performed on selected Haitian roads (like RN4) have demonstrated the relevance of proper maintenance to improve the resilience of infrastructure. | Moderate |
| Government commitment to disaster risk management is diverted by other critical issues | Activities in the project are included in the government investment program. The design and implementation of the program envisaged under project will emphasize building support from relevant stakeholders to ensure broad demand for such interventions. GoH has just placed disaster risk management as major cross-cutting issue in PRSP. | Moderate |
| Coordination between the two Project Implementation Units is not effective and *Bureau de Monétisation* is not able to effectively engage the contribution of critical ministries (eg. the Ministry of Agriculture) | Coordination between the two PIU will be facilitated through a Memorandum of Understanding and clear definition of roles and responsibilities, particularly concerning reporting obligations and deadlines. A staff, specifically in charge of ensuring proper coordination with the UCE will also be hired by the Bureau de Monétisation. | Moderate |
| Financial management risk | Although fiduciary risk in Haiti is high, the impact on the project will be limited, given the use of existing implementing entities with good track record in managing external funded resources and the limited use of the country's public financial management system. | Moderate |
| Procurement risk | While the procurement team in the Bureau de Monetisation and the UCE are well equipped to execute procurement according to Bank guidelines, the overall public procurement in Haiti remains relatively weak. To mitigate risks, an experienced procurement specialist and a contract management specialist will be hired by UCE to implement this project. Design and supervision of major works will be supervised by an | High |

| | | |
|---|---|---|
| | international consulting firm. The project will also use the anti-corruption framework developed for another Bank-financed operation (PTDT). | |
| **Overall Risk Rating** | | **High** |

## G. TERMS AND CONDITIONS FOR PROJECT FINANCING

The proposed project will be financed through a $20 million IDA Grant. These funds were drawn from IDA 15 on an exceptional basis in addition to Haiti's regular allocation to support disaster recovery and risk reduction in Haiti, following GoH's official request for financial support.

## Annex 1. Detailed Description of Project Components

**Component 1. Reconstructing selected bridges to restore access (US$7.2 million):** This component will retroactively finance emergency works performed by MTPTC to restore basic access in areas where major bridges have collapsed (sub-component 1.1.). The component will also rebuild two of the four damaged main bridges (Mirebalais and Chalon), help the MTPTC acquire a stock of emergency bridges in preparation for future disasters and provide targeted assistance to bridge reconstruction works financed by other donors (sub-component 1.2.).

*Subcomponent 1.1. Restoring basic access (US$1,565,000):* This sub-component will retroactively finance emergency construction works, as part of the PPF requested by the Haitian Ministry of Finance, subject to conformity with Bank-procurement guidelines. Works were directly contracted by the MTPTC under the framework of the Emergency State Law, promulgated on Sept 15, 2008. Under this arrangements, major Haitian construction firms with active civil works contracts in the emergency areas, were requested (through *ordres de service*) to perform emergency works (fords, temporary passes, protection works) to restore immediate access, using the unit prices indicated in their active contracts. These works were temporarily financed with proceeds from an oil monetization arrangement with PetroCaribe. Five of such contracts have been signed and would be eligible to retroactive financing (see table below).

Table 1: List of emergency contracts eligible to retroactive financing

| Description | Amount (US$) | Contractor | Status as of Sept. 26 |
|---|---|---|---|
| Building Montrouis emergency ford | 600,000 | Estrella | 80% completed |
| Building Mirebalais emergency ford | 215,000 | Elsamex | 20% completed |
| Building Chalon emergency ford | 150,000 | VORBES | 0% completed |
| Building Rivière Gauche emergency ford and protection against erosion | 350,000 | Buraco | 30% completed |
| Protecting rivière Bretelle against erosion | 250,000 | Estrella | 80% completed |

The most advance of these works is the construction of a temporary overpass in replacement of the Montrouis bridge (see picture). The overpass design was validated by a team of international experts in emergency bridges who traveled to Haiti on September 18-24, as part of a mission financed by the EU and whose conclusions were shared with the *Table Sectorielle Transport*. It is estimated that such infrastructure should be sufficient to provide basic access for a period of 1 to 2 years, until a definite bridge would be rebuilt. The overpass could however be damaged if another series of storms similar to FGHI was to occur. To address this risk, a provision (taken from the project's unallocated resources) has been constituted to rebuild the overpass.

Picture 1: Montrouis emergency overpass in construction (as of Sept. 24, 2008)

*Subcomponent 1.2. Bridge reconstruction (US$5,600,000):* This sub-component aims at rebuilding two of the four major bridges that have been destroyed by the FGHI storms (see pictures). The selected bridges to be rebuilt under this project are Mirebalais and Chalon. The Ennery bridge should be rebuilt by MINUSTAH and USAID and the Montrouis bridge by AFD (to be confirmed). In order to facilitate the reconstruction works to be financed by these other donors, the proposed project will finance some of the preliminary topographic and geological studies, as well as a design study for the abutments of the Ennery bridge. The sub-component will also finance the dismantling and removal of the Mirebalais bridge.

The technical options considered for these bridges are:

- Both *Mirebalais* and *Chalon* bridges: probable deep foundations for bridges piers and abutments. Preliminary diagnosis showed that the superficial foundations of the collapsed bridges were not resistant enough (and, in some cases, poorly shaped) to resist strong water flows.

- Both *Mirebalais* and *Chalon* bridges: in case of future floods, the thickness of the deck structure will be as low as possible so as to minimize resistance to strong water flows. This functional specification will basically bar tall deck structures (e.g. Bailey type) and, on the contrary, will promote slim structure (e.g. under-deck metal beams).

- *Mirebalais* bridge: approximately 80m extension, including 1 pier and 2 spans of 40 m. This bridge is much longer than the former one so as to have the necessary hydraulic opening (see photo below where the abutments were washed out). This bridge would support a dual lane road with sidewalks (approx. 9 m width).

- *Chalon* bridge: the new bridge will have an extension of approx. 30 m. This bridge would support a dual lane road with sidewalks (approx. 9 m width).

An interesting technological option will be to resort as much as possible to standardized deck elements, such as prefabricated metal *voussoirs*. This kind of technology has the following advantages: (i) easy to ship, (ii) light structure: easy to handle and to throw, (iii) factory prefabrication ensures better quality than on-site fabrication, (iv) easy to maintain with rust-resistant complex.

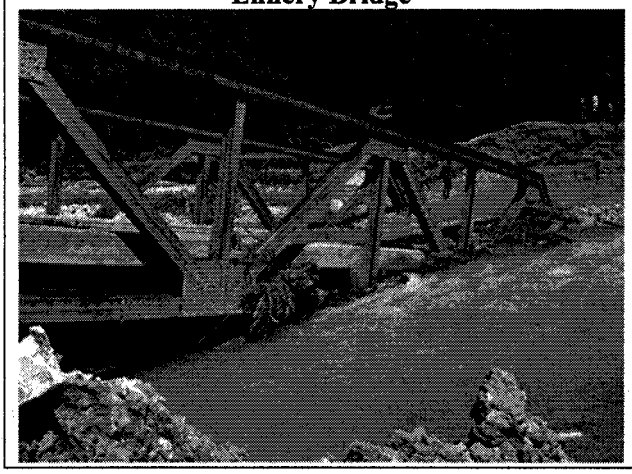
In order to speed up implementation, the bidding process for bridge reconstruction will bundle design and work ("Design and Build"), as well as bridge elements and the related civil works. Reasons for bundling bridge elements and civil works include limiting the risks of incompatibility between abutments and the bridge elements. The selected bridge construction firm is likely to subcontract civil works to local firms, thus contributing to the local economy. In addition, other works to be performed on the bridge environment (protections, reforestation, *gabionage*) would be contracted separately to local firms. The technical specifications will be prepared by an international consulting firm which will also be in charge of the supervision of the works. The contractor for the works will be selected through International Competitive Bidding (ICB).

To make the market more attractive to international firms and generate economies of scale, a single contract will be designed for the construction of the two bridges (Mirebalais and Chalon).

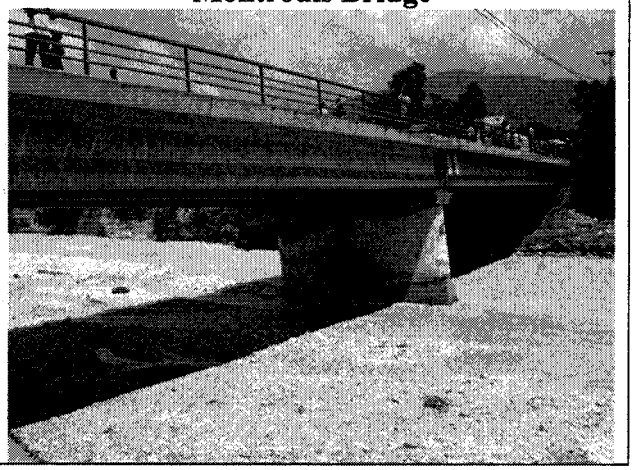
It is estimated that the technical specifications could be ready by end December 2008 so that the bridge reconstruction bidding process can start in January 2009. Works are expected to start in April 2009 and last for 9 to 12 months. Work planning should take into account the possibility of severe hurricanes or storms occurring during the next rainy season (Sept. Nov. 2009), while reconstruction works would not be completed yet.

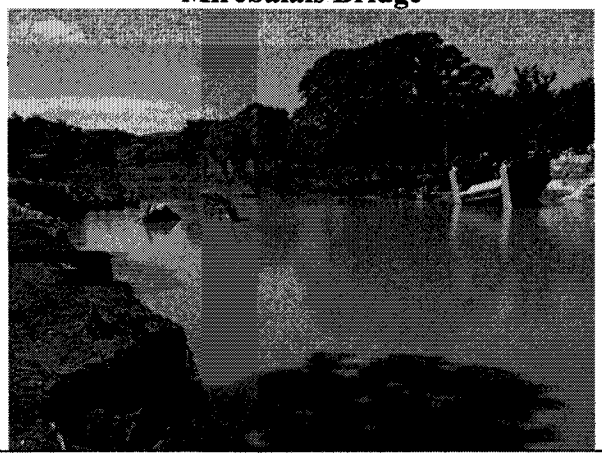
Picture 2: Major bridges damaged by the FGHI storms

**Ennery Bridge**



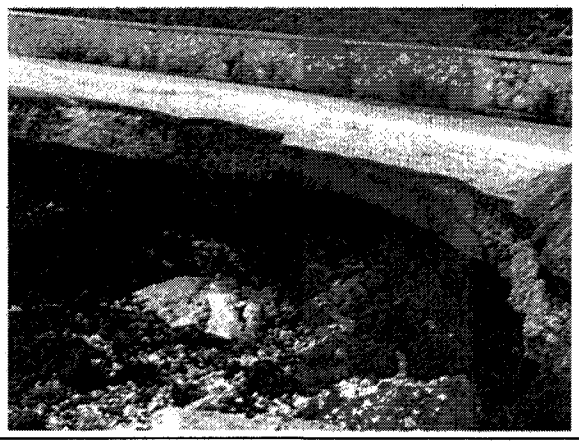
**Montrouis Bridge**

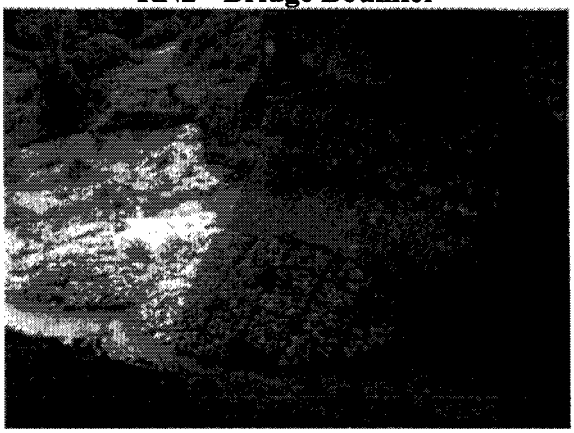


| Mirebalais Bridge | Chalon Bridge |
|---|---|
|  |  |

**Component 2. Improving the resilience of transport infrastructure (US$4.9 million):** This component will finance several repair and consolidation works on damaged or weakened bridges and road sections (see pictures). Many Haitian bridges and road section have been damaged by the FGHI storms and are likely to be lost during the next rainy season if nothing is done. The loss of such assets would exceed by far the costs of repairing and maintaining them. The proposed component aims at implementing a repair and maintenance program on selected infrastructure damaged by FGHI with a view to improve their resilience and contribute to a better management of bridge assets.

Picture 3: examples of damages caused by FGHI on other bridges and road sections

| Les Cayes-Gelé road – Gelé bridge | Damaged road section RN4, PR23+500 |
|---|---|
|  |  |

| Bridge Mapang, Cavaillon-Baradere | RN2 - Bridge Boumier |
|---|---|
|  |  |

*Subcomponent 2.1. Vulnerability reduction and repair works (US$4,400,000):*

An indicative list of works has been prepared by the MTPTC, with the assistance of a World Bank mission which visited Haiti immediately after the FGHI storms. The works were prioritized based on (1) national importance; (2) local importance; (3) safety for users; (4) asset management considerations; (5) risk of losing asset in the short-term; and (6) risk of losing asset in the long-term. Based on these criteria and on the objective to protect access on key transport corridors (such as RN1, RN2), a list of spot interventions on bridges and road sections have been selected to be eligible for financing under this component.

Works will be contracted out to local construction firms through National Competitive Bidding (NCB) or shopping for smaller contracts. Whenever possible, works will be packaged to realize economies of scale and make contracts more attractive to potential bidders. For simple and labor-intensive works, teams of daily workers might be constituted and contracted by the DDTP. In such case, DDTP might also acquire material, small tools and gasoline. The quality of such works will be certified by the international supervision firm to be contracted under component 1.

*Subcomponent 2.2. Community-based routine maintenance activities (US$500,000):*

This subcomponent will finance community-based routine maintenance activities, building on both the successful experiences piloted by the FER and by the Bank-financed CDD operations in Haiti. Routine maintenance is the most important activity to prevent damages from regular deterioration and natural disasters. Many Latin American countries have successfully designed and implemented micro-enterprises' programs to perform routine road maintenance. These microenterprises are constituted from poor people living aside from the roads and have been found to create employment opportunities for the poor and to strengthen the entrepreneurial capacity of communities. In Haiti, the Road Maintenance Fund (FER in French) has successfully experimented the microenterprise model on two pilot road segments (Mirebalais – Lascaobas and Port-à-Piment – Tiburon), with financing from the EU. Haitian communities (*Organisations Communautaires de Base*) generally have a strong capacity which has been used by other Bank-financed operations such as the CDD operations (PRODEP). This component will build on these best practices by expanding the FER pilot to other road sections and by possibly involving microenterprises into emergency road maintenance (in addition to routine maintenance). This

program will be implemented with the help of MTPTC's regional bureaus (DDTP) and possibly supervised by the professionals recruited under the Young Engineers Program, financed under component 3. This pilot program will focus on simple, labor-intensive, routine maintenance tasks and will therefore not be appropriate for other types of maintenance activities (eg. asphalt repair). These other maintenance activities will have to be performed using more formal construction firms (outside of the scope of the proposed project).

Another post-emergency reconstruction program is being implemented by UCE as a follow up to the damages caused by tropical storm Noel in October 2007. This program has been adjusted to take into account further damages caused by the FGHI storms. A US$8 million reallocation from the World Bank-financed Transport and Territorial Development project is financing this works. The activities of this program have been closely coordinated with the proposed reconstruction project. Coordination is facilitated by the fact this program will be implemented by the same agency as for the proposed project (UCE).

**Component 3. Improving transport asset management (US$2.5 million):** This component will finance a number of capacity building activities aiming at developing good practices in bridge asset management and at strengthening the institutional capacity of the MTPTC and its regional offices (DDTP).

Activities that will be financed include in particular:

- The constitution of a comprehensive bridge inventory
- The constitution of a crisis management unit in MTPTC
- The constitution of a bridge asset management unit in MTPTC, in charge in particular of managing the bridge inventory and of piloting a hydraulic monitoring program. This unit will be equipped (eg. computers, GPS, softwares such as the OASIS bridge management software).
- The launching of a Young Engineers Program in MTPTC. This program will finance one-year assignments for about 10 young engineers recently graduated in civil engineering. These engineers will be placed in the DDTP and provide support to project implementation (eg. supervision of maintenance activities implemented by communities, monitoring of infrastructure conditions, assistance in case of emergency). Some of them may receive specific training such as the Delft-based UNESCO-IHE Institute for Water Education which offers a postgraduate diploma course in hydraulic engineering to practicing professionals from developing countries, in the field of rivers, hydraulic structures and in general erosion and sedimentation processes. Those benefiting from this training would be best placed to contributing to design hurricane/flood resilient bridges.
- Travel and subsistence costs for MTPTC civil servants incurred as part of emergency response or asset management activities (eg. updating of bridge inventory)

This component will also finance the constitution of a strong and dedicated implementation team in UCE and MTPTC. In particular, two experienced international bridge specialists will be contracted to provide technical assistance during the first year of operation. One of them will be

placed in UCE with the responsibility to provide the technical expertise needed to design and implement the works financed under components 1 and 2. The second one will be placed in MTPTC with the responsibility to constitute and train the bridge management unit. Also, a provision has been set up to finance international experts on short-term assignment, as technical needs may arise. One procurement specialist (already identified), one contract management specialist and one accountant will be contracted and placed in the UCE with the responsibility to manage all contracts financed under components 1, 2 and 3. In the case of the smaller contracts handled by the DDTPs, the UCE procurement specialist will provide the required technical assistance to the DDTP and supervise their procurement processes. One financial management specialist (already identified) will also be contracted under this component. His responsibility will be to make sure that agreed financial management and auditing requirements are complied with. He will also provide assistance to the Minister of Public Works in managing budgetary resources for MTPTC and in articulating the use of these resources with Bank-financed operations.

The component will also finance safeguards-related studies, as well as project audits.

**Component 4. Strengthening the Haitian National Disaster Risk Management System (US$4.9 million):** This component will provide technical assistance to strengthen the overall vulnerability reduction capacities of the NDRMS. Currently the ERDMP institutional strengthening component focuses on the National Civil Protection Agency (DPC) and the Permanent Secretariat for Disaster Risk Management (SPGRD). Whereas these two entities play an important role in the technical preparation for and response to disasters, their mandate is not that of disaster recovery and reconstruction, a mandate held by the Ministry of Planning and External Cooperation (MPCE). As a result, this component will focus on expanding the World Bank's disaster risk management program in Haiti to focus on strengthening the disaster recovery and reconstruction coordination and execution mechanisms.

Specifically, this component will: i) provide technical assistance to create a post-disaster recovery and reconstruction coordination unit within the MPCE to help define the GoH post-disaster development agenda and prepare and monitor the recovery and reconstruction program activities. (sub-component 4.1); ii) provide technical assistance to strengthen the vulnerability reduction capacities of the NDRMS per the recommendations of the PDNA (sub-component 4.2.) and pilot a more integrated approach to disaster prevention through strategic studies to be performed in selected areas particularly vulnerable to natural disasters (sub-component 4.3.).

*Sub-component 4.1. Creation of a disaster recovery and reconstruction coordination unit with the MPCE (US$ 2,220,000)*: The objective of this subcomponent is to create a unit within the MPCE that will provide be responsible for the planning, preparation and monitoring of the post-disaster recovery and reconstruction plan. To achieve the objective, the unit will, *inter alia*, i) formulate a shared vision of recovery and reconstruction needs through inter-ministerial dialogue with the different sectors and ii) oversee the preparation, implementation and coordination of the post-disaster recovery and reconstruction program, and iv) design and implement activities aiming at better informing and engaging local stakeholders..

*Sub-component 4.2. Institutional support program to the NDRMS (US$1,820,000):* Following the recommendations of the PDNA and in support of the preparation, implementation and monitoring of the Government's post-disaster recovery and reconstruction program, this sub-

component will work to complement ongoing activities under the ERDMP to coordinate a comprehensive institutional support program to strengthen the key technical units within the NDRMS, both at the inter-ministerial (SPGRD) level and at the ministerial level as well. Activities that will be financed include:

- Technical assistance (consultants) to conduct a comprehensive assessment of the NDRMS at the normative, strategic and technical levels.

- Technical assistance (consultants and workshop) to support the reactivation and operationalization of the inter-ministerial strategic coordination mechanisms of the National Commission for Disaster Risk Management (CNGRD);

- Technical assistance (consultants and training) to establish, train and operationalize disaster risk management units within those line ministries not covered by the ERDMP, including sub-units at the departmental levels;

- Technical assistance (consultants) to the Directorate of Civil Protection to strengthen its capacity at the national and departmental levels to coordinate and execute its planning, preparedness and response activities;

- Technical assistance to key line ministries to support their involvement in the implementation of the post-disaster recovery and reconstruction plan.

*Sub-component 4.3. Integrated approaches to disaster prevention (US$1,500,000).* The objective of this sub-component is to complement the Government's post-disaster recovery and reconstruction program through the financing of pilot studies designed to in support of the Government's integrated and comprehensive approach to disaster prevention in selected areas that are particularly vulnerable to natural disasters. The prevention of major disasters such as the ones that occurred in Gonaives after hurricane Jeanne in September 2004 (3,006 people dead) and after tropical storm FGHI, requires an integrated, multi-dimensional response, including a thorough assessment of hydrological and geological conditions, improved urban planning, erosion-prevention program (reforestation) and, possibly, major civil works. Extreme solutions such the relocation of Gonaives have also been proposed. The proposed subcomponent intends to launch a comprehensive assessment of the Gonaives situation, taking stock of past studies (in particular partial hydrological studies that have been financed by the EU after hurricane Jeanne) and building on similar international experience (New Orleans). The subcomponent will also initiate a process to associate key stakeholders (local, national and international) with the objective of creating a consensus around what should be done to prevent future major disasters in Gonaives. The proposed project will probably not have the resources to implement the proposed solutions but a donors' meeting will be organized to find additional financing. In additional to Gonaives, other areas to be potentially assessed as part of this subcomponent include the area of *Etang Saumâtre – Lac Azuei* where frequent flooding are threatening the safety of populations and are damaging key infrastructure. As in Gonaives, the solutions to this problem have to be evaluated beyond the infrastructure themselves, looking at hydrological conditions and erosion.

**Contingencies (US$0.4 million)**

## Annex 2. Results Framework and Monitoring

| PDO | Project Outcome Indicators | Use of Project Outcome Information |
|---|---|---|
| The project's development objective is to i) restore access on selected critical points of the Haitian transport system, and ii) support vulnerability reduction by strengthening the Haitian National Disaster Risk Management System. | • Disaster Risk Management Units within key ministries are operational and sustainable, with adequate resources and staffing<br>• MTPTC bridge management unit is operational and sustainable, with adequate resources and staffing<br>▪ MPCE recovery and reconstruction planning unit is operational and sustainable<br>▪ Permanent Secretariat of Disaster Risk Management (SPGRD) unit is reinforced, operation and sustainable | Assess improved institutional capacity for efficient disaster crisis management in line ministries<br>Assess improved institutional capacity for efficient bridge asset management<br>Assess improved institutional capacity for efficient recovery and reconstruction planning and coordination<br>Assess improved institutional capacity for efficient disaster crisis management and coordination |
| **Intermediate Outcomes** | **Intermediate Outcome Indicators** | **Use of Intermediate Outcome Monitoring** |
| Component 1:<br>*Reconstructing selected bridges to restore access* | • Number of emergency fords and overpasses built in the next two months following disasters<br>• Number of bridges rebuilt with satisfactory technical standards | Verify timeliness and relevance of emergency response<br>Assess effectiveness of bridge reconstruction program |
| Component 2:<br>*Improving the resilience of transport infrastructure* | • Number of bridges and road sections that have been repaired or consolidated with satisfactory technical standards<br>• Number of community-based initiatives performing routine maintenance with satisfactory technical standards | Assess effectiveness of infrastructure repair and maintenance program<br>Evaluate amplitude and effectiveness of community-based routine maintenance pilot |
| Component 3:<br>*Improving transport asset management* | • Bridge inventory completed and up to date<br>• Constitution of an effective crisis management unit in MTPTC<br>• Constitution of a bridge management unit in MTPTC | Assess effectiveness of key bridge asset management tool<br>Assess effectiveness of institutional capacity building in disaster crisis management<br>Assess effectiveness of institutional capacity building in bridge asset management |
| Component 4:<br>*Strengthening the NDRMS* | • Establishment of Disaster Recovery and Reconstruction Planning Unit within MPCE | Assess effectiveness of unit to coordination agenda and integrated activities. |

| | | |
|---|---|---|
| | • Presentation of Disaster Recovery and Reconstruction Program | Evaluate effectiveness of Haitian NDRMS in presenting coordinated and comprehensive reconstruction program |
| | • Number of Disaster Risk Management Unit created within line ministries and at within their departmental directorates (where applicable) | Evaluate institutional capacity to coordinate across-sectors and respond to disasters |
| | • Integrated plan to reduce the vulnerability of Gonaives and Lac Azuei has been prepared | Assess effective implementation of proposed integrated approach to disaster prevention. |

## Arrangements for results monitoring

| Project Outcome Indicators | Baseline | Target Values | | | Data Collection and Reporting | | |
|---|---|---|---|---|---|---|---|
| | | YR1 | YR2 | YR3 | Frequency and Reports | Data Collection Instruments | Responsibility for Data Collection |
| • Disaster Risk Management Units within key ministries are operational and sustainable, with adequate resources and staffing | No | Yes | Yes | Yes | Annual | Progress Reports | Bureau de Monétisation/MPCE |
| • MTPTC bridge management unit is operational and sustainable, with adequate resources and staffing | No | Partially | Yes | Yes | Annual | Progress Reports | UCE and MTPTC bridge unit |
| ▪ MPCE recovery and reconstruction planning unit is operational and sustainable | No | Yes | Yes | Yes | Annual | Progress Reports | Bureau de Monétisation/MPCE |
| ▪ Permanent Secretariat of Disaster Risk Management (SPGRD) unit is reinforced, operation and sustainable | No | Yes | Yes | Yes | Annual | Project Reports | Bureau de Monétisation/MPCE |
| **Intermediate Outcome Indicators** | | | | | | | |
| Component 1:<br>*Reconstructing selected bridges to restore access*<br>• Number of emergency fords and overpasses built in the next two months following disasters | 1 | 4 | - | - | Annual | Progress Reports | UCE and MTPTC bridge unit |
| • Number of bridges rebuilt with satisfactory technical standards | 0 | 0 | 2 | 2 | Annual | Progress Reports | UCE and MTPTC bridge unit |
| Component 2:<br>*Improving the resilience of transport infrastructure*<br>• Number of bridges and road sections that have been repaired or consolidated with satisfactory technical standards | 0 | 10 | 20 | 20 | Annual | Progress Reports | UCE and MTPTC bridge unit |
| • Number of community-based | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| initiatives performing routine maintenance with satisfactory technical standards | 0 | 5 | 10 | 20 | Annual | Progress Reports | UCE and FER |
| Component 3:<br>*Improving transport asset management* | | | | | | | |
| • Bridge inventory completed and up to date | No | Yes | Yes | Yes | Annual | Progress Reports | MTPTC bridge unit |
| • Constitution of an effective crisis management unit in MTPTC | No | Yes | Yes | Yes | Annual | Progress Reports | MTPTC |
| • Constitution of a bridge management unit in MTPTC | No | Yes | Yes | Yes | Annual | Progress Reports | MTPTC bridge unit |
| Component 4:<br>*Strengthening the NDRMS* | | | | | | | |
| • Establishment of Disaster Recovery and Reconstruction Planning Unit within MPCE | No | Yes | Yes | Yes | Annual | Progress Reports | Bureau de Monétisation/MPCE |
| • Presentation of Disaster Recovery and Reconstruction Program | No | Yes | Yes | Yes | Annual | Progress Reports | Bureau de Monétisation/MPCE |
| • Number of Disaster Risk Management Unit created within line ministries | 0 | 2 | 3 | 4 | Annual | Progress Reports | Bureau de Monétisation/MPCE |
| • Integrated plan to reduce the vulnerability of Gonaives has been prepared | No | No | Yes | Yes | Annual | Progress Reports | Bureau de Monétisation/MPCE |

## Annex 3. Summary of Estimated Project Costs

| Activities | PPF | | Regular implementation | Total |
|---|---|---|---|---|
| | retroactive | others | | |
| **Component 1: Reconstructing selected bridges to restore access** | | | | **7,165,000** |
| *Sub-Component 1.1. Restoring basic access* | | | | *1,565,000* |
| Building Montrouis emergency overpass | 600,000 | | | 600,000 |
| Building Mirebalais emergency overpass | 215,000 | | | 215,000 |
| Building Chalon emergency overpass | 150,000 | | | 150,000 |
| Building *Rivière Gauche* emergency overpass and protection against erosion | 350,000 | | | 350,000 |
| Protecting Rivière Bretelle against erosion | 250,000 | | | 250,000 |
| *Sub-component 1.2. Bridge reconstruction* | | | | *5,600,000* |
| Topographic and geotechnical studies | | 120,000 | | 120,000 |
| Preparation bidding documents and supervision of reconstruction works | | 350,000 | | 350,000 |
| Design study for Ennery abutments | | 50,000 | | 50,000 |
| Destruction of damaged Mirebalais bridge | | 30,000 | | 30,000 |
| Design&works Mirebalais bridge | | | 2,300,000 | 2,300,000 |
| Design&works Chalon bridge | | | 1,600,000 | 1,600,000 |
| Acquisition 10 emergency bridges | | | 1,000,000 | 1,000,000 |
| Protection against erosion – Mirebalais | | | 90,000 | 90,000 |
| Protection against erosion – Chalon | | | 60,000 | 60,000 |
| **Component 2: Improving the resilience of transport infrastructure** | | | | **4,950,000** |
| *Sub-Component 2.1. Vulnerability reduction and repair works* | | | | |
| Maintenance bridge Estimé Dumarsais on RN7 | | | 600,000 | 600,000 |
| Protection of bridge Tabarre on road 9 against river erosion | | | 250,000 | 250,000 |
| Repairing abutment bridge RN7 on river voldrogue | | | 450,000 | 450,000 |
| Repairing abutment bridge *de la riviere grise* route 9 | | | 300,000 | 300,000 |
| Repairing abutment bridge RN4 on river Gosseline | | | 250,000 | 250,000 |
| Repairing abutment bridge Croix des missions RN1 | | | 150,000 | 150,000 |
| Rebuilding of bridge Mapang , Cavaillon – Baradere | | | 550,000 | 550,000 |
| Repairing invert of Pont Moreau, Croix des Bouquets RN8 | | | 150,000 | 150,000 |
| *Gabions* to protect pillar RN2 Les Cayes bridge Ravine Sud | | | 70,000 | 70,000 |
| *Gabions* to protect abutment Bridge riviere Roseaux RN7 | | | 50,000 | 50,000 |
| Repair drainage RD25 Torbeck bridge Cayes-Port Salut | | | 40,000 | 40,000 |
| Construction of a box culvert on Gele road | | | 100,000 | 100,000 |
| Maintenance bridge Guinaudé RN7 | | | 20,000 | 20,000 |
| 200 m of *gabion* to protect Cavaillon bridge on RN2 | | | 150,000 | 150,000 |
| Consolidation bridge on Route de Léon | | | 50,000 | 50,000 |
| Protection 2 small bridges RN8 Croix Bouquets-Ganthier | | | 100,000 | 100,000 |
| Other bridges: maintenance and consolidation works | | | 200,000 | 200,000 |
| Sustaining wall RN2 Morne Georges St. Louis Sud – Aquin | | | 100,000 | 100,000 |
| Repairing drainage on RN2 Les Cayes – Bergeau | | | 20,000 | 20,000 |
| Rebuilding 200m sustaining wall Les Cayes, Fonfrede road | | | 100,000 | 100,000 |
| Rebuilding stone facings, *gabions*, inverts RN2 Boumier-Cayes | | | 100,000 | 100,000 |
| Rebuilding road and sustaining wall RN4, PR23+500 | | | 90,000 | 90,000 |
| Spot repair road RN2 Zanglais St Louis du Sud – Aquin | | | 60,000 | 60,000 |
| DDTP-managed emergency and routine maintenance pilot | | | 500,000 | 500,000 |

| | | | | |
|---|---|---|---|---|
| *Sub-Component 2.2. Community-based routine maintenance pilot (CDD)* | | | | |
| Community-based routine maintenance pilot | | | 500,000 | 500,000 |
| **Component 3: Improving transport asset management** | | | | **2,585,000** |
| Bridge inventory | | | 200,000 | 200,000 |
| Per diem and travel costs bridge specialists MTPTC | | | 75,000 | 75,000 |
| Vehicle rentals | | | 70,000 | 70,000 |
| Constitution crisis management unit in MTPTC | | | 175,000 | 175,000 |
| Constitution bridge asset management unit in MTPTC | | | 175,000 | 175,000 |
| Acquisition of office equipment and supply to crisis management and bridge assessment management unit | | | 50,000 | 50,000 |
| Young engineers program for DDTP | | | 250,000 | 250,000 |
| Safeguards studies | | 75,000 | | 75,000 |
| 2 international consultants specialized in bridges | | 500,000 | | 500,000 |
| Provision international technical experts | | 250,000 | | 250,000 |
| International contract management specialist | | 250,000 | | 250,000 |
| Accountant | | 100,000 | | 100,000 |
| Procurement specialist | | 90,000 | | 90,000 |
| Financial management specialist | | 150,000 | | 150,000 |
| Environmental and social safeguards specialist | | | 100,000 | 100,000 |
| Project audits | | | 75,000 | 75,000 |
| **Component 4: Strengthening the Haitian National Disaster Risk Management System** | | | | **4,900,000** |
| *Sub-component 4.1. Creation of disaster recovery and reconstruction coordination unit within MPCE* | | | | *2,220,000* |
| International consultants - post-disaster planning | | 300,000 | | 300,000 |
| National consultants – advocacy and planning | | 100,000 | | 100,000 |
| International consultant – M&E | | | 300,000 | 300,000 |
| Workshops and training | | 230,000 | | 230,000 |
| Office equipment & supplies | | 250,000 | | 250,000 |
| *Sub-component 4.2 Institutional support program to the NDRMS* | | | | *1,820,000* |
| International consultants – technical and coordination support to SNGRD | | | 500,000 | 500,000 |
| International consultants – technical support to SPGRD | | | 500,000 | 500,000 |
| Workshops and training | | | 200,000 | 200,000 |
| International Consultant – M&E | | | 200,000 | 200,000 |
| National consultants - technical support to SNGRD | | 450,000 | | 450,000 |
| BMPAD Salaries and operating costs | | | 350,000 | 350,000 |
| National consultant to draft the project's operational manual | | 20,000 | | 20,000 |
| *Sub-component 4.3. Integrated approaches to disaster mitigation* | | | | *1,500,000* |
| Integrated disaster prevention study Etang Saumatre – Lac Azuei | | | 500,000 | 500,000 |
| Integrated disaster prevention study Gonaives | | | 1,000,000 | 1,000,000 |
| **Unallocated** | | | **400,000** | **400,000** |
| **TOTAL** | **1,565,000** | **3,265,000** | **15,170,000** | **20,000,000** |

## Annex 4. Financial Management and Disbursement Arrangements

### Executive summary

This annex summarizes the findings of the financial management capacity assessment for the Bridge Reconstruction and Disaster Mitigation Project. The objective of the assessment was to determine whether the implementing entities of the project have acceptable financial management arrangements, including a sound accounting, reporting, auditing, and internal controls system. As discussed in Annex 6, the main implementing entities are the *Unité Centrale d'Exécution* (UCE) and the *Bureau de Monétisation des Programmes d'Aide Alimentaire* (BMPAD). The assessment was carried in accordance with the OP/BP 10.02 and the guidelines for Assessment of Financial Management Arrangements in World Bank projects issued by the Financial Management Sector Board on October 15, 2003.

The financial management arrangements for the Project build on the Public Expenditure Management and Financial Accountability Review (PEMFAR) led by the World Bank in 2007 as well as the Bank's experience in the sector with the Transport and Territorial Development Project (PDTP).

The PEMFAR provides a complete overview of the public financial management strengths and areas for improvements in Haiti. The main conclusion of the PEMFAR was that, although Haiti has made significant progress in strengthening fiscal discipline and improving the efficiency of its Public Financial Management (PFM) system in the last three years, there remain significant weaknesses and challenges related to the budget preparation, execution and internal and external controls. As a result of these challenges, financial management risk at the country level is high. However, the impact of these weaknesses on the project should be limited given the fact that the project will not be implemented through the public financial management system. In addition, implementation arrangements will build on the experience gained with PDTP to minimize the risks.

Overall fiduciary responsibility for component 1, 2 and 3 will be handled by the UCE, while component 4 will be implemented by BMPAD. The conclusion of this assessment is that the financial management arrangements for the Project satisfy the Bank's minimum requirements under OP/BP10.02 and are adequate to provide, with reasonable assurance, accurate and timely information on the status of the program as required by the Bank. It should be noted however, that some actions, summarized in appendix 1, have to be implemented, notably: (i) the recruitment of an accountant to strengthen UCE; (ii) the update of the accounting software and the operational manual that would include the procedures and processes for the community-based routine maintenance pilot program, and (iii) the extension of the auditor's contract to cover this project.

### Summary of project description

The project consists of four components:

- Component 1. Reconstructing selected bridges to restore access (US$7.165 million);
- Component 2. Improving the resilience of transport infrastructure (US$4.950 million);
- Component 3. Improving transport asset management (US$2.585 million); and
- Component4. Strengthening Haiti's National Disaster Risk Management System (US$4.9 million).

None of the components above presents a real financial management challenge.

**Country Issues and Risk Assessment**
As mentioned above, Haiti is still facing serious financial management challenges at the country level. However, the project should not be affected given the mitigation measures; fiduciary arrangements will notably be ring-fenced by the use of existing implementing entities with good track record of financial management. In addition, a financial management advisor will be recruited to oversee the implementation of the PEMFAR at the sector level. Although fiduciary risk is rated high at the country level and substantial at the program level, the residual risk rating at the program level is expected to be Moderate once the mitigation measures are implemented. The table in Appendix 2 shows the Financial Management Risk Assessment at the program level and the mitigation measures to be implemented.

**Financial Management arrangements for components 1, 2, and 3**
**Implementing entity**. This component will be implemented by UCE. UCE is a project implementing entity under the authority of the MTPTC. UCE is currently implementing a number of projects of several donors, including the PDTP project funded by the Bank. UCE's Financial Management (FM) team is made of five staff with satisfactory qualifications and experience. Financial management operations will be under the prime responsibility of the financial manager. Under this project, UCE has demonstrated a strong financial management capacity to handle all operations. However, the FM staff has been sometimes overloaded. That led to some delays in producing Interim unaudited Financial Reports (IFR) and the first audited financial statements. The financial management team will then be strengthened by the recruitment of an accountant in charge of maintaining the day to day operations of the project.

**Budgeting, Accounting and Reporting.** UCE has an operational manual and a sound computerized accounting information system. The operational manual will be amended to reflect the changes introduced by the new project notably, (i) the capacity building activities under component 3, and (ii) the realignment of the Haitian emergency response system under component 4. The accounting software will also be updated to record all financial transactions related to the project. The update of the operational manual and the accounting software will be completed by UCE's staff, not later than the end of December 2008.

**Internal control and internal auditing.** Key internal controls of UCE are well documented in their operational manual. The update of the operational manual will include additional internal controls arising with this new project. In addition to the traditional financial management internal controls (segregation of duties, regular controls of bank reconciliation statements, clear approvals and authorization controls, etc.), quality controls of the civil works will be undertaken by an external firm. Moreover, the financial management advisor will assist the MTPC in the implementation of a sound internal audit department.

**Disbursement arrangements.** Disbursements will be made in accordance with procedures outlined in the Disbursement Handbook for World Bank Clients and allow for use of advances, reimbursement, direct payment, and issuance of Special Commitment. Expenditure reporting will include Statements of Expenditures (SOE) for goods, works and services' contracts below US$20,000 and for all training and operating costs as well as records for all other expenditures. A designated account (DA-A), managed by UCE, will be open at the central bank of Haiti for the implementation of components 1, 2, and 3. The ceiling of the designated account A will be US$1.5

million. The flow of funds is described in appendix 1 attached. It should be noted that disbursement mechanisms under the community-based routine maintenance pilot program will be report-based.

**Retroactive financing**. The Project will reimburse eligible expenditures incurred on or after September 1, 2008. The total amount o f retroactive financing will be limited to US$3.53 millions for eligible expenditures (Goods, works and consultants' services) under Component 1. In addition to the supporting documents, expenditures to be financed retroactively will be certified by an independent firm contracted by the Government to conduct the quality control of the civil works.

**Financial reporting.** UCE will be responsible of the overall reporting of the project, including consolidation of financial information transmitted by BMPAD. UCE will ensure that on a quarterly basis the Interim Un-Audited Financial Reports (IFR) are produced and transmitted to the Bank not later than 45 days after the end of the quarter. Format and content of the IFR was agreed at negotiations. On an annual basis, not later than four months after the fiscal year[3], annual audited financial statements will be sent to the Bank. Annual financial statements will be prepared in accordance with the International Public Sector Accounting Standards (IPSAS) on a cash basis.

**Auditing.** As mentioned above, the last audit report of PDTP was transmitted late to the Bank, mainly due to the delay in the recruitment of the auditors. No major issue was raised by the auditor and the report was found satisfactory. The project will keep the same auditing arrangements: an addendum will be signed with the existing auditor to cover this project and the audit work will be conducted in accordance with the International Standards on Auditing (ISA). The scope of the audit will be expanded to cover the community-based routine maintenance pilot program under component 2 (see Financial Management arrangements below). The auditors will provide a special opinion on the implementation of the program and its adherence with the agreed procedures to be described in the operational manual. The audit reports for each fiscal year must be submitted no later than four months following the end of this fiscal year. The table below summarizes the auditing requirements:

| *Audit report* | *Due Date* |
|---|---|
| ▪ Project specific Financial Statements | End of January |
| ▪ Management letter | End of January |
| ▪ Community-based routine maintenance pilot program | End of January |

**Financial Management arrangements for the community-based routine maintenance pilot program**

This program will build on the successful experience of the Bank-Financed CDD operation in Haiti. It will be implemented by UCE with the support of the DDTP. Community-Based Organizations (CBOs) will be selected to conduct routine maintenance of the works. The selection process, to be detailed in the operational manual, will be conducted by the MTPTC as follow:

(i) A communication and information campaign (carried out by each DDTP) will inform CBOs in each area, with the goal of increasing public awareness about the program, its objectives, "rules of the game," and expected outcomes.

(ii) CBOs will prepare subproject proposals, (following procedures detailed in the Project Operations Manual and submit subproject proposals to their respective DDTP.
(iii) DDTP will evaluate approved subproject proposals in terms of technical, social, environmental, and fiduciary guidelines established in the POM.
(iv) DDTP will submit their evaluation results to a committee made of UCE, the financial advisor of the Minister in charge of the project, the contract management specialist, the procurement specialist, and a representative from the FER.
(v) Upon approval by the committee, a contract between the CBO and the DDTP will be signed. The contract will lay out the maintenance program that will be conducted by the CBO, the fiduciary arrangements, and the supervision mechanism.
(vi) Disbursements related to this sub-component will be made on tranches: the first tranche (30%) will be disbursed upon signature of the contract. The following tranches will be disbursed based on technical and financial reports to be certified by DDTP.
(vii) DDTP will supervise the works performed by CBOs. To that end, DDTP will recruit young professionals under the Young Engineers Program. DDTP will also assist, when necessary, CBOs in their work and during the development of their proposal.
(viii) The CBOs will be expected to manage subproject funds directly. As a result, they will need to have minimum financial management capacity. It will be necessary that the subproject review process consider experience and financial management capacity. Financial management capacity should not be a precondition for subproject approval. Instead, those CBOs that lack financial management capacity would be required to undergo financial management training prior to receiving the initial disbursement of subproject funds. Disbursement arrangements for this sub-component will be report-based.

**Financial Management arrangements for component 4**

**Implementing entity**. This component will be implemented by BMPAD's Project Coordination Unit. BMPAD is an autonomous entity with strong financial management capacity. An additional consultant will be hired to facilitate coordination with the UCE.

**Budgeting, Accounting and Reporting.** BMPAD has an operational manual and a sound computerized accounting information system.

**Internal control and internal auditing.** Key internal controls of BMPAD are well documented in their operational manual and a good internal audit team is in place.

**Disbursement arrangements.** Disbursements will be made in accordance with procedures outlined in the Disbursement Handbook for World Bank Clients and allow for use of advances, reimbursement, direct payment, and issuance of Special Commitment. A designated account (DA-B), managed by BMPAD, will be open at a commercial bank for the implementation of component 4. The ceiling of the designated account B will be US$0.5 million. The flow of funds is described in appendix 1 attached.

**Financial reporting.** BMPAD will send financial information about the execution of activities under component 4 not later than 30 days after the end of each quarter. UCE will then consolidated all information submit the IFR as indicated in section 12 above.

**Auditing.** See section 13 above. The audit report will cover the consolidated project financial statements.

**Disbursement schedule**
The table below sets out the expenditure components to be financed out of the grant proceeds. The allocations for each expenditure component are the following:

| Disbursement Components | **Amount of the Grant Allocated US$** *(Amount to be financed at 100%)* |
|---|---|
| (1) Reconstructing selected bridges to restore access *(civil works, goods, consultants' services, including audits and training, and operating costs)* | 5,050,000 |
| (2) Improving the resilience of transport infrastructure *((civil works, goods, consultants' services, including audits and training, and operating costs)* | 4,950,000 |
| (3) Improving transport asset management *(civil works, goods,* | 1,170,000 |
| (4) Strengthening Haiti's National Disaster Risk Management System *(civil works, goods, consultants' services, including audits and training, and operating costs)* | 3,600,000 |
| (5) PPF | 4,830,000 |
| (6) Unallocated | 400,000 |
| **TOTAL** | **20,000,000** |

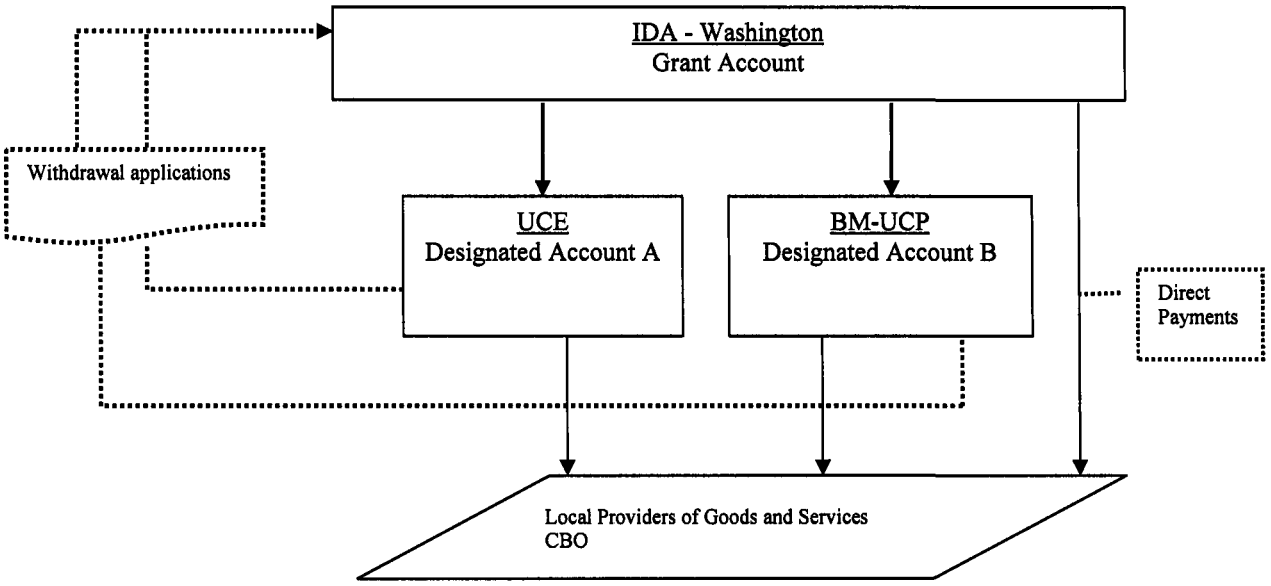
**Conditionality**
The standards financial management provisions will be mentioned in the legal agreement. No specific financial management conditions are attached to this project.

**Supervision plan**
Given the Moderate risk rating of the program, financial management supervision of the project will consist of an annual review of the FM system during a site visit, the review of the IFR, and the review of the annual audited financial statements. A particular attention will be given to the retroactive financing, given the circumstances under which the works were conducted.

**Appendix 1: Financial Management action plan**

| Action | Tasks | Entity | Target Completion Date |
|---|---|---|---|
| Staffing | Recruitment of an accountant | UCE | December 2008 |
| Operations Manual | Update operational manual | UCE | December 2008 |
| Accounting Software | Update the accounting software | UCE | December 2008 |
| External Audit | Extension of the contract of the existing auditor | UCE | January 2009 |

## Appendix 2: Flow of funds



## Appendix 3: Risk Assessment and Internal Control

| | Risk Assessment | | | | Risk Mitigations measures | Residual Risk |
|---|---|---|---|---|---|---|
| | H | S | M | L | | |
| **INHERENT RISK** | | | | | | |
| **COUNTRY LEVEL.** Quality of PFM institutions (see PEMFAR), standard of financial accounting, reporting and auditing, quality of FM profession | X | | | | Based on the findings of the PEMFAR, an action plan was developed by the Government. The Bank and other partners are assisting the institutions in the implementation of this action plan through technical assistance grants (EGTAG I & II) and DPLs (EGRO I & II). | S |
| **ENTITY LEVEL.** Independence of entity's management, appropriateness of the organizational structure, impact of civil service rules | | X | | | A financial management advisor will be recruited to support the MTPTC and coordinate the implementation of the activities. | M |
| **PROGRAM LEVEL.** Relative size of the Bank loan, type of lending instrument, complexity of the APG (e.g. sectors involved, number of implementing and sub-implementing entities, multi-donor etc.) | | X | | | The fiduciary arrangements and the action plan will help mitigate the risks at the project level. | M |
| | | | | | | |
| ***Overall Rating Inherent Risk*** | | **X** | | | | **Moderate** |
| **CONTROL RISK** | | | | | | |
| Budget | | | | X | The detailed cost table of the project and the procurement plan was adopted prior to the negotiations of the grant. | L |
| Accounting | | | X | | The accounting manual will be updated. In addition, key stakeholders will be trained and proper accounting procedures will be maintained. | L |
| Internal Controls | | X | | | Technical supervision of the civil works will be conducted particularly for retroactive expenditures. | M |
| Funds Flow | | | | X | | L |
| Financial Reporting | | | X | | The format and content of the IFR will be agreed before negotiations | L |
| Auditing | | | X | | Contract of the existing auditor of PDTP will be extended to the project | L |
| ***Overall Control Risk*** | | | **X** | | | **Low** |
| ***Residual Risk Rating*** | | | | | | **Moderate** |

*H – High* *S – Substantial* *M – Modest* *L – Low*

## Annex 5. Procurement Arrangements

**A. Procurement Arrangements:** Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated May 2004, Revised October 1, 2006; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004 Revised October 1, 2006, and the provisions stipulated in the Legal Agreement. The various items under different expenditure categories are described in general below. For each contract to be financed by the Grant, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

**Procurement of Works**: Works procured under this project are expected to consist of the reconstruction of a number of bridges to restore access (US$7.2 million), the restoring of basic access (US$1,565,000), the improving of the resilience of transport infrastructure for about US$5.0 million consisting of several repair and consolidation works on damaged or weakened bridges and road sections. The works of component 2 have been prioritized according to the risk of losing infrastructure assets in the short and medium term. Procurement methods have been selected in response to these emergency requirements. The project will also finance community-based routine small road maintenance activities carried out by community based organizations and small enterprises contracted by the regional offices of MTPTC (directions départementales des travaux publics), building on successful experiences under CDD operations in Haiti. Small contracts below US$100,000 equivalent will be procured on the basis of at least three quotations received from qualified contractors in response to a written invitation, which will include a detailed scope of works, specifications and relevant drawings as well as a form of agreement acceptable to the Bank. The procurement will be done using the Bank Standard Bidding Documents (SBD) for all ICB and National SBD agreed with Bank.

**Procurement of Goods:** Goods procured under this project would include office supplies, equipment and furniture for the crisis management unit in MTPTC. The procurement will be done using the Bank's SBD for all ICB and SBD agreed with or satisfactory to the Bank for other procurement methods.

**Procurement of non-consulting services:** Non-consulting services for project execution, such as vehicles rentals and those needed for training events, would be acquired in accordance with the Bank's procurement guidelines, as appropriate. This procurement would also be carried out using Bank's SBD or SBD agreed with the Bank.

**Selection of Consultants**: The project will finance a number of capacity building activities aiming at developing good practices in bridge asset management and at strengthening the institutional capacity of the MTPTC and its regional offices (DDTP). Under the component 4, the project will fund a comprehensive technical assistance package to realign the Haitian emergency response system, based on the recommendations from the Joint Damage Assessment; strategic studies will be performed in selected areas particularly vulnerable to natural disasters such as Gonaives or Etang Saumatre-Lac Azuei. Short lists of consultants for services estimated to cost less than $100,000

equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

Where teams of consultants are not required, individual consultants would be hired to provide specialized advisory services, training and support to project implementation.

**Operating Costs:** these costs would include consumable goods required to implement the project and other expenditures related to utilities, maintenance of office equipment, per diems, transportation and logistic expenditures to conduct supervision and training.

**B. Assessment of the agency's capacity to implement procurement**

Procurement activities under components 1, 2 and 3 will be carried out by the current transport project implementing unit (UCE/MTPTC). The UCE is part of the Ministry of Public Works, Transport and Communications (MTPTC) and is currently implementing most of the externally-financed investments in transport in Haiti, with resources from the IaDB, Canada (CIDA), France (AFD) and the World Bank (Transport and Territorial Development Project). It comprises a pool of engineers and administrative staff who have a good knowledge of the World Bank procurement procedures. In order to ensure the sound and swift implementation of the proposed emergency program, the UCE will be reinforced with the creation of an emergency unit (*cellule d'urgence*), staffed with a full time procurement specialist (to be recruited) and an international consultant specialized in bridges. This unit is expected to have sufficient capacity to immediately start the emergency program. Component 4 related to the realigning of Haitian emergency response system will be implemented under the responsibility of the *Bureau de Monétisation des Programmes d'Aide au Développement* (formerly PL-480 Management Office). The *Bureau de Monétisation* is already managing procurement under the Bank's Emergency Recovery and Disaster management Project (ERDMP) as well as the CDD project PRODEP and the community-based component of the ongoing Transport project. The Bank assessment of the capacity of the Bureau de monetization is based on the Bureau's satisfactory performance to date in implementing these ongoing projects. While the procurement team in the *Bureau de Monétisation* and UCE is well equipped to execute procurement according to the Bank Guidelines, the overall public procurement system in Haiti remains relatively weak. Despite recent reforms in the legal and institutional framework for procurement, there is still lack of skilled personnel with knowledge of international norms. Consequently, the overall project risk for procurement remains HIGH.

**C. Procurement Plan**

The Borrower, at appraisal, developed a procurement plan for project implementation which provides the basis for the procurement methods. This plan has been agreed between the Borrower and the Project Team on October 17, 2008 and is available at DAA in the MENFP. It will also be available in the project's database and in the Bank's external website. The Procurement Plan will be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

**D. Frequency of Procurement Supervision**

Supervision would be carried out primarily through the prior review by the Bank of all procurement actions. In addition, day-to-day procurement supervision would be supplemented by supervision missions carried out either by Bank staff or short term consultants at least three times a year.

## E. Details of the Procurement Arrangements Involving International Competition

### Goods, Works, and Non Consulting Services

(a) List of contract packages to be procured following ICB and direct contracting:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| **Ref. No.** | **Contract (Description)** | **Estimated Cost** | **Procurement Method** | **P-Q** | **Domestic Preference (yes/no)** | **Review by Bank (Prior / Post)** | **Expected Bid-Opening Date** | **Comments** |
| | Building Montrouis emergency ford | 600,000 | Direct contracting | | | Prior | 9 Oct. 2008 | |
| | Building Mirebalais emergency ford | 215,000 | Direct contracting | | | Prior | 9 Oct. 2008 | |
| | Building Chalon emergency ford | 135,000 | Direct contracting | | | Prior | 9 Oct. 2008 | |
| | Building *Rivière Gauche* emergency ford and protection against erosion | 245,000 | Direct contracting | | | Prior | 9 Oct. 2008 | |
| | Protecting Rivière Bretelle against erosion | 250,000 | Direct contracting | | | Prior | 9 Oct. 2008 | |
| | Repairing abutment bridge RN7 on river Voldrogue | 450,000 | Direct contracting | | | Prior | Nov. 2008 | |
| | Repairing abutment bridge *de la riviere grise* route 9 | 300,000 | Direct contracting | | | Prior | Nov.. 2008 | |
| | Sustaining wall RN2 Morne Georges St. Louis Sud - Aquin | 55,062.1 | Direct contracting | | | Prior | 9 Oct. 2008 | |
| | Repairing drainage on RN2 Les Cayes – Bergeau | 20,000 | Direct contracting | | | Prior | Nov. 2008 | |
| | Rebuilding 200m sustaining wall Les Cayes, Fonfrede road | 100,000 | Direct contracting | | | Prior | Nov. 2008 | |
| | Rebuilding road and sustaining wall RN4, PK23+500 | 65,000 | Direct contracting | | | Prior | Oct. 2008 | |
| | Design&works Mirebalais and Chalon Bridges & acquisition of 10 bridge elements, | 4,900,000 | ICB | | NA | Prior | Dec 2008 | |

(b) ICB contracts estimated to cost above US$100,000 per contract and all direct contracting will be subject to prior review by the Bank.

**Consulting Services**

(a) List of consulting assignments with short-list of international firms.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| **Ref. No.** | **Description of Assignment** | **Estimated Cost** | **Selection Method** | **Review by Bank (Prior / Post)** | **Expected Proposals Submission Date** | **Comments** |
| | Preparation bidding documents and supervision of reconstruction works | 350,000 | QCBS | Prior | Nov. 2008 | |
| | Bridge inventory | 200,000 | LCS | Prior | Jan. 2009 | |
| | Integrated disaster prevention study Etang Saumatre – Lac Azuei | 500,000 | QCBS | Prior | Feb. 2009 | |
| | Integrated disaster prevention study Gonaives | 1,000,000 | QCBS | Prior | May 2009 | |

(b) All selection processes for consultancy services would be subject to prior review by the Bank.

(c) Short lists composed entirely of national consultants: Short lists of consultants for services estimated to cost less than US$100,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

**F. Thresholds for Procurement Methods and Prior Review**

Recommended thresholds for the use of the procurement methods specified in the grant agreement are identified in the table below. These thresholds, as well as the requirement for Bank prior review of all contracts, are common to all World Bank projects in Haiti. In the event that it is justified by a future assessment of the procurement capacity of the implementing agency, thresholds for prior review may be introduced. In any event, the agreed procurement plan will determine which contracts will be subject to Bank prior review. The negotiated version of the plan provides for Bank prior review of 100% of contracts financed by the Grant.

## Thresholds for Procurement Methods and Prior Review

| Expenditure Category | Contract Value (Threshold) US $ thousands | Procurement Method | Contracts Subject to Prior Review |
|---|---|---|---|
| | | | |
| **1. WORKS** | >1,000 | ICB | All |
| | 100-1,000 | NCB | All |
| | <100 | Shopping | All |
| | Regardless of value | Direct Contracting | All |
| **2. GOODS** | >100 | ICB | All |
| | 25-100 | NCB | All |
| | <25 | Shopping | All |
| | Regardless of value | Direct Contracting | All |
| **3. WORKS, GOODS AND SERVICES** | <25 | Community Participation procedures detailed in Operational Manual | None * |
| **4. CONSULTING SERVICES** | | | |
| **-4.A FIRMS** | >100 | QCBS,QBS,FBS,LCS | All |
| | <100 | QCBS,QBS,FBS,LCS and CQS | All |
| | Regardless of value | Single Source | All |
| **-4.B INDIVIDUALS** | Regardless of value | Comparison of 3 CVs in accordance with Chapter V of the Guidelines | All |

* Supervision of these activities would be done by the DDTPs, the UCE and/or MTPTC's bridge management unit following procedures described in the operational manual. Bank supervision missions will also review, through field visits, the implementation of these activities.

Note: QCBS = Quality- and Cost-Based Selection QBS = Quality-Based Selection
FBS = Fixed Budget Selection LCS = Least-Cost Selection
CQS = Selection Based on Consultants' Qualifications

## Simplified Procurement Plan

The simplified procurement plan below has been prepared by the implementing agencies.

| Contracts | Amount (US$) | Procurement method | Estimated date of award |
|---|---|---|---|
| **Component 1: Reconstructing selected bridges to restore access** | | | |
| *Sub-Component 1.1. Restoring basic access* | | | |
| Building Montrouis emergency ford | 600,000 | Direct contracting | 9 Oct. 2008 |
| Building Mirebalais emergency ford | 215,000 | Direct contracting | 9 Oct. 2008 |
| Building Chalon emergency ford | 135,000 | Direct contracting | 9 Oct. 2008 |
| Building *Rivière Gauche* emergency ford and protection against erosion | 245,000 | Direct contracting | 9 Oct. 2008 |
| Protecting Rivière Bretelle against erosion | 250,000 | Direct contracting | Oct. 2008 |
| *Sub-component 1.2. Bridge reconstruction* | | | |
| Topographic and geotechnical studies | 120,000 | Sole Source Selection | Nov. 2008 |
| Preparation bidding documents and supervision of reconstruction works | 350,000 | QCBS | Nov. 2008 |
| Design study for Ennery abutments | 30,000 | Sole Source Selection | Oct. 2008 |
| Destruction of damaged Mirebalais bridge | 30,000 | Shopping | Dec. 2008 |
| Design&works Mirebalais bridge | 2,300,000 | ICB | Dec. 2008 |
| Design&works Chalon bridge | 1,600,000 | | |
| Acquisition 10 emergency bridges | 1,000,000 | | |
| Protection against erosion - Mirebalais | 90,000 | Shopping | Dec. 2008 |
| Protection against erosion - Chalon | 60,000 | Shopping | Dec. 2008 |
| **Component 2: Improving the resilience of transport infrastructure** | | | |
| *Sub-Component 2.1. Vulnerability reduction and repair works* | | | |
| Design study maintenance bridge Estimé Dumarsais RN7 | 50,000 | QCS | Nov. 2009 |
| Works maintenance bridge Estimé Dumarsais on RN7 | 600,000 | NCB | Jan. 2009 |
| Protection of bridge Tabarre on road 9 against river erosion and repairing abutment bridge Croix des missions RN1 | 400,000 | NCB | Jan. 2009 |
| Repairing abutment bridge RN7 on river Voldrogue | 450,000 | Direct contracting | Nov. 2008 |
| Repairing abutment bridge *de la riviere grise* route 9 | 300,000 | Direct contracting | Nov.. 2008 |
| Repairing abutment bridge RN4 on river Gosseline | 200,000 | NCB | Jan. 2009 |
| Rebuilding of bridge Mapang , Cavaillon - Baradere | 550,000 | NCB | Jan. 2009 |
| Repairing radier of Pont Moreau, Croix des Bouquets RN8 + protection 2 small bridges RN8 Croix Bouquets-Ganthier | 250,000 | NCB | Jan. 2009 |
| *Gabions* to protect pillar RN2 Les Cayes bridge Ravine Sud | 70,000 | Shopping | Dec. 2008 |
| *Gabions* to protect abutment Bridge riviere Roseaux RN7 and maintenance bridge Guinaudé RN7 | 70,000 | Shopping | Dec. 2008 |
| Repair drainage RD25 Torbeck bridge Cayes-Port Salut | 40,000 | Shopping | Dec. 2008 |
| Construction of a *dalot* on Gele road | 350,000 | NCB | Jan. 2009 |
| 200 m of *gabion* to protect Cavaillon bridge on RN2 | 150,000 | NCB | Jan. 2009 |
| Consolidation bridge on Route de Léon | 50,000 | Shopping | Dec. 2008 |
| Other bridges: maintenance and consolidation works | 200,000 | NCB | Jan. 2009 |
| Sustaining wall RN2 Morne Georges St. Louis Sud - Aquin | 55,062.1 | Direct contracting | 9 Oct. 2008 |
| Repairing drainage on RN2 Les Cayes – Bergeau | 20,000 | Direct contracting | Nov. 2008 |
| Rebuilding 200m sustaining wall Les Cayes, Fonfrede road | 100,000 | Direct contracting | Nov. 2008 |
| Rebuilding *perrés, gabions, radiers* RN2 Boumier-Cayes | 100,000 | Shopping | Dec. 2008 |
| Rebuilding road and sustaining wall RN4, PK23+500 | 65,000 | Direct contracting | Oct. 2008 |
| Spot repair road RN2 Zanglais St Louis du Sud - Aquin | 60,000 | Shopping | Dec. 2008 |

| | | | |
|---|---|---|---|
| DDTP-managed emergency and routine maintenance pilot | 500,000 | Community Participation procedures detailed in Operational Manual | Apr. 2009 |
| *Sub-Component 2.2. Community-based routine maintenance pilot (CDD)* | | | |
| Community-based routine maintenance pilot | 500,000 | Community Participation procedures detailed in Operational Manual | Apr. 2009 |
| **Component 3: Improving transport asset management** | | | |
| Bridge inventory | 200,000 | QCBS | Jan. 2009 |
| Vehicle rentals | 70,000 | Shopping | Dec. 2008 |
| Acquisition of office equipment and supply to crisis management and bridge assessment management unit | 40,000 | Shopping | |
| Young engineers program for DDTP (10 per year) | 250,000 | Comparison of 3 CVs | Aug. 2009 |
| Safeguards studies | 75,000 | 3 CVs or CQS | Nov. 2008 |
| 2 international consultants specialized in bridges (1 year) | 500,000 | Comparison of 3 CVs | Nov. 2008 |
| Procurement specialist (4 years) | 108,000 | Sole Source Selection | 31 Oct. 2008 |
| Financial management specialist (2 years) | 96,000 | Sole Source Selection | 31 Oct. 2008 |
| Environmental and social safeguards specialist (4 years) | 100,000 | Comparison of 3 CVs | Jan. 2009 |
| Project audits | 75,000 | LCS | Apr. 2009 |
| **Component 4: Strengthening the National Disaster Risk Management System** | | | |
| *Sub-component 4.1.Creation of a disaster recovery and reconstruction coordination unit within the MPCE* | | | |
| Post disaster planning - International consultants | 300,000 | Comparison of 3 CVs | Nov. 2008 |
| Advocacy and planning - National consultants – | 100,000 | Comparison of 3 CVs | Nov. 2008 |
| Office Equipment and Supplies | 250,000 | ICB | Jan. 2009 |
| Monitoring and evaluation - International Consultant | 300,000 | Comparison of 3 CVs | Jan. 2009 |
| Workshop and training | 230,000 | TBD | Mar. 2009 |
| *Sub-component 4.2. Institutional support program to the NDRMS* | | | |
| Technical and coordination support to the SNGRD - International consultants | 450,000 | Comparison of 3 CVs | Dec. 2008 |
| Technical support to SPGRD - International consultants | 600,000 | Comparison of 3 CVs | Dec. 2008 |
| Workshop and training | 200,000 | TBD | Mar. 2009 |
| M&E line ministries - National Consultants | 200,000 | Comparison of 3 CVs | Mar. 2009 |
| technical support to SNGRD - National consultants | 400,000 | Comparison of 3 CVs | Apr. 2009 |
| Operating Costs | 350,000 | | TBD |
| National consultant to draft the project's operational manual | 20,000 | Comparison of 3 CVs | Nov. 2008 |
| *Sub-component 4.3. Integrated approaches to disaster prevention* | | | |
| Integrated disaster prevention study Etang Saumatre – Lac Azuei | 500,000 | QCBS | Feb. 2009 |
| Integrated disaster prevention study Gonaives | 1,000,000 | QCBS | May 2009 |

## Annex 6. Implementation and Monitoring Arrangements

The proposed project will be implemented by two Project Implementing Agencies (PIUs) with satisfactory experience in managing Bank funds:

- The Unité Centrale d'Exécution (UCE) will implement Components 1, 2 and 3. The UCE is part of the Ministry of Public Works, Transport and Communications (MTPTC). The UCE is currently implementing most of the externally-financed investments in transport in Haiti, with resources from the IaDB, Canada (CIDA), France (AFD) and the World Bank (Transport and Territorial Development Project). While the UCE has been very successful in assuming the fiduciary responsibility associated with these operations, it has so far demonstrated a limited capacity in handling technically complex interventions and in implementing activities under a tight schedule. However, the UCE remains the best available alternative to manage transport investments within MTPTC. In order to ensure the sound and swift implementation of the proposed emergency program, the UCE will be reinforced with the creation of a emergency unit (*cellule d'urgence*), staffed with a full time procurement specialist, a contract management specialist, an accountant, an international consultant specialized in bridges and a social and environmental specialist. This unit, to be established in the next 2 months following the FGHI events, is expected to have sufficient capacity to immediately jump start the emergency program. The international consultant will also train professional staff of the UCE in handling technically complex bridge repair and reconstruction operations. In addition, a provision has been set so that the UCE can hire international experts (eg. specialized in geotechnical issues or erosion management) on short-term assignments, as specific technical needs may arise.

- The *Bureau de Monétisation*'s Unité de Coordination de Projet (BM-UCP) will implement Component 4. The Bureau de Monétisation is part of the Ministry of Finance and is one of the Government's principle donor project management institutions. The BM-UCP currently implements on behalf of the government the World Bank financed Community Driven Rural Development Project, the Community Driven Urban Development Project as well as select components of the Emergency Recovery and Disaster Risk Management Project and the Transport and Territorial Development Project. The BM-UCP has a full compliment of technical and fiduciary staff and has been very successful in the managing the implementation responsibilities associated with these operations.

The works will be mostly implemented by private firms (international and local). However, some of the labor-intensive, minor repair works to be financed under component 2 might be implemented directly by the Regional Offices of MTPTC (DDTP - *Directions Departementales des Travaux Publics*), provided they demonstrated sufficient capacity to handle procurement. Under the proposed scheme, the DDTPs would hire temporary workers and buy small equipments, materials and gasoline, to perform the works. The quality of works will be certified by the Bridge Reconstruction Supervising Firm to be contracted under component 1. This arrangement differs from *force account* practices - which are not eligible

to World Bank financing in Haiti, because privately-contracted workers would be involved, instead of civil servants. This arrangement will be used as an alternative to contracting out to private firm when works will be labor intensive with low technicity, when works needs to be performed urgently due to security concerns and when the total amount of works is too low to attract local private contractors. Whenever possible, the UCE will package works in larger contracts to make them more attractive to private operators and to generate economies of scale.

Other Haitian institutions to be involved in the implementation of components 1, 2 and 3 include:

- The MTPTC will develop a bridge asset management capacity through the constitution of the Bridge Asset Management Unit to be constituted under component 3. This unit will manage and update the bridge inventory and monitor the implementation of components 1 and 2. The MTPTC will also develop an in-house capacity to handle disaster-related crisis through the creation of a Crisis Management Unit to be developed under component 3. This unit will design contingency procedures in case of disasters such as the FGHI storms, and coordinate their implementation within the Ministry (including the DDTP). This unit will also be integrated in the broader Haitian emergency response system to be developed under component 4.
- The FER will be consulted each time a maintenance or repair activity under component 2 is performed on the road network eligible to FER financing (REFER in French). The FER will also be involved in the design and implementation of the community-based routine maintenance pilot to be implemented under component 2. The FER has handled similar successful experiences on two Haitian roads (Port-à-Piment – Tiburon and Mirebalais – Lascaobas), with financing from an EU project.

Finally, the *Table Sectorielle Transport*, chaired by the Minister of Public Works, will ensure strategic oversight of project implementation as well as coordination with the other donors. Over recent years, the *Table Sectorielle Transport* has demonstrated a good track record in coordinating donors' interventions in the transport sector in Haiti.

Overall coordination of the Haitian Disaster Management and Reconstruction System will be facilitated by the *Bureau de Monétisation*, with resources from component 4.

The table below sums up the respective responsibilities of key actors:

| Institution | Responsibilities in project implementation |
|---|---|
| UCE – bridge emergency unit | Overall implementation responsibility for components 1, 2 and 3 and preparation of Project Activity and Financial Management Reports |
| Bureau de Monétisation | Overall implementation responsibility for component 4 and supporting coordination of Haitian Disaster Management and Reconstruction system |
| MTPTC | - Monitor infrastructure conditions and ensure sound asset management through the Bridge Asset Management Unit |

| | |
|---|---|
| | - Establish contingency procedures to be prepared for future disasters through the crisis management unit |
| Private contractors and consultants, construction firms and consulting firms | Perform bridge reconstruction, repair and maintenance works, as well as related studies and supervision |
| DDTPs | - Implementation responsibilities for smaller-scale repair works under component 2, subject to sufficient capacity<br>- Participate in contingency procedures coordinated by MTPTC crisis management unit |
| FER | Monitor maintenance activities on REFER and help implement community-based routine maintenance activities under component 2 |
| *Table Sectorielle Transport* | Ensure strategic oversight of project implementation as well as coordination with the other donors |

## Annex 7. Project Preparation and Appraisal Team Members

Bank staff and consultants who worked on the project included:

| Name | Title | Unit |
|---|---|---|
| Solange Alliali | Sr. Counsel | LEGLA |
| Pierre Bonneau | Head Guadeloupe Road Agency, seconded French Government | |
| Louis Boutaud de la Combe | ST Consultant – Operational Strategist | LCSUW |
| Peter Cohen | ET Consultant – Social Scientist | LCSSO |
| David Delver | Guadeloupe Road Agency, seconded French Government | |
| David Freese | Sr. Finance Officer | LOAFC |
| Ross Gartley | Operations Officer, co-TTL | LCSUW |
| Grégoire Gauthier | Transport Specialist | ETWTR |
| Glenn Morgan | Lead Environmental Specialist | LCSEN |
| Ulrich Myboto | ET Consultant | ETWUW |
| Nicolas Peltier-Thiberge | Sr. Infrastructure Economist, co-TTL | LCSTR |
| Navid Rahimi | ST Consultant | LCSUW |
| Fily Sissoko | Sr. Financial Management Specialist | LCSFM |
| Joaquin Toro | Hazard Risk Management Specialist | LCSUW |
| Yao Wottor | Procurement Specialist | LCSPT |

Advisors and Quality Assurance:

| Name | Title | Unit |
|---|---|---|
| Alan Carroll | Country Operations Adviser | LCC3C |
| Guang Zhe Chen | Sector Manager | LCSUW |
| Maryse Gautier | Manager, Portfolio and Operations, Peer Reviewer | EACPF |
| Francis Ghesquiere | Lead Urban Specialist, Peer Reviewer | LCSUW |
| Pierre Graftieaux | Sr. Transport Specialist, Peer Reviewer | AFTTR |
| Jose-Luis Irigoyen | Sector Manager | LCSTR |
| Emmanuel James | Lead Transport Specialist, Peer Reviewer | LCSTR |
| Christina Malmberg-Calvo | Sector Leader | LCSSD |
| Aymeric-Albin Meyer | Sr. Transport Specialist, Peer reviewer | LCSTR |
| Thakoor Persaud | Consultant, Peer Reviewer | EASTE |

## Annex 8. Environmental and Social Safeguards

### Introduction

The project will finance the reconstruction of bridges and associated road infrastructure throughout the hurricane damaged areas of Haiti. Approximately 20 bridges and associated transport works have been identified for reconstruction under the project.

### Potential Environmental Impacts

Since all of the sub-projects to be financed will be for replacement of existing structures the incremental adverse impact of the project is expected to be small. However, there will be some potential environmental impacts associated with the demolition of damaged structures and construction of the new structures. Many adverse impacts have already been caused by the damaged infrastructure and these impacts will be improved and mitigated through the rehabilitation and reconstruction of new works. Typical sites and project interventions are shown in the photos attached at the end of this annex.

Expected environmental impacts from the project are those typically associated with bridge and road reconstruction and rehabilitation. Among other potential impacts these include:

- temporary site disturbance associated with demolition of damaged infrastructure;
- erosion and sedimentation in streams from reconstruction of bridge foundations and associated increases in sediment loads and turbidity;
- in stream disturbances from blasting or from excavation works
- dust and noise from operation of heavy equipment;
- handling, storage and disposal of waste materials including hazardous materials;
- impacts on local drainage due to temporary construction as well as possible affect; and traffic congestion or temporary re-routing of traffic around the construction zone.

All of these impacts can be managed with known mitigation measures and the majority of the works will be located at the same site so as to avoid incremental damage. In this way the impacts will be very localized. None of the sub-project will have large scale or regional impacts. One or two of the bridges may be located to new sites which will require further environmental assessment at those sites. Overall, the impacts are not expected to be significant and for this reasons the project has been categorized as an environmental risk category B.

### Approach to Environmental Assessment

To guide the environmental assessment and mitigation process, an Environmental Management Framework has been developed for the project. A draft EMF has been prepared by a qualified consultant and is being reviewed by the counterparts and the Bank. Since the sub-projects have been identified in advance it is possible to conduct a rapid assessment of the likely effects of the bridge reconstruction. What is not yet possible, due to time constraints, is to develop a management and mitigation plans for the all sub-projects.

The EMF provides an environmental screening checklist and description of expected works to be financed under the project. The EMF further provides a three tiered typology of sub-project types and their associated risk categories to be used as a sub-project screening tool. Based on this typology, sub-projects may or may not be required to develop detailed environmental impact analysis beyond the site screening. Type I and II will not require additional environmental analysis but may require site management measures. Type III sub-project (two identified) will require additional environmental assessment and management planning.

The approach to be followed under the project will be to require each construction contractor to follow a site specific environmental mitigation and management plan which will be part of all contracts. These contractual obligations will lay out the contractors' responsibilities in areas such as site preparation, demolition, management of construction waste, handling of oils, lubricants and other hazardous chemicals, minimization and avoidance of site disturbance to reduce erosion among other possible measures.

The EMF outlines specific avoidance and management measures to be followed at each site for such issues as timing of construction works, management of hazardous materials, location of work staging areas etc. The EMF also calls for the development of an information and communications plan to give local residents sufficient advance notice of the types of works, their timing and the scope of environmental and social mitigation measures.

The Bank's Forests Operational Policy was triggered due to (i) potential deforestation as an indirect impact of improved transport infrastructure, and (ii) planned reforestation activities. The sub-project screening sheet prepared as part of the EMF includes questions to identify whether potential works are located near sites with significant forest resources. In case there is a need to control pests in the context of reforestation activities, OP4.09 would be triggered. The EMF includes a section on agreed procedures for the use of pesticides in reforestation activities.

**Social aspects**

The damages caused by the hurricanes have already led to social impacts on a large number of local communities. The project would help to address a number of adverse impacts caused by loss of transport access especially as it relates to damaged bridges. The project does not expect to require significant resettlement or land acquisition but this is possible at some sites where new construction may require re-routing or relocation of infrastructure.

For this reason, a Resettlement Framework (RF) has been developed which spells out the basic rights, responsibilities, eligibility criteria and dispute resolution mechanisms which will apply during the project. At the moment the EMF includes a detailed annex describing the land acquisition and resettlement measures under the project. The project has based the RF on an existing framework used under a recent Bank-financed transportation project (Transport and Territorial Development Project). Both the RF and the EMF will include measures for consultation and disclosure of information to affected communities. These

communications and consultation measures will be coordinated by the project's management unit.

Bank safeguards policy for physical cultural resources was also triggered to account for potential chance finds of physical cultural resources during construction and rehabilitation activities. The sub-project screening sheet includes questions to identify potential negative impacts of proposed works on such resources. The EMF also includes procedures to be followed by contractors in case of chance findings of cultural artifacts during construction activities.

**Institutional Responsibilities**

The EMF describes an Environmental Action Plan which covers the main tasks and duties at different stages of the project development such as identification; study preparation; site evaluation; and mobilization of construction works. Responsibilities for the implementation and oversight of the environmental management framework will reside with various entities associated with the project such as UCE, MDE, concerned ministries, local communities and consultants hired to conduct specific analytical work.

The project implementing agencies will have responsibility to ensure adequate staff and financial resources to carry out the functions of site screening, contracting, monitoring and site supervision. In particular, a social and environmental staff will be hired by UCE. Specific tasks and responsibilities are defined in the EMF and include overall coordination of environmental and social screening, review, development of TOR for future studies and analysis, approvals and site supervision. The social and environmental specialist will work closely with the BM-PCU's social and environmental specialist to benefit from his experiencing working within the Bank safeguards frameworks.

The project cost table (see Annex 3) includes a budget (US$75,000) to finance safeguards-related activities, as well as resources (US$100,000) for the UCE to contract a social and environmental specialist for the duration of project implementation.

## Annex 9. Economic and Financial Analysis

No formal economic and financial analysis has been carried out as part of the preparation of the proposed emergency response project. However, the following issues are mentioned to provide an insight of the project economic and financial benefits.

**Minimizing reconstruction and construction costs**

The following measures were taken to minimize reconstruction and construction costs:

- As an emergency response, fords equipped with culverts were constructed on the main sites. This solution is the cheapest (and a quick) solution to restore access. In particular, given that no provisional bridges are immediately available in Haiti; this solution is cheaper than having provisional bridges thrown across rivers.

- The project does not contemplate to install provisional bridges before permanent bridges are built. This disposition will save the cost of an intermediate phase between the emergency response and the reconstruction.

- On a longer run, for the reconstruction phase, the bridges will use as much as possible standardization and prefabrication to reduce the related design / construction / supervision costs.

**Maximizing benefits for the population**

Most works, specifically the two new bridges of *Mirebalais* and *Chalon,* will be carried out on main Haitian structuring roads. The table below shows the automotive traffic on these roads:

- RN1 (at Montrouis): 3500 vehicles / day ;

- RN1 (between Gonaïves and Ennery): 2500 vehicles / day ;

- RN2 (Desruisseaux intersection / Chalon) : 2300 vehicles / day ;

- RD109 (Mirebalais – Seau d'eau): 1500 2500 vehicles / day .

Interventions on the main road network, where largest volumes of traffic are observed, will maximize the benefits for the population.

Experience from other Bank-financed projects in Haiti have shown very high economic returns on high-volume roads such as RN1 or RN2. The ERR of reconstruction works on such roads has reached an average of 63 percent (varying from 38 percent to more than 100 percent). On lower traffic level roads, the IRR of rehabilitation works has been estimated to at least 15 percent.

**Restoring access to public facilities**

Finally, the project focuses on interventions that will restore access to basic public infrastructure facilities. For instance, on RN2 near Les Cayes, the Cavaillon Bridge needs urgently to be protected against river flows; the bridge is the only access to the regional hospital. Granting access to health facilities is a crucial issue in the current emergency context.

## Annex 10. Documents in Project Files

- Aide mémoire de la mission d'identification des dégâts aux infrastructures de transport des tempêtes tropicales Fay, Gustav, Hanna, Ike, Banque Mondiale, 5-6 Septembre 2008.
- Mission d'analyse des besoins en terme de franchissement suite au passage des cyclones Gustav, Anna et Ike, Presentation, Fonds Européen de Développement, Sept. 2008.
- Ministère des Travaux Publics, des Transports et des Communications – Diagnostic sur l'organisation du Ministère et Propositions. Jean Berthier, Agence Française de Développement, 5 mai 2008.
- Haiti: Bridge Reconstruction and Disaster Mitigation Project (P114292)- Notification to Process under OP/BP 8.0, *Rapid Response to Crises and Emergencies*

# Annex 11. Statement of Loans and Credits

| | | | Original Amount in US$ Millions | | | | | | Difference between expected and actual disbursements | |
|---|---|---|---|---|---|---|---|---|---|---|
| Project ID | FY | Purpose | IBRD | IDA | SF | GEF | Cancel. | Undisb. | Orig. | Frm. Rev'd |
| P111667 | 2009 | HT Avian Human Influenza Emergency | 0.00 | 1.56 | 0.00 | 0.00 | 0.00 | 1.63 | 0.00 | 0.00 |
| P106699 | 2008 | HT Urban CDD / PRODEPUR | 0.00 | 15.70 | 0.00 | 0.00 | 0.00 | 15.65 | 0.00 | 0.00 |
| P106621 | 2008 | HT Meeting Teacher Needs for EFA | 0.00 | 6.00 | 0.00 | 0.00 | 0.00 | 6.20 | 0.00 | 0.00 |
| P104690 | 2007 | HT Catastrophe Insurance Project | 0.00 | 9.00 | 0.00 | 0.00 | 0.00 | 1.71 | 0.32 | 0.00 |
| P100564 | 2007 | HT 2nd Econ. Governance Reform | 0.00 | 23.00 | 0.00 | 0.00 | 0.00 | 13.44 | 12.66 | 0.00 |
| P099918 | 2007 | HT (APL1) Education For All | 0.00 | 25.00 | 0.00 | 0.00 | 0.00 | 23.84 | 0.60 | 0.00 |
| P098531 | 2007 | HT Electricity Project | 0.00 | 6.00 | 0.00 | 0.00 | 0.00 | 6.08 | 5.41 | 0.00 |
| P089839 | 2007 | HT Rural Water and Sanitation | 0.00 | 5.00 | 0.00 | 0.00 | 0.00 | 4.92 | 0.83 | 0.00 |
| P095523 | 2006 | HT Transport and Territorial Devopment | 0.00 | 16.00 | 0.00 | 0.00 | 0.00 | 16.72 | 7.31 | 0.00 |
| P095371 | 2006 | HT Economic Governance TAG II | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 2.22 | 2.00 | 0.00 |
| P093640 | 2006 | HT CDD Project (PRODEP) | 0.00 | 38.00 | 0.00 | 0.00 | 0.00 | 19.81 | 6.65 | 0.00 |
| P093936 | 2005 | HT Governance Technical Assistance Grant | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.68 | 0.53 | 0.53 |
| P090159 | 2005 | HT Emergency Recov.& Disaster Management | 0.00 | 12.00 | 0.00 | 0.00 | 0.00 | 11.09 | 2.61 | 2.09 |
| | | Total: | 0.00 | 161.26 | 0.00 | 0.00 | 0.00 | 123.99 | 38.92 | 2.62 |

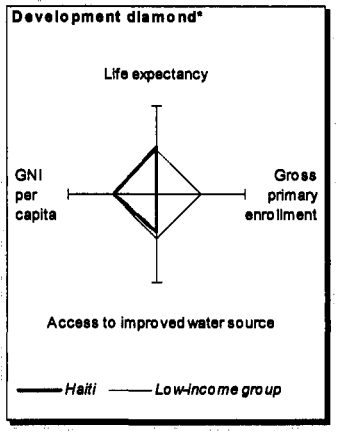
## HAITI
## STATEMENT OF IFC's
## Held and Disbursed Portfolio
## In Millions of US Dollars

| | | Committed | | | | Disbursed | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | IFC | | | | IFC | | | |
| FY Approval | Company | Loan | Equity | Quasi | Partic. | Loan | Equity | Quasi | Partic. |
| 2006 | Digicel Haiti | 15.00 | 0.00 | 0.00 | 0.00 | 15.00 | 0.00 | 0.00 | 0.00 |
| 1998 | MicroCredit | 0.00 | 0.27 | 0.00 | 0.00 | 0.00 | 0.27 | 0.00 | 0.00 |
| | Total portfolio: | 15.00 | 0.27 | 0.00 | 0.00 | 15.00 | 0.27 | 0.00 | 0.00 |

| | | Approvals Pending Commitment | | | |
|---|---|---|---|---|---|
| FY Approval | Company | Loan | Equity | Quasi | Partic. |
| | Total pending commitment: | 0.00 | 0.00 | 0.00 | 0.00 |

# Annex 12. Country at a Glance

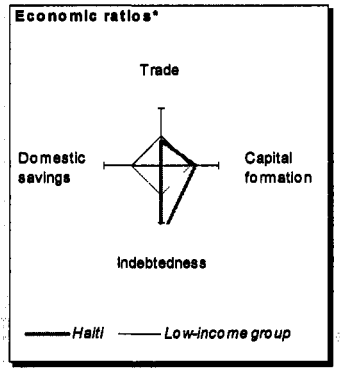
| POVERTY and SOCIAL | Haiti | Latin America & Carib. | Low-income |
|---|---|---|---|
| **2007** | | | |
| Population, mid-year *(millions)* | 9.6 | 563 | 1,296 |
| GNI per capita *(Atlas method, US$)* | 560 | 5,540 | 578 |
| GNI *(Atlas method, US$ billions)* | 5.4 | 3,118 | 749 |
| **Average annual growth, 2001-07** | | | |
| Population *(%)* | 1.6 | 1.3 | 2.2 |
| Labor force *(%)* | 2.7 | 2.1 | 2.7 |
| **Most recent estimate (latest year available, 2001-07)** | | | |
| Poverty *(% of population below national poverty line)* | .. | .. | .. |
| Urban population *(% of total population)* | 45 | 78 | 32 |
| Life expectancy at birth *(years)* | 60 | 73 | 57 |
| Infant mortality *(per 1,000 live births)* | 60 | 22 | 85 |
| Child malnutrition *(% of children under 5)* | 19 | 5 | 29 |
| Access to an improved water source *(% of population)* | 58 | 91 | 68 |
| Literacy *(% of population age 15+)* | .. | 90 | 61 |
| Gross primary enrollment *(% of school-age population)* | .. | 118 | 94 |
| Male | .. | 120 | 100 |
| Female | .. | 116 | 89 |




**KEY ECONOMIC RATIOS and LONG-TERM TRENDS**

| | 1987 | 1997 | 2006 | 2007 |
|---|---|---|---|---|
| GDP *(US$ billions)* | 2.2 | 3.2 | 5.0 | 6.1 |
| Gross capital formation/GDP | 14.3 | 24.7 | 28.9 | .. |
| Exports of goods and services/GDP | 15.7 | 10.5 | 14.1 | .. |
| Gross domestic savings/GDP | 4.8 | 8.6 | -0.3 | .. |
| Gross national savings/GDP | .. | 16.9 | .. | .. |
| Current account balance/GDP | .. | -7.2 | -0.9 | .. |
| Interest payments/GDP | 0.4 | 0.4 | 0.3 | .. |
| Total debt/GDP | 40.7 | 27.4 | 24.0 | .. |
| Total debt service/exports | .. | 5.5 | 8.4 | .. |
| Present value of debt/GDP | .. | .. | 18.7 | .. |
| Present value of debt/exports | .. | .. | 137.7 | .. |

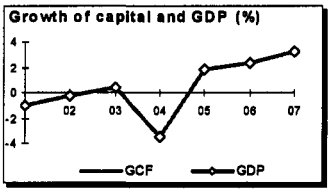
| | 1987-97 | 1997-07 | 2006 | 2007 | 2007-11 |
|---|---|---|---|---|---|
| *(average annual growth)* | | | | | |
| GDP | -2.7 | 0.3 | 2.3 | 3.2 | .. |
| GDP per capita | -4.6 | -1.3 | 0.7 | 1.4 | .. |
| Exports of goods and services | -1.6 | .. | .. | .. | .. |




**STRUCTURE of the ECONOMY**

| | 1987 | 1997 | 2006 | 2007 |
|---|---|---|---|---|
| *(% of GDP)* | | | | |
| Agriculture | .. | 22.4 | .. | .. |
| Industry | .. | 33.8 | .. | .. |
| Manufacturing | .. | 11.5 | .. | .. |
| Services | .. | 43.8 | .. | .. |
| Household final consumption expenditure | 85.7 | 83.5 | 91.3 | .. |
| General gov't final consumption expenditure | 9.5 | 7.9 | 9.0 | .. |
| Imports of goods and services | 25.1 | 26.6 | 43.3 | .. |

| | 1987-97 | 1997-07 | 2006 | 2007 |
|---|---|---|---|---|
| *(average annual growth)* | | | | |
| Agriculture | 2.9 | .. | .. | .. |
| Industry | -9.5 | .. | .. | .. |
| Manufacturing | -2.5 | .. | .. | .. |
| Services | 0.9 | .. | .. | .. |
| Household final consumption expenditure | .. | .. | .. | .. |
| General gov't final consumption expenditure | .. | .. | .. | .. |
| Gross capital formation | -11.8 | .. | .. | .. |
| Imports of goods and services | 4.3 | .. | .. | .. |



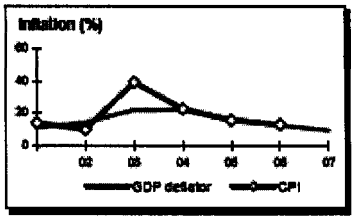

Note: 2007 data are preliminary estimates.

This table was produced from the Development Economics LDB database.

*The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

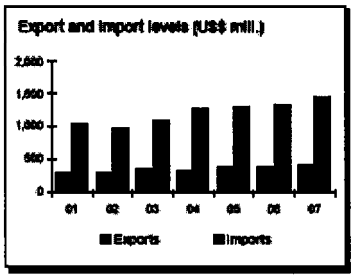
**PRICES and GOVERNMENT FINANCE**

| | 1987 | 1997 | 2006 | 2007 |
|---|---|---|---|---|
| *Domestic prices* | | | | |
| *(% change)* | | | | |
| Consumer prices | -11.4 | 20.4 | 13.0 | .. |
| Implicit GDP deflator | -2.7 | 9.6 | 12.4 | 9.3 |
| *Government finance* | | | | |
| *(% of GDP, includes current grants)* | | | | |
| Current revenue | | 9.0 | 13.3 | .. |
| Current budget balance | | 0.9 | 3.5 | .. |
| Overall surplus/deficit | | -0.4 | -2.1 | .. |



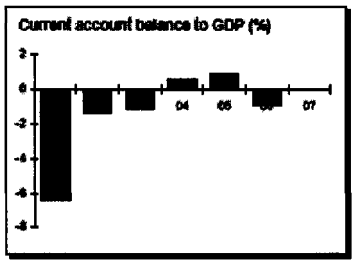

**TRADE**

| | 1987 | 1997 | 2006 | 2007 |
|---|---|---|---|---|
| *(US$ millions)* | | | | |
| Total exports (fob) | 196 | 196 | 384 | 420 |
| Coffee | 34 | 13 | | .. |
| Sisal and sisal strings | 9 | 1 | | .. |
| Manufactures | 132 | 159 | 336 | 370 |
| Total imports (cif) | 315 | 707 | 1,329 | 1,451 |
| Food | 72 | 200 | .. | .. |
| Fuel and energy | 48 | 75 | .. | .. |
| Capital goods | 67 | 92 | 5,489 | 5,723 |
| Export price index *(2000=100)* | | .. | | .. |
| Import price index *(2000=100)* | | | | .. |
| Terms of trade *(2000=100)* | | | | .. |



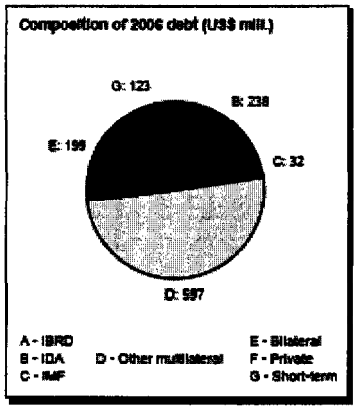

**BALANCE of PAYMENTS**

| | 1987 | 1997 | 2006 | 2007 |
|---|---|---|---|---|
| *(US$ millions)* | | | | |
| Exports of goods and services | | 380 | 675 | .. |
| Imports of goods and services | | 881 | 2,067 | .. |
| Resource balance | | -501 | -1,392 | .. |
| Net income | | 13 | -20 | .. |
| Net current transfers | | 256 | .. | .. |
| Current account balance | | -232 | -45 | .. |
| Financing items (net) | | 259 | | .. |
| Changes in net reserves | | -28 | | .. |
| *Memo:* | | | | |
| Reserves including gold *(US$ millions)* | 26 | 266 | | .. |
| Conversion rate *(DEC, local/US$)* | 5.0 | 16.7 | 40.4 | 36.9 |




**EXTERNAL DEBT and RESOURCE FLOWS**

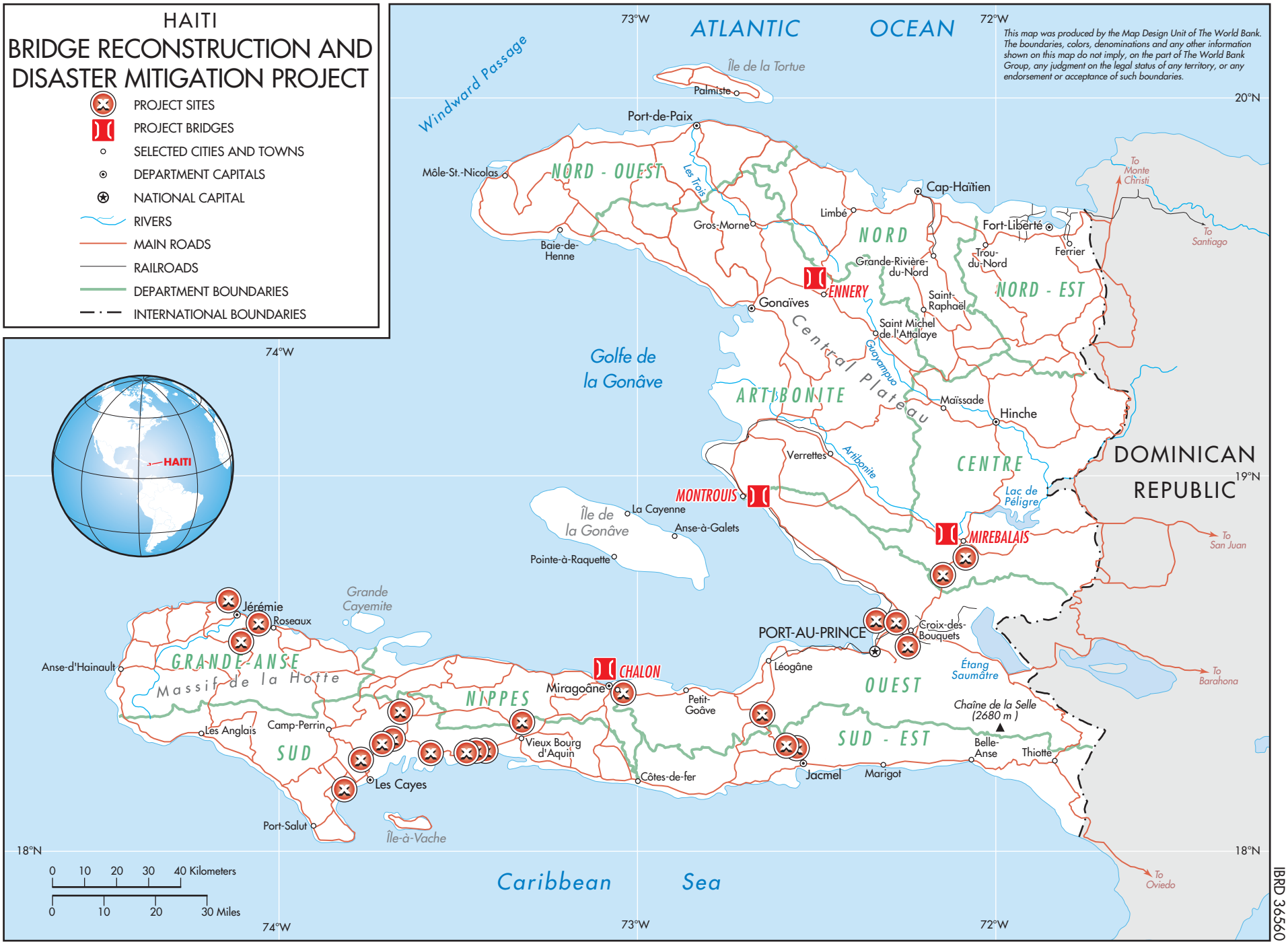
| | 1987 | 1997 | 2006 | 2007 |
|---|---|---|---|---|
| *(US$ millions)* | | | | |
| Total debt outstanding and disbursed | 579 | 584 | 1,189 | .. |
| IBRD | 0 | 0 | 0 | 0 |
| IDA | 279 | 285 | 238 | 518 |
| Total debt service | 65 | 36 | 57 | |
| IBRD | 0 | 0 | 0 | 0 |
| IDA | 3 | 7 | 11 | 18 |
| Composition of net resource flows | | | | |
| Official grants | 108 | 133 | 301 | .. |
| Official creditors | 74 | 41 | 29 | .. |
| Private creditors | -2 | 0 | 0 | .. |
| Foreign direct investment (net inflows) | 5 | 4 | 160 | .. |
| Portfolio equity (net inflows) | 0 | 0 | 0 | .. |
| World Bank program | | | | |
| Commitments | 63 | 0 | 0 | 0 |
| Disbursements | 48 | 0 | 0 | 0 |
| Principal repayments | 1 | 4 | 9 | 15 |
| Net flows | 48 | -4 | -9 | -15 |
| Interest payments | 2 | 2 | 2 | 4 |
| Net transfers | 45 | -5 | -11 | -18 |




The World Bank Group: This table was prepared by country unit staff; figures may differ from other World Bank published data. 9/24/08

MAP SECTION

# HAITI
# BRIDGE RECONSTRUCTION AND DISASTER MITIGATION PROJECT

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