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# HAITI

# EMERGENCY PROGRAM IN RESPONSE TO HURRICANE MATTHEW

**(HA-L1130)**

**GRANT PROPOSAL**

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## ELECTRONIC LINKS

**REQUIRED**

1. Pluriannual Execution Plan (PEP)
2. Annual Operational Plan (POA)
3. Monitoring and Evaluation Arrangements
4. Procurement Plan

**OPTIONAL**

1. Formal Request of the Government of Haiti
2. Declaration of State of Emergency
3. Rapid Assessment of Damages and Losses Caused by Hurricane Matthew
4. Transport Damage Assessment and Program Recommendations
5. Analysis of Project Cost and Economic Viability
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7. Technical Options and Design
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| ABBREVIATIONS | |
|---|---|
| DaLA | Damage, Loss and Needs Assessment |
| DPC | Directorate for Civil Protection |
| DRM | Disaster Risk Management |
| FAO | Food and Agriculture Organization |
| FM | Financial Management |
| GoH | Government of Haiti |
| IDB | Inter-American Development Bank |
| IGOPP | Index of Governance and Public Policy |
| IOM | International Organization for Migration |
| IRF | Immediate Response Facility |
| MARNDR | Ministry of Agriculture, Natural Resources, and Rural Development |
| MCI | Ministry of Commerce and Industry |
| MEF | Ministry of Economy and Finance |
| MICT | Ministry of Interior and Territorial Communities |
| MINUSTAH | Mission of the United Nations for the Stabilization in Haiti |
| MoE | Ministry of Environment |
| MPCE | Ministry of Planning and External Cooperation |
| MSPP | Ministry of Public Health and Population |
| MTPTC | Ministry of Public Works, Transport and Communications |
| MT | Ministry of Tourism |
| NLCPW | National Laboratory of the Construction and Public Works of Haiti *Laboratoire National du Bâtiment et des Travaux Publics d'Haïti* |
| OCHA | United Nations Office for the Coordination of Humanitarian Affairs |
| PEP | Pluriannual Execution Plan |
| PMR | Program Management Report |
| PNGRD | National Risk and Disaster Management Plan |
| POA | Annual Operational Plan |
| POD | Proposal for Operation Development |
| RN | *Routes Nationale* |
| SELF | Solar Electric Light Fund |
| SPGRD | Permanent Secretariat of Risk Management and Disaster Management |
| SPF | Safeguard Policy Filter |
| SSF | Safeguard Screening Form |
| UCE | Central Executing Unit |
| TC | Technical Cooperation |
| UN | United Nations |
| UNDP | United Nations Development Progamme |
| UNEP | United Nations Environment Programme |
| UNICEF | United Nations International Children's Emergency Fund |
| WFP | World Food Program |
| WHO | World Health Organization |

**EXECUTIVE SUMMARY**
**HAITI**
**EMERGENCY PROGRAM IN RESPONSE TO HURRICANE MATTHEW**
**(HA-L1130)**

| | | | |
|---|---|---|---|
| **Beneficiary:** | Government of Haiti (GoH) | | |
| **Executing Agency:** | Ministry of Public Works, Transport and Communications (MTPTC) | | |
| **Amount and Source:** | IDB (GRF): | US$ | 20,000,000 |
| | Total: | US$ | 20,000,000 |
| **Financial terms and conditions:** | Disbursement period: 12 months after the effective date of the grant contract<br>Commitment period: 9 months from the date of the disaster | | |
| **Currency:** | United States Dollars from the IDB Grant Facility | | |
| **Objectives:** | The general objective of the program is to help restore connectivity and basic services to the population living in the south of Haiti affected by Hurricane Matthew. The specific objectives are: (i) to restore road connectivity through the rehabilitation, stabilization, and repair of road sections, road drainage systems, and bridges; and (ii) to restore electric connectivity through the rehabilitation of electric lines and electric installations. | | |
| **Special Contractual Clauses Prior to the First Disbursement** | As special contractual conditions precedent to the first disbursement of the grant, the Beneficiary, through the Executing Agency, will comply with the following to the satisfaction of the Bank:<br>a. That the selection process and the signature of the contracts for the contracting of the following professionals dedicated to the Program has been completed, in accordance with the procurement policies set forth in the Procurement policies and Consultants Policies: (i) a full-time Program Director; (ii) a full-time procurement officer to support the execution of the procurement plan according to Bank policies; (iii) a full-time engineer; (iv) a supervision firm for all road interventions; and (v) a quantity surveying and assessment firm to assist MTPTC in quantifying and managing all design and costs to project-related interventions (¶5.42).<br>b. That the manual of procedures establishing the key roles and responsibilities of MTPTC, including UCE, with respect to procurement and financial management matters, respectively, be approved and in effect (¶5.42). | | |
| **Environmental and social review:** | In accordance with the Environment and Safeguards Compliance Policy (OP-703), the program has been classified as a Category “C” operation. Given the nature of this program, no prior environmental impact assessments will be conducted. Nonetheless, any activities undertaken will comply with Haitian national rules and specifications on the prevention and mitigation of environmental and social impacts (¶5.39). | | |

**Benefits:**

Program resources will fund activities that will benefit families and the economies in the southwest area affected by the hurricane and intervened by the program. The main indicators are: (i) restoration of 450 km of main roads that are part of the road network in the three intervened departments affected through the restoration of its pavement, repairs in three bridges, and repairs in culverts and slope stabilization, totaling 19 critical points of the road network; (ii) number restored PV systems (including solar mini grids and health centers); (iii) number of restored connections to customers; (iv) rehabilitation of 50 km of medium and low voltage lines; and (v) two solar purifier water plants installed (¶5.20 and ¶5.21).

**Procurement:**

The procurement of this program will be conducted in accordance with the Procurement Policies for Works and Goods financed by the Bank (GN-2349-9), and the Policies for the Selection and Contracting of Consultants financed by the Bank (GN-2350-9). Also will apply, as appropriate and complementary, the "Procurement Arrangements for Haiti" (GN-2654) while in effect. Sole source selection will be included under the provisions of paragraph 3.6 subsection (e) of procurement policy GN-2349-9, and paragraph 3.10 paragraph (b) policy GN-2350-9 consultants, providing that direct contract may be an appropriate method "in exceptional cases, such as response to natural disasters".

The approval of sole sourcing (¶5.32) will be conducted in accordance with the Procurement Function Operational Guidelines (OP-272-2). Annex III of this document defines the fiduciary arrangements and requirements for this program.

Based on the medium risk determined in the last capacity evaluation, the Bank's supervision will be ex ante ¶5.31 through ¶5.33.

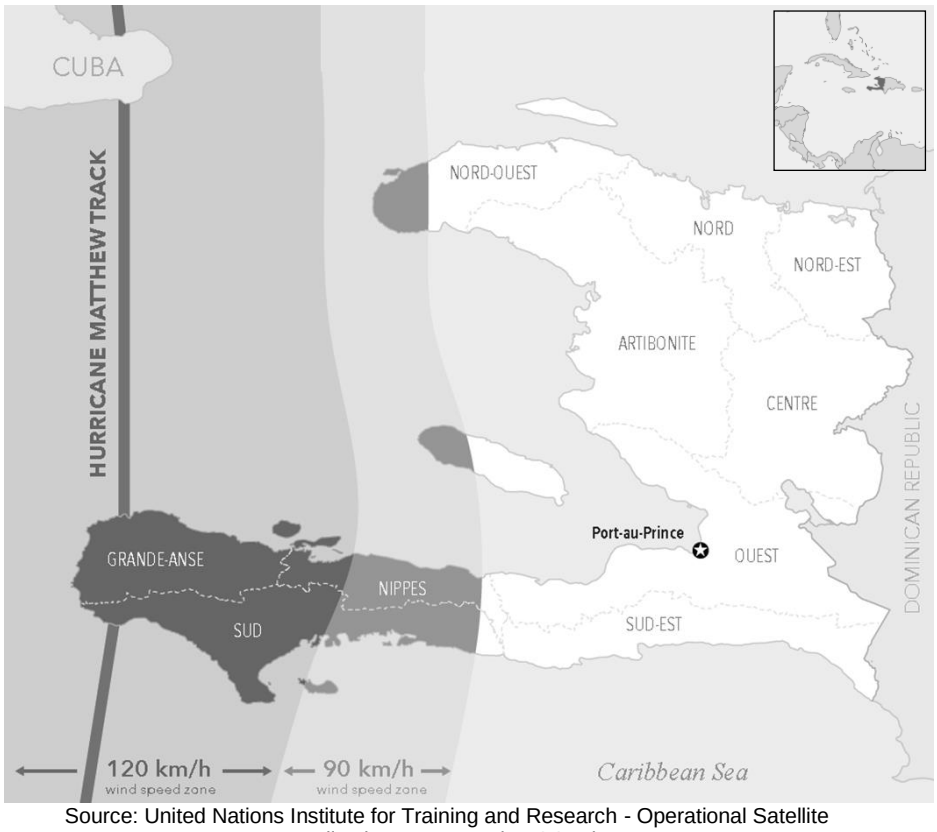
**Accounting and Auditing:**

Financial management of the project will be done in accordance with the policy set forth in OP-273-6. Financial programming, planning, and monitoring of budget execution for the project will be carried out on the basis of standard models included in the Bank's project disbursement guide (¶5.25 through ¶5.27) Fiduciary (organizational, financial administration and procurement systems, and internal and external control) systems have a medium level of development and risk (¶5.24). Ongoing investigations suggest higher fiduciary risks for transport interventions in Haiti are present due to high integrity risks to which mitigation measures have been identified and will be financed by the program (¶5.23, ¶5.24).

# I. SCOPE AND COVERAGE OF THE DISASTER

1.1 Tropical Hurricane Matthew - the fifth hurricane of the 2016 Caribbean hurricane season, classified as Category 4 - violently hit the southwest coast of Haiti on October 4th, 2016. Before reaching Haiti, Matthew touched Barbados, Dominica, St. Lucia, as well as St. Vincent and the Grenadine. Following its violent path, the hurricane hit Cuba and the Bahamas on October 5th, and headed towards the East Coast of the United States, where it reached Florida, Georgia and the Carolinas on October 7th. The maximum wind speed recorded in Haiti reached 230 km/h, brought unprecedented rains - over 600 mm in less than 24 hours, followed by flooding and landslides mainly in the south-west of the country, in the departments of Grand'Anse, Nippes and Sud.

**Figure 1. Hurricane Matthew path**




Source: United Nations Institute for Training and Research - Operational Satellite Applications Program (UNOSAT).

1.2 The Civil Protection Branch of the Ministry of the Interior and Territorial Communities (MICT) reported on October 14th a total loss of 546 lives, 128 people missing, and 439 injured. The hurricane also left 175,500 people displaced who had to be placed in 224 temporary shelters in the departments of Grand'Anse, Nippes, and Sud. In total, about 2.1 million people were affected, including 1.4 million in need of immediate assistance. The combined effects of high-speed wind and heavy rain caused severe flooding, landslides and the wide spread destruction of infrastructure, such as public buildings, hospitals, and schools. Churches and private dwellings also suffered from Mathew's effects.

The linear infrastructure suffered extensively, particularly roads, bridges, and power lines.

1.3 According to the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), Hurricane Matthew has resulted in the largest humanitarian crisis in Haiti since the 2010 earthquake, at a time when the country faces an increasing number of cholera cases and experiences food insecurity. Haiti is the third country worldwide to be the most affected by climate events[1]; it is also the Caribbean country that suffers the highest number of natural disasters. Available historical data shows that weather-related emergencies have caused damages and losses estimated at around 2% of its GDP, every year from 1975 to 2012[2]. These emergencies tend to affect mostly poor people living in flood-prone areas or near the coast.

## II. ELIGIBILITY CRITERIA AND COUNTRY COMPLIANCE TO ACCESS THE IMMEDIATE RESPONSE FACILITY (IRF)

2.1 The Immediate Response Facility (IRF) is designed to provide support to countries to cover expenses required to restore basic services for the population, in the immediate aftermath of a natural disaster (GN-2038-I4 and GN-2038-I6). The facility provides financing to address immediately the urgent investments following a natural disaster. Four conditions have to be fulfilled for a country to become eligible to access this facility: (i) a formal request has to be received from the Government of the affected country; (ii) a State of Emergency (SOE) or natural disaster has to be officially declared in the country or in the affected regions, or some other equivalent declaration has to be made in accordance with local legislation; (iii) the emergency is within the scope set out in the Disaster Risk Management (DRM) Policy (GN-2354-5); and (iv) the country already has, or is willing to strengthen its domestic capacity for prevention, mitigation (risk reduction) and preparedness to tackle emergencies, and has an appropriate organizational setup, given the risk the country faces.

### A. Formal Government Request

2.2 The Bank received a formal Emergency Grant under the IRF request from the Government of Haiti (GoH) on November 4th, 2016 through the Minister of Economy and Finance (MEF) to support the recovery of essential infrastructure. The program will finance rehabilitation efforts of road network and solar systems in the affected region (OEL#1).

### B. Declaration of State of Emergency or Natural Disaster

2.3 On October 5th 2016, Hurricane Matthew was officially declared as a natural disaster by the government and local authorities of affected areas (OEL#2). The severe impact of this natural disaster urged the international community to mobilize resources for assistance to the country and the municipalities of affected areas required for all purposes, the services of the national agencies, central and

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1 Climate Change Performance Index, Germanwatch 2016.

2 Insurance Mechanism Against the Risk of Disasters in the Caribbean states the *Evaluation Rapide des Dommages et des Pertes occasionnés par l'ouragan Matthew et éléments de réflexion pour le relèvement et la rehabilitation*, Ministère de l'Économie et des Finances, October 2016.

departmental state bodies, in addition to the support from the international community.

## C. Emergency Within the Framework of Operative Policy

2.4 Hurricane Matthew severely interrupted normal economic activities, population's access to basic services, and the flow of humanitarian aid. Given the extensive damage to roads, bridges, and electrical infrastructure, and given the emergency actions conducted by the GoH, in coordination with international organizations, these characteristics and actions are consistent within the scope of the Disaster Risk Management Policy (GN-2354-5).

## D. Country's Willingness to Strengthen its Domestic Capacity for Prevention, Mitigation and Preparedness to Tackle Emergencies[3]

2.5 Haiti is one of the countries with the highest natural disaster risk index in the world[4] and with the lowest adaptation capacity. Even excluding the 2010 earthquake data, the number of emergency-related deaths relative to the population, is very high in Haiti. This high climate-related risk is the result of several factors including location, economic activity, and urbanization patterns. Haiti is located in the hurricane belt of the Caribbean basin and exposes particular physical features, with 80% of the country covered in mountains, with thirty main watersheds characterized by severe soil erosion. Haitian economic reliance on activities closely linked to climate disrupting-factors, such as agriculture, that accounts for 75% of employment in low-income rural households[5] and is particularly affected after a natural disaster. Lastly, Haiti's rural migration exacerbates the already large urban population of the country, in which rural migrants settle in self-built houses in areas that are exposed to natural threats, such as river floods, or steep and unstable slopes. This is especially true in the capital, Port-au-Prince, which concentrates nearly 38% of the country's population, but also in secondary cities, like Les Cayes and Jérémie, that have limited capacity to manage informal settlements.

2.6 In the last fifty years, the country has suffered over forty harmful climatic events, one internationally recognized catastrophe every two years, and a major catastrophe every four to six years[6]. In 2008, two storms and two hurricanes left at least 1,100 people dead and caused estimated damages of more than US$900 million (15% of GDP), including US$200 million in the agricultural sector only. In August 2012, two hurricanes (Isaac and Sandy) damaged more than 18,000 houses in the South and severely impacted the agricultural sector, affecting production in over more than 80,000 ha of land and causing losses of US$104 million.

2.7 The country's DRM policies and institutional structure started to be developed in the aftermath of Hurricane Georges in 1998, when the GoH elaborated a National Risk and Disaster Management Plan (PNGRD). The Ministry of Interior and Territorial Collectivities (MICT), through the Directorate for Civil Protection (DPC)

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3 IDRL in Haiti - A study on the legal framework for the facilitation and regulation of international disaster response, January 2012.

4 Natural Disaster Hotspots, a Global Risk Analysis (World Bank, 2005).

5 *Enquête sur les Conditions de Vie des Ménages Après Seisme (Institut Haïtien de Statistique et d´Informatique, 2012).*

6 Reducing Disaster Risk a Challenge for Development (United Nations Development Programme, 2004).

and together with the Permanent Secretariat of Risk Management and Disaster Management (SPGRD) were designated responsible for implementing this plan. The DPC is particularly responsible for coordinating the disaster response activities of the different ministries, committees and organizations (including disaster preparedness, early warning, response and recovery).

2.8 Despite these improvements, the Index of Governance and Public Policy (IGOPP) for DRM, developed by the Bank to assess the level of countries disaster risk management (DRM) governance, ranked Haiti last among thirteen Latin American and Caribbean countries for the year 2013, with a score of 7%. Indeed, due to the lack of both general and sectorial regulations, combined with limited financial and political decentralization, instruments and responsibilities are not defined clearly enough, which in turn hinders the scope and impact of most DRM initiatives. At the community level, a recent diagnosis of the flood early-warning system shows that there are still important limitations related to system maintenance, forecast accuracy, and organization of the evacuation, which increases the probability of human and economic losses. With respect to risk identification and knowledge, IGOPP also shows that the governance conditions in Haiti are extremely low, with a rating of 9%, while LAC average is 32%.

2.9 In this context, and with the support of different donors and international organizations[7], in 2015, the GoH launched the revision of the PNGRD, in order to update it with regards to: (i) the last decade experience in natural disaster in the country (2010 earthquake); (ii) the development of sectorial and territorial DRM capacities; and (iii) the new orientations defined in the Sendai Framework for Disaster Risk Reduction 2015-2030. This exercise is on-going and is expected to finalize at the end of 2016. With the same ambition to strengthen its capacity to mitigate the impact of natural disasters, Haiti recently adopted its National Contribution to the climate change mitigation and adaptation framework, in the framework of the Conference of the Parties (COP22). The objectives of this contribution are to: (i) improve the country's resilience to disasters related to climate change; (ii) respond to loss and damage caused by extreme weather events; and (iii) contribute to the global effort in limiting the increase of the global temperature to below 2°C.

2.10 Haiti's willingness to strengthen its domestic capacity for prevention, mitigation and preparedness to tackle emergencies is observed through the recent review in 2015 of its PNGRD; the presence of a number of government agencies responsible to implement this plan, including the DPC and the Permanent Secretariat of Risk Management and Disaster Management; and Haiti's adoption to the contribution to the climate change mitigation and adaptation framework at COP22.

## III. INITIAL DAMAGE ASSESSMENT

3.1 In the weeks following the hurricane, the Bank worked closely with the MEF and the World Bank on the drafting of the first Damage, Loss and Needs Assessment (DaLA) (see OEL#3). Under the leadership of the MEF, the government team coordinated officials from the Ministry of Agriculture, Natural Resources, and

[7] Among others, UNDP, World Bank, IADB, European Union, DFID.

Rural Development (MARNDR), the Ministry of Commerce and Industry (MCI), the Ministry of Environment (MoE), the Ministry of Education and Training Professional (MENFP), the MICT, the Ministry of Public Health and Population (MSPP), the Ministry of Tourism (MT), the Ministry of Planning and External Cooperation (MPCE) and the Ministry of Public Works Transport and Communications (MTPTC). The assessment and fieldwork was undertaken by each ministry, supported by its national and international partners, including UN agencies, in particular, the Food and Agriculture Organization (FAO), the United Nations Environment Programme (UNEP), and the United Nations International Children's Emergency Fund (UNICEF).

3.2 Based on the DaLA conducted by sectorial ministries, Hurricane Matthew would have caused around US$1.9 billion in losses and damages, equivalent to 22% of Haiti's GDP. The damage assessment was conducted in the following sectors:

**A. Transport Sector**

3.3 A preliminary damage assessment of transport network, with a main focus on primary roads and bridges, was conducted throughout the affected south-west area. It is estimated that over 137,000 people have permanently lost connectivity following Hurricane Matthew and that about 1.22 million have limited road access. In the southern peninsula comprised by Sud, Nippes, Grand'Anse, and Sud-Est departments, about 287 km of paved roads and 536 km of unpaved road suffered various degrees of damage from the destruction of several kilometers of roads to the significant road service and transport interruption (OEL#4).

3.4 Four out of eight national roads (*routes nationales* - RN) were affected with relatively large but temporary breaks on RN1, RN2, RN7 and RN8. More than twenty connecting roads also recorded severe pavement damage, washouts, landslides, and river crossing difficulties. One strategic bridge was destroyed (LaDigue) at the entrance of Jérémie, which is critical in order to access the city of Jérémie and a large part of the Grand'Anse department. Multiple erosions have damaged embankments and bridge abutments in the impacted areas. A critical suspended metal bridge, Dumarsais Estimé (120 meter span), has severe breaks on the supporting metal girders, thus making its rehabilitation urgent and necessary.

3.5 Road infrastructure rehabilitation costs are estimated at a total of US$106.4 million, of which US$83.5 million refers to roads and US$22.8 to bridges. The assessment is preliminary and represents investment plans for improving connectivity and for rehabilitating missing structures. Damage assessment is based on cost replacement to pre-hurricane conditions.

3.6 With regard to transport infrastructure other than roads, the hurricane caused direct damage to 11 ports in the country, such as the important entry gates of Saint Marc, Gonaives, Jérémie, and Les Cayes. Maritime or coastal installations (lamps, lights, beacons, buoys) were either destroyed or heavily damaged. Regarding regional airports, those of Les Cayes, Jacmel and Jérémie were partially damaged, mainly the terminals and landside equipment.

3.7 These connectivity losses severely affect the rural poor who have suffered endemically from reduced access to all-year road network, causing high transport costs for passengers and freight. Loss of road connectivity makes the already-limited access to basic services, such as education and health, more difficult.

Haiti's road network was estimated in 2015 at 3,400 km, of which only 35% were paved, thus leaving large parts of its territory poorly connected. Recent evidence indicates that only 40% of people living in rural areas have access to all-weather roads[8].

## B. Energy Sector

3.8 The devastation caused by Hurricane Matthew included the damage of the micro-grid located in the southwest of Haiti, at Port-à-Piment, Coteaux and Roche-à-Bateau. This was a hybrid diesel-Photovoltaic (PV) system with 250kW of diesel, 140kW of PV[9] and 27 kilometers of electric grid serving approximately 1,250 customers. Approximately 98 kW of PV modules and their inverters were damaged out of a total 140 kW. Additionally, IDB's preliminary assessment indicated that at least 9 of the 12 health centers sites that had been retrofitted with PVs and batteries immediately after the earthquake in 2010, with IDB funding, had experienced heavy damage to the PV modules, racking and outside wiring, as well as partial damage to the system electronics. The PVs used in the health center contributed to offer 24hours of electricity supply to improve the health care services in that region. The total funding required for the rehabilitation of the micro grid and the PVs used for the health centers is approximately US$1 million (OEL#10).

3.9 The hurricane severely hit the electrical infrastructure of the country, mainly affecting the electric distribution network of Sud, as well as metropolitan areas. Intense winds and trees falling on the lines were the main direct drivers that affected the infrastructure. According to the National Electricity Company, Electricité d'Haïti (EDH), 31,258 customers' connections were partially or totally destroyed by the hurricane. The destruction rate of connections reached 80% of customers in Sud and 90% in Grand'Anse. The assessment of damages and losses totals US$24.5 million.

## C. Productive Sector

3.10 The impact of Hurricane Matthew on the agricultural sector is estimated at US$604 million (US$213 million in losses and US$390 million dollars in damages). The losses in perennial crops (fruits) are estimated at US$114 million, while timber, firewood and coal represent US$13 million in losses. The agricultural sector suffered especially because of the livestock losses estimated at US$205 million. Losses in the fishery sub-sector are estimated at US$14 million in losses and US$9 million in damages. The cyclone severely destroyed the anglers' means of production (boats, coastal facilities and infrastructures) and, although the weight of the fishing in the area is relatively small, this sub-sector represents a significant part of the coastal population and their main source of income, as well as a supply of affordable animal protein. The few existing industrial activities are the distillation of vetiver, cocoa, and coffee processing, honey production, and other artisan activities (carpentry, bakery, welding, and sewing). Only 57% of companies have resumed operations after the

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8 Rural Access Index Survey in Haiti. Connectivity in Rural Zone: Preliminary Results (2015).

9 The large micro-grid is managed and operated by the Cooperative Eléctrique de l'Arrondissement des Côteaux (CEAC), with a total power generation was 25,348 kWh as of August 2016.

hurricane and, if it takes six months for them to reopen fully, losses will rise to approximately US$108.5 million.

### D. Other Infrastructure Sectors

3.11 With respect to drinking water and sanitation, the coverage remained low in urban and rural areas (65% and 48% respectively) even before the Hurricane. The coverage of sewage infrastructure was also low, 72% in urban areas and 32% in rural areas. The preliminary estimation of the rehabilitationneeds considers: strengthening existing water networks in four urban centers (Miragoane, Aquin, Les Cayes and Jérémie), including extensions to attend the risks of potential post-hurricane rural exodus; the strengthening of 58 rural water supply systems; the systematic connection of health centers to drinking-water systems; the construction of two treatment sites at the Grand'Anse and Nippes; and the rehabilitation of latrines.

3.12 The telecommunications infrastructure was partially damaged by the winds generated by the hurricane. The damage primarily relates to the optic fiber network, antennas, equipment, as well as technical equipment and technical sites. Cellular networks in the south-western part of the territory several days after the hurricane. Carriers have partially restored the capacity of the network, but it is expected that it will take several months to achieve the service-level prior. Private and community radio stations have also suffered. The first assessments in Les Cayes and Jérémie show that 58 of the 70 present radios lost antennas, transmitters and equipment. Evaluation of community radio stations in rural areas is not completed but is likely they will be affected as well.

## IV. Government's Response in Coordination with International Agencies

4.1 The Haitian government issued a red alert on October 3rd mobilizing the National Risk Management and Disaster System, as well as the sectorial ministries, to respond to the disaster and assist the population. A request for humanitarian assistance, including the civil protection mechanisms of the European Union and the United Nations, was also launched. As such, different UN agencies and donor countries have provided supplies and emergency response protocols during the first emergency phase. On October 10th, a flash appeal of US$120 million was launched to raise funds and provide emergency relief to 750,000 people who were severely affected by the hurricane, including 175,500 displaced to temporary shelter. In general, the international community and bilateral partners, including the United States, through USAID and the US Army, the Dominican Republic, Cuba, Bolivia, Colombia, Venezuela, Japan, and France, as well as the European Commission, the Red Cross and other non-governmental organizations, mobilized humanitarian aid to support Haiti during the emergency. The UN Security Council has extended the mandate of the Mission of the United Nations for the Stabilization in Haiti (MINUSTAH), which was set to expire on October 15th, until April 2017.

4.2 On November 4th, the GoH announced the upcoming conformation of the Post-Matthew inter-ministerial commission to ensure the implementation of rehabilitation works in the affected areas and to coordinate with international donors relief efforts and aid. Following the roles established in the DaLA (¶3.1) and in previous disasters, the MTPTC will lead roads and energy rehabilitation works coordination.

4.3 The GoH defined the following priorities to respond to the disaster: (i) reestablish very quickly the transportation connectivity at the national level, through localized interventions performed by the Departmental Offices of the MTPTC and by the *Centre National des Equipment* by establishing temporary access where required, and using temporary bridges; (ii) repair the main transport network through clean-up of drainages ditches, repair of pavements, consolidation of bridges, closure of river glitches; (iii) by conducting inspections of existing structures (such as bridges), protection for vulnerable locations using gabion and retaining walls, expansion of drainage components; (iv) and to restore solar systems in nine health centers, and a solar mini grid for *Port-a-Piment*, *Coteaux*, and *Roche-a-Bateau*. The Bank and other donors have agreed to support those activities.

## V. BANK'S INTERVENTIONS AND ACTIVITIES

### A. Bank's Response

5.1 After Hurricane Matthew, the Bank joined the Multi-Sectorial Coordination meetings organized by a lead international agency for each sector. An initial assessment of damages for the energy sector was conducted on October 7th by IDB's energy specialist based in Haiti. The report of the damages can be found in OEL#10. The Bank met with the MTPTC on October 21st, and confirmed the GoH intention to request a US$20 million emergency grant operation with a focus on damage reparation. The Minister also highlighted the necessity to take into account the lessons learned from previous emergency programs. It was agreed that the main efforts would be directed to maximize the effectiveness and to respect the implementation deadlines of the proposed activities, which should end within the first twelve months after the grant approval.

5.2 A more detailed assessment of damages on the road sector[10] was carried-out during the week of October 24th. A team comprising external consultant experts in emergency response, Bank´s personnel from Country Office and Headquarters, together with Government officials, visited Haiti´s south-west areas to gather information to initiate the preparation of a grant through the IRF (OEL#4 and OEL#9).

#### 1. Experience in the Road Sector

5.3 The Bank has broad experience in the Haitian transport sector, including the execution since 2010 of five grants seeking to improve coverage, capacity, quality and connectivity in the National Road network, together with the rehabilitation of the Toussaint Louverture International Airport. In this context, the Bank supports the sector with investments in national routes 1, 7, and 8, which are currently being executed through operations 2663/GR-HA, 2794/GR-HA, 3085/GR-HA, 3190/GR-HA, and 3570/GR-HA, approved between 2011 and 2015. By 2018, there will be 159 km of rehabilitated national roads, and at least

[10] Program interventions have been prioritized with a multi-criteria analysis that includes the number of inhabitants located on the area affected by the hurricane, rainfall intensity, and accessibility priorities for the distribution of humanitarian aid (See OEL#11) Consecutively, the interventions were arranged according to construction criteria (implementation in less than12 months), restoring connectivity to the national road network, and prioritizing interventions aimed at maintaining the resilience and sustainability of the road.

100 km of primary and secondary road network that will includea routine and preventive maintenance system.

5.4 The performance of the operations in Haiti varies according to the executing agency's technical capacities and the contractors' commitment to project execution. From the US$273 million approved by the Board to this date, US$119 million have been disbursed, which represents 43.5% of the current portfolio. According to the Project Monitoring Reports (PMR), dated December 31st, 2015, four operations are in satisfactory condition and one is in alert.

### 2. Bank's Experience in the Energy Sector

5.5 The Bank actions in Haiti in the energy sector involve the execution of seven grants with the objective to improve the power generation, transmission, and distribution of electricity, as well as the approval of four Technical Cooperations (TCs) to finance engineering studies for hydroelectric and off-grid pilot projects. The Bank has supported both energy infrastructure development and policy reforms since 2006, investing close to US$170 million in the sector. About US$84 million were invested in the generation and distribution sectors, through the rehabilitation of the Péligre Hydroelectric Plant, construction of an electric substation (Tabarre) with eight new feeders and rehabilitation of four distribution circuits in the metropolitan area with 21,000 remote reading meters installed. The Bank has also supported the GoH through non-reimbursable TCs (total amount of US$3 million)[11] for the installation of solar micro-grids in the South region of Haiti. HA-X1018 and HA-X1019 (US$1.5 million) provided the funding to retrofit health centers, refugee camps, and public lighting with solar photovoltaic equipment. For both cases, Solar Electric Light Fund (SELF) a Non-Government Organization (NGO), specialized in solar applications in low-income countries, was selected to procure and install the equipment.

### 3. Considerations for Early Recovery and Lessons Learned

5.6 Hurricane Matthew has caused the isolation of the south of Haiti, affecting its population's living conditions and economic activity, and the flow of aid to the region. Transport connectivity has been affected in the regions of Sud, Grande Anse and Nippes, as it left many of the roads not usable and some others about to collapse and has affected the electric connections of customers that were partially or totally destroyed.

5.7 Restoring connectivity and accessibility allows the mobility of flows and people to the damaged areas, where today these are only accessible by air. One of the main constrains that limits food, shelter, and medical supplies delivery to affected regions, is the state of the road network. The impossibility to distribute it increases the number of casualties during the aftermath of the disaster. In Haiti, extensive media coverage of the 2010 earthquake resulted in a large excess stock of relief supplies. However, distributing those supplies to the affected villages proved far more difficult as road infrastructure had either been damaged or destroyed[12]. Because not all road links equally affect the travel conditions in a given network - typically some road linkages are more critical for network

[11] This three TCs are funded under the Haiti Reconstruction Fund, the IDB's Sustainable Energy and Climate Change Initiative (SECCI) and the IDB-administrated Korean Fund for Technology Innovation.

[12] Pedraza Martinez et al., 2010; Van Wassenhove et al., 2010.

functioning than others - estimations suggest that approximately 30% of damaged network segments should be repaired to restore accessibility to the entire network[13].

5.8 According to United Nations Development Programme (UNDP), the key considerations for community infrastructure rehabilitation are[14]: the repair and rehabilitation of community access roads; building to safer standards, with proper provision for drainage; the maximum utilization of locally available materials and resources, including temporary employment of labor throughout the rehabilitation process; the rehabilitation within a timeline ranging between one month of the disaster (allowing proper identification and prioritization of community roads) to 6-12 months (running up to 18 months in some cases depending on the scale of the damage and the nature of activities).

5.9 Shortcomings experienced during the Sandy Hurricane Emergency Program (2898/GR-HA) have also been taken into consideration and refer to the lack of draft designs and engineering capabilities to timely and accurately defined interventions; to prioritize the most efficient way possible and execute interventions with experienced contractors, in order to achieve maximum relief effort; and to streamline execution with full-time personnel (¶5.24).

5.10 Even though they are still in execution, lessons have been learned and applied from recently approved emergency programs[15], notably: (i) undertake a multisectorial damage assessment to evaluate needs that can allow to prioritize interventions in one or more sectors; (ii) coordinate with other multilaterals and donors in order to build synergies and organize multilevel responses; (iii) conduct a fast program analysis based on intervention efficiency and evaluate results based on beneficiary population; (iv) simplify contracting processes through direct contracting, allowing a fast execution, if justified, and adequately following Bank´s policies; and (v) assign dedicated personnel as focal point, or program coordinator, for those counterparts with which the Bank is financing emergency programs.

5.11 Based on the above, the program will prioritize works that: (i) restore road network connectivity lost after the Hurricane[16]; (ii) ensure resilience and durability (repair infrastructure damaged[17] by the hurricane that is still functional but at risk of collapsing or prematurely failing; (iii) can be executed in less than 12 months; and (iv) increase temporal employment through labor-intensive activities such as cobblestone pavement.

## B. Emergency Program

### 1. Objective

5.12 The general objective of the program is to help restore connectivity and basic services to the population living in the south of Haiti affected by Hurricane Matthew. The specific objectives are (i) to restore road connectivity through the

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13 Network Repair Crew Scheduling and Routing for Emergency Relief Distribution Problem, 2014.

14 Guidance Note on Community Infrastructure Rehabilitation (UNDP, 2013)

15 Emergency Program for an Immediate Response to the Earthquake in Ecuador 3751/OC-EC and Emergency Program for an Immediate Response to the Flooding in Argentina 3688/OC-AR.

16 Restoring and protecting bridges (foundations and abutments, beams, board, protections and defenses) and restoration and repair of embankments, road repairs, and repairs of culverts and fords.

17 Retaining walls and gabions, protection embankments and shoulder restoration.

rehabilitation, stabilization, and repair of road sections, road drainage systems, and bridges; and (ii) to restore electric connectivity through the rehabilitation of electric lines and electric installations.

5.13 The program will provide resources to facilitate an immediate response to the damages caused by the hurricane by restoring basic infrastructure and basic services for the affected population. Included among these activities are the following: (i) clearing of road blockages and clearing blocked drains; (ii) structural works and repairs related to drainage systems along the roadway; (iii) repairs on bridges; (iv) road stabilization and road repairs (v) repair works on electric lines and electric facilities; and (vi) institutional strengthening to implement emergency such works. The program is structured in two main activities: (i) Engineering and Institutional Strengthening; and (ii) Infrastructure Repairs and Stabilization Works.

**2. Activities to Finance**

**a. Engineering and Institutional Strengthening (US$2,550,000)**

5.14 The program will finance services and other expenses related to the institutional support necessary for the program's implementation. These services and expenses may include: (i) studies and surveys to refine the inventory of damage and produce rehabilitation and rehabilitation plans, including studies to propose specific interventions in order to reduce the affected road network vulnerability; (ii) technical audit and evaluation; (iii) supervision of works; and (iv) consultants to strengthen the MTPTC's capacity to implement the program.

**b. Infrastructure Repair and Stabilization Works (US$17,450,000)**

**(i) Road Repair and Stabilization Works**

5.15 The program will finance repairs and cleaning tasks including, but not limited to, removal of debris accumulated by flood waters, removal of road blockades, and cleaning of ditches and culverts. The program will also finance the construction of road protections, such as gabions or masonry walls in critical sections, slope stabilization, urban paving in emergency sections, longitudinal drainage systems, culverts and sewages, bridges and gateways collapsed, gravel resurfacing and paving as needed (OEL#9).

5.16 The works to be financed shall count with engineering designs, a technical audit, and supervision works contracted. Such activities, will be implemented by firms selected in accordance with the Bank procurement policies (see ¶5.31 and ¶5.34).

5.17 Given the nature of the emergency interventions, this program will not finance services provided by the *Laboratoire National du Bâtiment et des Travaux Publics d'Haïti* nor supplementary work force from the *Service de Construction des Routes* of the MTPTC.

**(ii) Electric Connectivity**

5.18 The program will finance the rehabilitation of electricity facilities, such as: (i) 120 kW of PV systems for the restoration of the solar mini grid and its electronic parts (inverters, meter and batteries); (ii) the off-grid power transmission grid comprised of 24 km of low voltage lines and 26 km of medium voltage lines; (iii) the interconnection of power supply to at least 965 customers; and (iv) PV systems in at least nine health centers in the affected area. In addition, the

resources of the program will finance the installation of at least two solar water purifier machines in two of the health centers above mentioned.

### 3. Economic Analysis

5.19 Due to the nature of the project, a simplified economic evaluation, using the methodology of cost-efficiency, was performed. The economic rationale used in this methodology is based on the fact that the cost to perform the works to repair, stabilize and protect the road network, and restore the basic transportation services and electricity services in the short term, are much lower than the cost of rebuilding those infrastructures (OEL#5).

### 4. Key Results Indicators

5.20 Program resources will fund activities that will benefit families and the economies in the southwest area affected by the hurricane and intervened by the program. The results matrix (Annex II) outlines the main indicators to evaluate the results of the interventions, which include: (i) the number of inhabitants located along the roads' catchment area affected by the hurricane and assisted by the program, that will make regular use of the roads in equivalent conditions before the event; and (ii) the number of electric energy customers located in the southwest area affected by the hurricane and assisted by the program, who will make regular use of the electric service in equivalent conditions before the event.

5.21 The main output indicators are: (i) restoration of 450 km of main roads that are part of the road network in the three intervened departments affected through the restoration of its pavement, repairs to three bridges, and repairs to culverts and slope stabilization, totaling 19 critical points of the road network; (ii) number of restored PV systems (including solar mini grids and health centers); (iii) number of restored connections to customers; (iv) rehabilitation of 50 km of medium and low voltage lines; and (v) two solar purifier water plants installed.

### 5. Amount and Structure of the Financing

5.22 The total cost of the program is US$20 million financed with resources from the IRF.

**Table 1. Program Costs in US$ Thousands**

| Financing Categories | Amount |
|---|---|
| **I. Engineering and Institutional Strengthening** | **2,550** |
| I.1 Supervision and Studies | 2,000 |
| I.2 Auditing and Evaluation | 450 |
| I.3 Support to Strengthen MTPTC | 100 |
| **II. Infrastructure Repairs and Stabilization Works** | **17,450** |
| II.1 Road Repair and Stabilization Works | 16,450 |
| II.2 Electric Connectivity | 1,000 |
| **TOTAL** | **20,000** |

### 6. Risks

5.23 A risk analysis for the program was performed. The main risks identified are: (i) delays in prioritization of interventions due to pending inventory of works, that could prevent timely and accurate details of interventions to achieve maximum relief effort; (ii) delays in the procurement processes because of a lack of draft designs and quantities that could delay the contracting and beginning of works;

(iii) delays in the implementation, due to the selection of small firms and deficiencies in the monitoring and supervision, that could reduce the outcomes of the program; (iv) weak monitoring and financial reporting; (v) local opposition as a result of weak public management and governance due to ongoing government election processes; and (vi) high integrity risks concerning the execution of transport interventions in Haiti.

5.24 As mitigation measures the program includes resources to: (i) strengthen the MTPTC's capacity with a full-time dedicated Emergency Program Director (¶5.42) to mitigate delays in implementation and in procurement processes; (ii) contract a full-time procurement officer and a full-time engineer to support the MTPTC to mitigate the risk of weak monitoring and integrity risks and to verify the eligibility, technical assessment, supporting documentation, and works contracted through Bank's policies (¶5.42); (iii) contract a Supervision and a Quantity Surveying and Assessment firm that will help MTPTC to quantify and manage appropriately all costs and designs related to project interventions (from the initial calculations to the final figures) to minimize the costs, enhance value for money and mitigate the risk of delays in prioritization and implementation (¶5.42); (iv) inform and communicate the outcomes and benefits of the program through the Departmental Offices of the MTPTC during the execution; and (v) develop a comprehensive integrity risk management strategy, that includes, but will not be restricted to, actions such as the hiring of a technical auditor, the re-composition of the UCE, the due diligence of professionals hired with grant funds, and the adoption of a system to manage conflict of interests.

### 7. Executing Agency

5.25 The MTPTC will be the executing agency for the operation and will be responsible for structuring the interventions, drawing up and monitoring contracts, and coordinating the bidding processes. Execution will be under direct supervision of the Minister of Public Works, Transport and Communication, and will be supported by its administrative, public works, and transportation departments, as well as its technical units for project execution. The execution strategy is conceived to facilitate a more rapid implementation of the proposed emergency program (works, studies and supervision). The Office of the Minister will be strengthened (limited to the duration of the implementation of the project) by: (i) a full time Program Director; (ii) a full-time procurement officer; and (iii) a full-time engineer.

5.26 The MTPTC also includes the Central Executing Unit (UCE) that supports the Ministry in the execution of transport projects financed mainly by the IDB, and the World Bank (WB). The UCE includes a management structure with a general coordinator, a financial specialist, accountants, and procurement specialist, and a team of engineers responsible for the projects. Giving recent findings of the Office of Institutional Integrity (OII) and given the high integrity risk identified in transport projects the UCE will only be responsible for the accounting and financial management giving its experience with the execution of other IDB grants. (¶5.23, ¶5.24 and ¶5.34)

### 8. Assignment of Resources

5.27 The MTPC will prepare annual planning of the project cash flow, which will be the basis for advance of fund disbursements, and will update it quarterly. The

projected cash flow of the project will be based on activities planned for the 12 month period of the operation. These plans will comprise a complete list of the procurement of goods and services that differ from consulting and work services, indicating the estimated amount, the procurement method, contracting and execution deadlines and the contracts conducted before the approval of the program, the assigned amounts, and the name of providers.

5.28 The goods, services and works will have to comply with the eligibility requirements of the Emergency Reconstruction Facility indicated in the document GN-2038-14 and updated by the document GN-2038-16. In the event of delays of any of the procurement, processes or the non-acceptability of the justifications on previous expenses as deemed by the Bank, the Procurement Plan could be adjusted, provided the Bank's previous acceptance, incorporating eligible works and procurement of materials and equipment according to the initial Procurement Plan.

### 9. Disbursements and Financial Management

5.29 The disbursement period will run for twelve (12) months after the effective date of the grant contract, and the deadline to commit the resources will be nine (9) months from the declaration of national emergency. The portion of resources not committed or disbursed within this period will be cancelled.

5.30 Direct payment to suppliers for payments to be made in a currency other than the local currency (Gourdes) will be processed by the Bank. Advance of funds will be only used depending on the program's cash-flow needs documented on the financial plan in accordance with the policy OP-273-6. Advance of funds will be for the equivalent of three (3) months financial needs and will be subject to ex post supervision. The UCE will be responsible for the accounting and financial management, giving its experience from the execution of other projects, with the Bank. Annex III of this document defines the disbursement and financial management requirements for this program.

### 10. Procurement and Eligible Expenditures

5.31 The procurement of this program will be conducted in accordance with the Procurement Policies for Goods and Works financed by the Bank (GN-2349-9), and the Policies for the Selection and Contracting of Consultants financed by the Bank (GN-2350-9)well as the "Procurement Provisions for Haiti" (GN-2654) while in effect. Direct Contracting and Single source selection will be conducted in accordance with clause 3.6 (e) of GN-2349-9, and clause 3.10 (b) GN-2350-9 consultants, providing that direct contract may be an appropriate method "in exceptional cases, such as response to natural disasters".

5.32 The approval of sole sourcing for Activity II.2 Electric Connectivity will be conducted in accordance with the Procurement Function Operational Guidelines (OP-272-2). Given its solid record of accomplishment in past renewable energy implementation projects in Haiti, the non-governmental organization SELF will be contracted for the rehabilitation of the electrical system (¶5.5). This contract will include the purchase of the equipment and its installation. Annex III of this document defines the fiduciary arrangements and requirements for this program.

5.33 Given recent findings on the UCE's procurement capacity, the execution mechanism will not rely on the existing UCE structure. To mitigate this risk, the

following measures are identified and will be supported by the Bank's project team: (i) a full-time procurement officer will be hired for the execution of all procurement activities foreseen under this operation (¶5.42); (ii) this officer will be trained on Bank's procurement policies and procedures by the Bank's project team, and; (iii) the Bank will closely supervise all procurement activities through ex ante supervision and regular inspection visits to closely monitor contracting processes and contract management aspects.

5.34 In addition to the previous rules, the following expense eligibility guidelines will apply to works: (i) activities are always in connection with the road infrastructure (including culverts and bridges) and electric installations that were affected by Hurricane Matthew; (ii) activities do not substantially go beyond reestablishing the original physical characteristics of the infrastructure; and (iii) IRF resources, which finance this program, may not be used for investments in permanent rehabilitation.

### 11. Accounting and Auditing

5.35 Given the above-mentioned execution mechanism and the appointment of an ad-hoc team to program execution, the risk level is considered as medium-high. To mitigate the risk, a finance officer will be appointed within UCE's team for the financial management aspects with a direct reporting line to the Emergency Program Director. The finance officer will use the existing system at UCE to track and record all transactions. The accounting, recordkeeping, and financial reporting are carried out using TOM PRO. The modified cash-based accounting method will be used to record expenses when paid and revenues when received. An archiving system will be established to keep all financial records of the operation.

5.36 The Bank will determine the inspection procedures it deems necessary in order to verify the successful development of the program, which will include independent financial auditing that will be performed in accordance with the guidelines for financial reporting and external auditing of projects financed by the Bank. Independent technical audits will be undertaken during the entire duration of the emergency program (¶5.42). External financial audit will be funded under the program.

### 12. Summary of Arrangements for Results Monitoring

5.37 The Bank and the MTPTC will meet regularly to review the status of the program's implementation, the improvements made in the areas affected by the Hurricane Matthew, and the implementation schedule of the program, among other aspects. The MTPTC will use a monitoring system, which shall submit progress reports indicating the implementation results of the planned activities and the action plan for the following periods (REL#3).

5.38 The Program Director supported by the UCE will track the indicators of the Results Matrix and will submit to the Bank: (i) an initial report prepared in accordance with the general rules of the Grant Agreement; (ii) one month before the end of the period for the commitments of the resources, a progress report including the contracts status / execution of works and procurement of goods and services; and (iii) within the 90 days after the end of the period for the commitments of the resources , a final evaluation report including the

implemented activities by the program, undertaking an analysis of compliance of the indicators of the Results Matrix.

### 13. Environmental Considerations

5.39 In accordance with the Environment and Safeguards Compliance Policy (OP-703), the program has been classified as a Category "C" operation. Given the nature of this program, no prior environmental impact assessments will be conducted. Nonetheless, any activities undertaken will comply with national rules and specifications on the prevention and mitigation of environmental and social impacts.

### 14. Poverty Targeting and Beneficiary Population

5.40 The geographical areas that suffered the most damage from the hurricane are targeted for poverty alleviation[18]. The poorest regions in Haiti are the most distant and isolated from the capital Port-au-Prince, with extreme poverty concentrating in the southwestern areas of the country. There is a relationship between the percentage of individuals living below the moderate poverty line and the road infrastructure supply[19] (available national and departmental total road network) in Haiti's territory. On average, the less available roads, the more poverty the departments tend to experience.

5.41 The population benefiting from the program comprises 1,275,946 people living within the catchment area of the roads' that will be rehabilitated and 965 direct electric energy customers located in the Southwest of the country. Program interventions will enable the population benefiting to use the roads and the electric service to conditions similar prior to the hurricane.

## C. Initiation of the Program

5.42 **As special contractual conditions precedent to the first disbursement of the grant, the Beneficiary, through the Executing Agency, will comply with the following to the satisfaction of the Bank:**

**a. That the selection process and the signature of the contracts for the contracting of the following professionals dedicated to the Program has been completed, in accordance with the procurement policies set forth in the Procurement policies and Consultants Policies: (i) a full-time Program Director; (ii) a full-time procurement officer to support the execution of the procurement plan according to Bank policies; (iii) a full-time engineer; (iv) a supervision firm for all road interventions; and (v) a quantity surveying and assessment firm to assist MTPTC in quantifying and managing all design and costs to project-related interventions.**

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[18] United Nations Office for the Coordination of Humanitarian Affairs (OCHA), Haiti Flash Appeal, October 10, 2016.

[19] Population are living below the extreme poverty line in Grand'Anse is 39%, 31% in Sud, and 22% in Nippes. Provision of road infrastructure can be measured by the available road infrastructure, a combination of road density and quality of the road. The first two departments have a road density of 98.7 km/km$^2$ and 86.6 km/km$^2$, while Nippes has a higher rate of 104.6. However, in addition to the low road density in Grand'Anse, road quality is lower than in Sud and Nipped (80% of its roads are unpaved compared to around 40% in the other two departments) a combination of factors that contributes to its higher poverty rate.

**b. That the manual of procedures establishing the key roles and responsibilities of MTPTC, including UCE, with respect to procurement and financial management matters, respectively, be approved and in effect.**

## VI. COORDINATION WITH OTHER AGENCIES

6.1 As of November 4th, 2016 121 organizations are working in the humanitarian response, including eight International Agencies and UN bodies (UNDP, OCHA, WHO, UNICEF, MINUSTAH, WFP and IOM among others), 82 International NGOs, 30 local NGOs, and 11 partners within the Red Cross[20]. A number of bilateral and multilateral agencies are responding to the emergency by redirecting or increasing resources in Haiti to support humanitarian assistance. The World Bank offered to mobilize and expedite resources (current estimates by World Bank's officials to rise up to US$9 million) from existing operations aimed at enhancing transport resilience with an emphasis on the repair of selected bridges. In addition, the European Union is also working on the mobilization of €2 million to fund emergency interventions.

6.2 The Bank has coordinated its actions with other agencies through the existing forums of donors, and through the MEF, since the Tropical Cyclone Matthew hit the country. A first round of sectorial meetings was initiated on October 5th until October 7th 2016, in the areas of Health, Logistics, Education, Energy, Protection, Water and Sanitation, with relevant international agencies[21]. In addition, the Bank has worked in close collaboration with the World Bank and other actors to prioritize the emergency interventions. This prioritization has continued during the preparation of the grant led by the Minister of TPTC. The World Bank expects to approve Emergency financing in 2017 and will focus on complimentary road interventions and on bridges and civil works that require more than 12 months of construction work.

[20] OCHA "Haïti: Aperçu de Qui fait Quoi et Où (3W) 27 octobre 2016".
[21] Updated Calendrier Reunion Sectorielles Ouragan Matthew.

| Development Effectiveness Matrix | | | |
|---|---|---|---|
| **Summary** | | | |
| *I. Strategic Alignment* | | | |
| **1. IDB Strategic Development Objectives** | **Aligned** | | |
| **Development Challenges & Cross-cutting Themes** | **-Social Inclusion and Equality** | | |
| **Regional Context Indicators** | | | |
| **Country Development Results Indicators** | **-Roads built or upgraded (km)*** | | |
| **2. Country Strategy Development Objectives** | **Not Aligned** | | |
| **Country Strategy Results Matrix** | | | |
| **Country Program Results Matrix** | | **The intervention is not included in the 2016 Operational Program.** | |
| **Relevance of this project to country development challenges (If not aligned to country strategy or country program)** | | **The intervention is an emergency response to the natural disaster of Hurricaine Matthew in Haiti. The operation is relevant for the country to restore connectivity and basic mobility to the population living in the south of Haiti, through the reconstruction, stabilization, and repair of drainage systems, bridges, road sections, and electric installations affected as a result of Hurracane Matthew. The intervention is relevant because Hurricane Matthew had effects on the economy and the productive capacities of the provinces that need to be restored to their pre-disaster status.** | |
| *II. Development Outcomes - Evaluability* | **Evaluable** | **Weight** | **Maximum Score** |
| | **7.2** | | **10** |
| **3. Evidence-based Assessment & Solution** | **8.4** | **33.33%** | **10** |
| **3.1 Program Diagnosis** | **3.0** | | |
| **3.2 Proposed Interventions or Solutions** | **2.4** | | |
| **3.3 Results Matrix Quality** | **3.0** | | |
| **4. Ex ante Economic Analysis** | **7.6** | **33.33%** | **10** |
| **4.1 The program has an ERR/NPV, a Cost-Effectiveness Analysis or a General Economic Analysis** | **4.0** | | |
| **4.2 Identified and Quantified Benefits** | **1.2** | | |
| **4.3 Identified and Quantified Costs** | **1.2** | | |
| **4.4 Reasonable Assumptions** | **0.0** | | |
| **4.5 Sensitivity Analysis** | **1.2** | | |
| **5. Monitoring and Evaluation** | **5.7** | **33.33%** | **10** |
| **5.1 Monitoring Mechanisms** | **2.5** | | |
| **5.2 Evaluation Plan** | **3.2** | | |
| *III. Risks & Mitigation Monitoring Matrix* | | | |
| **Overall risks rate = magnitude of risks*likelihood** | **Medium** | | |
| **Identified risks have been rated for magnitude and likelihood** | **Yes** | | |
| **Mitigation measures have been identified for major risks** | **Yes** | | |
| **Mitigation measures have indicators for tracking their implementation** | **Yes** | | |
| **Environmental & social risk classification** | **C** | | |
| *IV. IDB´s Role - Additionality* | | | |
| **The project relies on the use of country systems** | | | |
| Fiduciary (VPC/FMP Criteria) | | | |
| Non-Fiduciary | | | |
| **The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:** | | | |
| Gender Equality | | | |
| Labor | | | |
| Environment | | | |
| **Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project** | | | |
| **The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan** | | | |

Note: (*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

On October 4th 2016 Hurricane Matthew hit the southwest coast of Haiti, affecting 2.1 million people in the departments of Grand'Anse, Nippes, and Sud, and generating loses equivalent to 22% of Haiti's GDP. As a result connectivity was lost, interrupting economic activities, population's access to basic services and humanitarian aid flow. The Immediate Response Facility, HA-L1130, seeks to contribute to the solution of this situation by restoring road and electric connectivity to pre-hurricane levels, which will result in the reestablishment of road access to the inhabitants and electric service to households and health facilities in the South of Haiti. This objective will be achieved through infrastructure rehabilitation by (i) repairing, clearing up and stabilizing key roads and bridges; and (ii) restoring medium and low electric voltage lines, PV systems and direct connections to customers. The project will also finance activities to assure adequate engineering capabilities for the execution of the civil works.

The vertical logic has been correctly identified, by quantifying and explaining the main determinants of the general and specific problems through a damage assessment in the transport, electric and other infrastructure sectors caused by the hurricane. The results matrix, which reflects the diagnosis and proposed intervention, is correctly defined. The information includes SMART indicators at the product and results levels, which have set targets and means of verification. Milestones have been included within the Infrastructure Repair and Stabilization Works Activity for the product related to roads repairs. Interventions have been prioritized in terms of restoring network connectivity, infrastructure resilience and durability assurance, and capacity of execution in less than 12 months among other factors.

The economic analysis is based on a cost-efficiency exercise, where the unit costs of two pre-identified interventions in roads of Haiti are used for comparative purposes, one using executed costs of roads' rehabilitation that followed Hurricane Sandy and the second one assuming a fully rebuilding scenario. However the analysis has not been developed for the interventions planned in the electric sector. A sensitivity analysis is done based on costs increases, and the results are compared with the reference values; even with an increase of 20% in costs, planned investments are found to be within the references of identified cost-efficiency values.

The monitoring and evaluation plan is adequate and consistent with the intervention. It correctly identifies the phases, responsibilities, budget and timelines. The ex post evaluation of results proposes a before and after methodology without attribution.

Risks identified in the risk matrix seem reasonable, are classified as medium and include mitigation measures and compliance indicators.

# RESULTS MATRIX

| | |
|---|---|
| **Project Objective:** | The general objective of the program is to help restore connectivity and basic services to the population living in the south of Haiti affected by Hurricane Matthew. The specific objectives are: (i) to restore road connectivity through the rehabilitation, stabilization, and repair of road sections, road drainage systems, and bridges; and (ii) to restore electric connectivity through the rehabilitation of electric lines and electric installations. |

## RESULTS

| Expected Results | Baseline 2016 | Goals 2017 | Means of verification |
|---|---|---|---|
| **Result 1. Roads in the intervened areas recover the transit condition prior to the hurricane**.<br>Number of inhabitants located along the roads influence area affected by the hurricane and intervened by the program that make regular use of them under conditions similar to pre hurricane´s. | 0 | 1,275,946 | Report from the executing unit indicating that the traffic flow was restored. |
| **Result 2. Electric lines and facilities in the intervened areas recover the level of service previous to the hurricane.**<br>Number of customers located in in the southwest area affected by the hurricane and intervened by the program that make a regular use of the electric service under conditions similar to pre hurricane´s. | 0 | 965 | Reports from the firm indicating that the electricity supply was rehabilitated per customer in the influence area. |

## PRODUCTS

| Products | Estimated Cost (US$) | Baseline | Goal | Means of verification |
|---|---|---|---|---|
| **Activity I. Engineering and Institutional Strengthening** | | | | |
| Number of contracts to carry out studies and surveys to refine the inventory of damage and to conduct the supervision of the works | 2,000,000 | 0 | 2 | Reports from the executing agency |
| Number of contracts to carry out financial and technical audit | 450,000 | 0 | 2 | |

| Products | Estimated Cost (US$) | Baseline | Goal | Means of verification |
|---|---|---|---|---|
| Number of contracts to hire consultants to strengthen the MTPTC's capacity to implement the program | 100,000 | 0 | 3 | |
| **Activity II. Infrastructure Repair and Stabilization Works** | | | | |
| Km of roads repaired and restored to pre-hurricane levels | 16,450,000 | 0 | 450 | Reports from the supervision firm validated by the executing agency |
| *Milestone: Number of critical obstacles to transport rehabilitated. (Refers to ditches, culverts, and river streams in which debris accumulated by flooding waters are cleaned and repaired)* | | 0 | 8 | |
| *Milestone: Number of critical points repaired through landside stabilization* | | 0 | 11 | |
| *Milestone: Number of bridges repaired/stabilized* | | 0 | 3 | |
| Number restored PV systems (including solar mini grids and health centers) | 525,000 | 0 | 10 | |
| Number of restored connections to customers | 74,800 | 0 | 965 | |
| km of medium and low voltage lines repaired | 340,200 | 0 | 50 | |
| Number of solar purified water plants installed | 60,000 | 0 | 2 | |

**FIDUCIARY ARRANGEMENTS AND REQUIREMENTS**

| | |
|---|---|
| **COUNTRY:** | Haiti |
| **PROJECT NO:** | HA-L1130 |
| **NAME:** | Emergency Program in Response to Hurricane Matthew |
| **EXECUTING AGENCIES (EA):** | Ministry of Public Works, Transportation and Communications (MTPTC) |
| **DATE:** | |
| **PREPARED BY:** | Takady Konate, Romina Kirkagacli, Marise Etienne Salnave and Lila Mallory (FMP/CHA) |

## I. EXECUTIVE SUMMARY

1.1 This document is based on information collected from existing diagnoses of public financial management systems and procurement systems of the Government of Haiti (GoH) and knowledge gained through Bank supervision on the fiduciary capacity of the executing agencies. The GoH applied for financing (hereinafter called "funds") from the Inter-American Development Bank "the Bank" toward the cost of the project "Emergency Program in Response to Hurricane Matthew".

1.2 The Ministry of Public Works, Transportation and Communications (MTPTC) will be the Executing Agency (EA) for this operation.

1.3 **Public procurement and the general context.** An evaluation of the National Procurement System (NPS) was performed in 2013, applying the Organization for Economic Co-operation and Development/ Development Assistance (OECD/DAC) methodology and indicators. A certain number of weaknesses were identified and an action plan for the modernization of the national procurement system is currently being implemented. Based on the current situation and the need to align the system to international best procurement practices and standards, no country systems will be used and the Bank's procurement policies will govern procurement activities foreseen under this program.

1.4 **Public financial management and the general context.** The most recent assessment of the public financial management systems of the Republic of Haiti is contained in the Public Expenditure and Financial Accountability (PEFA) assessment report conducted in 2011 and published in February 2012. Country financial management systems and external control mechanisms, as evidenced in recent diagnostics, would require further improvements to conform to levels consistent with fiduciary management of Bank funded projects. Given the push for using the Treasury Single Account (TSA) in 2017, the Bank will conduct an assessment of the TSA during the first quarter of 2017 before recommending its use.

1.5 To mitigate these weaknesses, the Bank will continue to: (i) rely on special project execution units for the execution of all projects; (ii) implement special fiduciary arrangements for the implementation of its projects; and (iii) conduct close operation supervision of project execution units. External control will be performed for all Bank operations by independent audit firms in accordance with the Bank's financial reporting and audit guide.

## II. EXECUTING AGENCY FIDUCIARY CONTEXT

### A. Organizational structure and administrative policies

2.1 The MTPTC will be the EA in charge of the execution of this program. Given the multisectorial nature of these two activities (which include activities related to both transport and energy sectors) and the requirements of the emergency situation, the MPTPC will execute through an Emergency Program Director, supported by technical and fiduciary staff. The fiduciary team will consist of a procurement specialist and a financial specialist. Financial Management systems of the *Unité Centrale d'Exécution* (UCE/MTPTC), current EA for transport projects, will be used for this operation.

### B. Procurement

2.2 Given recent findings on the UCE's procurement capacity, the execution mechanism will not rely on the existing UCE structure. The procurement risk level associated with the experience in IDB processes is considered as high. To mitigate this risk, the following measures are identified and will be supported by the Bank's project team: (i) a full-time procurement officer will be hired for the execution of all procurement activities foreseen under this operation; (ii) this officer will be trained on Bank's procurement policies and procedures by the Bank's project team, and; (iii) the Bank will closely supervise all procurement activities through ex ante supervision and regular inspection visits to closely monitor contracting processes and contract management aspects.

### C. Financial Management

2.3 Given the above mentioned execution mechanism and the appointment of an Emergency Team, the risk level is considered as medium- high. To mitigate the risk, a finance specialist will be appointed within UCE's team for the financial management aspects with a direct reporting line to the Emergency Program Director.

2.4 The Finance Specialist will use the existing system at UCE to track and records all transactions. The accounting, recordkeeping, and financial reporting are carried out using TOM PRO. The modified cash-based accounting method will be uses to record expenses when paid and revenues when received. An archiving system will be established to keep all financial records of the operation.

## III. ISSUES TO BE CONSIDERED AND SPECIAL CONDITIONS OF CONTRACT

3.1 **Conditions precedent to disbursement.** In order to move forward the contract negotiations by the project team, herein are those fiduciary arrangements that must be considered:

a. **Special accounts and authorized signatures:** the MTPTC will open separate bank accounts at the Central Bank of Haiti for the management of grant resources.

b. The MTPTC will appoint procurement and financial specialists.

c. A manual of procedures will be established defining all processes and key roles and responsibilities.

3.2 **Financial audit special requirements.** The MTPTC will be responsible for the recruitment of external financial auditors eligible to the Bank to perform the financial audit of the program as follows: (i) a final financial audit covering the 12 months execution period of the program to be submitted within 120 days after the date of the

last disbursement. The audit firm will submit a separate audit report for each EA. MTPTC will be responsible for submitting their audited financial report to the bank as defined in the reporting guidelines. Exchange rate valid at the day of transaction will be used to record all expenses made in local currency only if the exchange rate at the time of transfer of IDB funds from the dollar bank account into the local currency bank account is non-existent. The Central Bank of Haiti exchange rate will be used as the reference rate.

## IV. AGREEMENTS AND REQUIREMENTS FOR PROJECT PROCUREMENT

4.1 **Procurement execution.** The procurement plans, covering the entire project execution period[1] starting on the date of eligibility of the project, has been agreed by the executing agencies and the Bank. The procurement plans will be updated semiannually, or whenever necessary, as required by the Bank; all revisions of the procurement plan will require Bank no objection.

4.2 Procurement for the proposed project will be carried out in accordance with the Policies for the Procurement of Works and Goods financed by the Bank (GN-2349-9), of March 2011; and the Policies for the Selection and Contracting of Consultants financed by the Bank (GN-2350-9), of March 2011, complemented by the special procurement provisions for Haiti while in place.

4.3 **Procurement of works, goods, and non-consulting services**. Good, works and non-consulting services requiring International Competitive Bidding (ICB) will be contracted using the Standard Bidding Documents (SBDs) issued by the Bank. Procurement subject to National Competitive Bidding (NCB) will be undertaken using national bidding documents agreed with the Bank or satisfactory to the Bank in the absence of an agreement. The procurement activities using the method of Shopping must be executed according to paragraph 3.5 of the Policies GN-2349-9. All technical specifications, scope of works and bill of quantities of these processes will be reviewed by the project team leader or sector specialist.

(i) **Procurement of works.** This project foresees the signature of multiple civil works contracts:

(a) Under Activity II, contracts will be awarded for road repairs and stabilization works. It is expected that three contracts will be signed with three different firms for a total amount between US$3 million to US$6 million. Lots will be identified based on type of works, geographical distribution and logistical considerations. Given the emergency situation and the need to mobilize companies within a short timeframe, these contracts will be awarded through Limited International Competitive Bidding.

(b) The MTPTC will identify suitable international and national firms using the following criteria: (i) specific experience; (ii) availability of equipment and operators; (iii) financial capacity; (iv) reasonable of unit prices based on market conditions. In light of the timing constraints, these contracts will be awarded in parallel to the finalization of the engineering designs. For this reason a bill of quantities will be provided to invited companies with estimated amounts for the specific works and average unit prices based

[1] The start date of project execution is counted from the date of publication of the general procurement notice, or the first specific procurement notice published following approval of the loan, whichever is earlier.

on actual costs of recent contract executed in Haiti. Umbrella contracts will be signed based on a “not to exceed” amount.

(ii) **Procurement of goods and services.** This activity includes the signature of a direct contract for the provision and installation of electrical equipment with the NGO SELF for an estimated amount of US$1,000,000. This contract will support the rehabilitation of the electrical system damaged by the hurricane. SELF was hired by the Bank through a competitive process in 2010 for the installation of a solar system in 12 clinics in the geographical area covered by the project (HA-X1019). It was subsequently hired through direct contracting by the Bank to install a solar system for the Coteaux electrification project (HA-T1176). This direct contracting is therefore justified based on continuation of services as provided under clause 3.6 (a) of GN 2349-9; it is supported by the satisfactory previous performance of the firm and fair prices offered, which are considered in line with market range.

4.4 **Selection and contracting of consulting.** The selection and recruitment of consulting firms required by the project and subject to the methods of Selection Based on Quality and Cost (SBQC) and other selection methods provided in Section III of the Policies for the Selection and Employment of Consultants financed by the Bank (GN-2350-9) will be executed applying the Standard Documents of Request for Proposals (RFP) issued by the Bank. All terms of reference will be reviewed by the project Team leader or sector specialist.

(i) **Selection of consulting firms.** The Bank has considered the following arrangements for consulting firms as well as other contracts foreseen in the procurement plan: (i) the supervision of the road repair and stabilization works applying the method of QBS (Quality based selection), and; (ii) engineering designs also applying QBS method.

(ii) **Selection of financial audit firm.** The selection process to contract the financial audit firm will be realized through the invitation of pre-selected audit firms approved by the Bank. For this process, the Special Unit will use the Bank standard document for the selection of audit firms.

(iii) **Individual consultants.** National and international individual consultants will be selected according to Annex V of the procurement policies Document GN-2350-9.

4.5 **Recurrent expenses.** The following recurrent expenses, also known as operational costs, could be financed by the Bank if required and approved by the Team Leader: (i) all expenses required and agreed with the Bank for the execution of the project[2]; (ii) all executing unit individual consultants contracts required for the execution of the project; and (iii) per diem (if any). Operational costs do not include the salaries of public officers.

4.6 **Project procurement thresholds table.** The threshold amounts agreed by the Bank for Haiti have been modified through procurement provisions for Haiti Document (GN-2654), which apply during the term of the Bank's strategy in Haiti 2010-2015. These provisions have been extended until a new strategy is defined and approved between the Bank and the GoH. For the purpose of the execution of this operation, the procurement provisions for Haiti will apply. As soon as the latter

[2] Office rent, automobile rent to perform supervision tasks, public service expenses and communication, translations, bank charges, office supplies, advertisement, photocopies mail, etc.

will ceases to have effect, the procurement of this operation would run under the regular thresholds.

**Table 1. Regular threshold amounts for Haiti**

| Haiti – Limit amounts (in thousands of US$) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Works | | | Goods | | | Consulting | |
| ICB | NCB | PC | ICB | NCB | PC | International | 100% National |
| ≥1.000 | 100<1.000 | <100 | ≥100 | 25<100 | <25 | >100 | <100 |

**Table 2. Threshold amounts under procurement provisions for Haiti**

| Haiti – Limit amounts (in thousands of US$) | | | | | |
|---|---|---|---|---|---|
| Works | | Goods | | Consulting | |
| ICB[3] | NCB[4]/PC[5] | ICB | NCB/PC | International | 100% National |
| ≥1.000 | <1.000 | ≥100 | <100 | >100 | <100 |

4.7 **Procurement supervision.** Based on the risks identified under Section II above, all procurement activities foreseen under this operation will be subject to ex ante review by the Bank.

4.8 **Records and files.** The executing agencies will keep organized records of all documents starting with the procurement plan and including all documents from the procurement process and contract management phase, through the end of contract execution.

## V. Arrangements for Project Financial Management

5.1 **Programming and budget.** The financial programming, planning and monitoring of budget execution of the MTPTC will be initially supported by the utilization of TOMPRO. At the start of the project, the MTPTC will prepare a Pluriannual Execution Plan (PEP) which will include the overall financial plan of the Project which will include budgets and cash flow needs, based on activities identified in the Annual Operating Plan (AOP). The execution of the project's financial plan will be evaluated every six months and reported in the semiannual Project Monitoring Report (PMR). The financial plan will coincide with the Haitian fiscal year and will respect budget lines defined in the grant agreement (categories of investment).

5.2 **Accounting, financial reporting and financial management system.** Since 2014, UCE began implemented TOMPRO which comes with the following standard modules: (i) general accounting; (ii) budgeting; (iii) grants management; (iv) asset management; (v) financial statements; and (vi) contracts management, including commitment reports. The MTPTC will utilize this already existing system for the financial management of this operation.

5.3 **Disbursements and cash flow. Project financial management may be guided by OP-273-6.** The MTPC will prepare annual planning of the project cash flow, which will be the basis for advance of funds disbursements, and will update it quarterly. The projected cash flow of the project will be based on activities planned for 12 months period of the operation. Direct payment to suppliers for payments to be made in a

currency other than the local currency (Gourdes) will be processed by Bank. Advance of funds will be for the equivalent of three (3) months financial needs and will be subject to ex post supervision. The use of direct payment to suppliers by the Bank will be analyzed and authorized on a case by case basis due to relatively small amount of contracts and agreed upon payment terms at stated in paragraph ¶2.3. As per OP-273-6 for each new advance, the EA will need to justify 80% of advance received. MTPTC will establish separate bank accounts for the management of grant and counterpart resources if applicable.

5.4 **Financial control and reporting.** Audits will be performed in accordance with Bank's Guidelines for Financial Reports and external audits as described in Section IV. Financial audit cost will be financed by the Bank grant and estimated at US$60,000. The program financial statements will correspond to the fiscal year. In addition, the following will be monitored: (i) timetable and disbursement; (ii) updated procurement plan and annual working plans; and (iii) financial report and updated financial projections.

5.5 **Financial supervision plan.** Fiduciary staff of the Bank will perform periodic inspection visits to the MTPTC, which are aimed at reviewing the implementation of the mitigation actions and the execution of financial plan.

5.6 **Execution mechanism.** The MPTPC will maintain proper financial management systems and will prepare an AOP and procurement plan and a 12 month financial plan indicating cash flow needs for the execution of project's activities stemming from the AOP and procurement plans.