

**PROJECT INFORMATION DOCUMENT (PID)**  
**APPRAISAL STAGE**

Report No.: 89939

<b>Project Name</b>	Preparation of a program towards sustainable flood management in the Greater Metro Manila Area
<b>Region</b>	EAST ASIA AND PACIFIC
<b>Country</b>	Philippines
<b>Sector(s)</b>	Water, Sanitation, and flood protection – flood protection (80%); Public Administration, Law and Justice - water, sanitation and flood protection (20%)
<b>Theme(s)</b>	Environment and Natural Resources Management – water resources management (60%); Public Sector Governance – managing for development results (20%); Social Protection and Risk Management – natural disaster management (20%)
<b>Lending Instrument</b>	Investment Project Financing
<b>Project ID</b>	P145237
<b>Borrower(s)</b>	Department of Finance
<b>Implementing Agency</b>	Department of Public Works and Highways
<b>Environmental Category</b>	A-Full Assessment
<b>Date PID Prepared/Updated</b>	28-Apr-2014
<b>Estimated Date of First Grant Approval</b>	31-Dec-2015
<b>Decision</b>	Proceed with appraisal
<b>Other Decision</b>	

## **I. Project Context**

### **Country Context**

The Philippines' economy grew by 7.2 percent during 2013, outperforming most other economies in the region. The country's strong macro-economic fundamentals, characterized by low and stable inflation, healthy external balances, and strong government finances, shielded the economy from the persistent weaknesses of the global economy. Achieving a pattern of inclusive growth that creates jobs and reduces poverty and vulnerability constitutes already for a long time the main challenge facing the Philippines. The current lack of inclusive growth negatively affects the ability of a large part of the population to deal with a variety of economic, natural disaster, and health shocks, as so dramatically illustrated by the suffering caused by recent disasters, most recently by super-typhoon Yolanda (internationally named Haiyan) in November 2013.

Typhoons and related flooding are regular events in the Philippines, with an average of 20 typhoons affecting the country per year. There seems to be a trend towards more numerous and more devastating floods in recent years, especially caused by human activities such as deforestation and

rapid urbanization, and possibly by climate change. Metro Manila and the adjacent areas of Laguna de Bay and part of Bulacan Province, hereafter called the Greater Metro Manila Area, have not been spared during the past years. Considering that the Greater Metro Manila Area contributes about 35 percent to the economy of the Philippines and is home to around 17 million people, recurrent flooding has a negative impact on millions of people's lives and the economy. This is worsening over time with rapid urbanization and land availability issues, requiring especially informal settler families (ISF) to live in danger zones. On September 26, 2009, one of the most severe tropical storms in history, Ondoy (internationally named Ketsana), affected the Greater Metro Manila Area. It caused substantial damage and losses, equivalent to about 2.7 percent of Gross Domestic Product (GDP). The adverse impacts on the productive sectors were largely due to damaged or lost inventories, raw materials, and crops. In addition, business operations were interrupted by access problems, power and water shortages, damaged machinery, and absent employees, which contributed to an overall reduction in production capacity.

### **Sectoral and institutional Context**

Intensive rainfall and flooding are events that are especially severe during the typhoon season from June through October when typically around 80 percent of the annual rainfall falls, which for Metro Manila is about 1,700 mm out of the approximate 2,100 mm average annual rainfall. Typhoons and tropical storms that affect the Greater Metro Manila Area regularly result in flooding of many low-lying areas, with extensive localized flooding that can last for a long period of time. It is estimated that about 100,000 households, many of whom are ISFs, are living in the flood plains of the rivers and water ways in Metro Manila, while about 50-60,000 households, also mostly ISFs, are living in the flood plain of Laguna de Bay, many of whom are affected on an annual basis by the lake's water level fluctuation. Ondoy was a disastrous event that resulted in extensive inundation of urban areas caused by water flows that were well above the capacities of rivers, floodways, and esteros/drains that lack regular maintenance, including dredging of silts and cleaning of solid waste, and have encroachment of their banks. The latter puts people living along these structures at risk during flash flood events. Ondoy was a turning point in government's attention to typhoons and flooding. It was so damaging and lasting that it renewed the focus on improving flood management and making the Greater Metro Manila Area a safer place for its inhabitants by implementing measures that will substantially reduce flood risks.

The Post Disaster Needs Assessment (PDNA) carried out after Ondoy recommended that a comprehensive update of the 1990 master plan be prepared that would propose a detailed flood risk management plan and determine an updated set of priority structural and non-structural measures to provide sustainable flood management up to a certain safety level. The Flood Management Master Plan for the Greater Metro Manila Area (hereafter the Master Plan) has since been prepared. It was approved by the National Economic and Development Authority (NEDA) Board on September 4, 2012. The total estimated cost for the implementation of the Master Plan is about PhP 352 billion (US\$7.86 billion) over the next 20-25 years. The Master Plan proposes solutions to reduce flooding from river systems and around Laguna de Bay, and solutions for urban drainage. It also makes proposals for such non-structural measures as flood forecasting and early warning systems and community-based flood risk management. Finally, the Master Plan makes recommendations to improve the institutional structure to deal with flood management in an integrated manner. The NEDA Board meeting also approved an initial allocation of PhP 5 billion to start the implementation of the Master Plan with some activities that can be implemented quickly and with minimum design, yet by itself will have localized impact on flood management. Government has now started working on several activities, such as dredging and modernization of pumping stations. However, government is also interested that some of the larger and more complicated priority structural and non-structural measures are prepared to a level ready for appraisal/investment by government and/or development

partners. It is also seeking more advice on appropriate institutional developments.

In terms of institutional framework, the Government's National Disaster Risk Reduction and Management Act was approved in 2010 to shift focus from emergency response to disaster prevention, reduction, and mitigation. The Act strengthens the mandates of institutions involved in DRRM and expands the use of national and local fiscal resources for ex-ante investments. The Act is supported by a NDRRM Framework, Implementing Rules and Regulations, and a National Action Plan for DRRM. The NDRRM Action Plan translates the country's DRRM priorities into programs, projects, and budgets that will be undertaken over the short- to medium term. Improvements in flood management are an important part of the Action Plan. In addition, the GoP has also enacted the Climate Change Adaptation (CCA) Act to complement actions in addressing weather-related hazards which are compounded by climate change. The institutional and operational features of the DRRM and CCA Acts are being harmonized as supported by a Memorandum of Understanding between the National DRRM and the Climate Change Councils.

The Department of Public Works and Highways (DPWH) is one of the key members of the National DRRM Council. DPWH is mandated to undertake the planning, design, construction, and operation and maintenance of major infrastructure, including flood planning and development activities. After construction, much of this infrastructure is transferred to Metro Manila Development Authority (MMDA) for operation and maintenance. During many disasters, DPWH is tapped by the national government to provide immediate response activities, since it has the personnel and equipment that can be deployed to clear disaster-affected areas. DPWH is a major recipient of the Quick Response Fund under the National DRRM Fund to support the repair, rehabilitation, and reconstruction of partially or totally damaged public infrastructure. After construction, much of this infrastructure is transferred to Metro Manila Development Authority (MMDA) for operation and maintenance

The devastating impacts left behind by recent tropical storms and typhoons put the spot light on the vulnerability of especially the ISFs the Greater Metro Manila Area. Finding safe, feasible, inclusive and sustainable housing solutions for affected people would be critical to the success of flood management investments.

Strategic Context: The Philippines Country Partnership Strategy (CPS) for FY15-18 is fully aligned with the Updated 2011-2016 Philippine Development Plan. The CPS goals are to promote inclusive growth, reduce poverty and support shared prosperity through five engagement areas: (i) transparent and accountable governance; (ii) empowerment of the poor and vulnerable; (iii) rapid, inclusive and sustained economic growth; (iv) climate change, environment, and disaster risk management; and (v) peace, institution building, and social and economic opportunity. This proposed operation is consistent with the engagement area on climate change, environment and disaster risk management.

## **II. Project Development Objective(s)**

The proposed development objective is to prepare priority projects that aim to improve flood management and resilience in the Greater Metro Manila Area.

## **III. Project Description**

### **Component Name**

Component A – Preparation of feasibility and design studies for priority flood management infrastructure.

**Comments (optional)**

Feasibility and design studies will be prepared for some of the selected priority structural measures identified under the Master Plan. Multi-disciplinary teams of consultants will be recruited to assist DPWH and other agencies. The feasibility studies will review, as needed, the various options for flood management improvements in the study areas, including a quick assessment of related social and resettlement impacts in terms of magnitude, costs, and risks, to be followed immediately by design studies and preparation of tender documents of the selected options. The design phase will include the technical and engineering studies, economic studies, and social and environmental studies.

**Component Name**

Component B – Development of institutional arrangements for sustainable flood management.

**Comments (optional)**

The institutional setup for flood management in the Greater Metro Manila Area is very fragmented with many agencies involved, often with overlapping mandates. The Master Plan recommends that there is a lead institution, working in partnership with other agencies and stakeholders to achieve the objectives of integrated flood management. The Master Plan has provided various options for the consideration of government, but it has requested for additional support and advice. A consulting firm will be recruited to develop in detail the optimal institutional arrangements for flood management in the Greater Metro Manila Area that would be acceptable to government.

**Component Name**

Component C – Project management and administration

**Comments (optional)**

Operational expenses for DPWH will be financed to manage the implementation of the grant and monitor the consultants and the outputs of the services. Fixed costs, such as staff costs, will be paid for by DPWH. The government's Commission on Audit (COA) will conduct the annual audit of the grant.

**IV. Financing (in USD Million)**

Total Project Cost:	2.73	Total Bank Financing:	0.00
Financing Gap:	0.00		
<b>Financing Source</b>			<b>Amount</b>
Borrower			0.00
PHRD Grant			2.73
Total			2.73

**V. Implementation**

The Department of Public Works and Highways will be the main implementing agency, in close cooperation with other agencies, including MMDA and the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), Department of Environment and Natural

Resources (DENR), Housing and Urban Development Coordinating Council (HUDCC), various housing agencies such as the National Housing Authority (NHA) and Social Housing Finance Corporation (SHFC), Department of Interior and Local Government (DILG), the ISF-National Technical Working Group (ISF-NTWG), Department of Social Welfare and Development (DSWD), Local Government Units (LGU), as well as with the NDRRM Council. There has been similar close cooperation during the preparation of the Master Plan, although not with all the above-mentioned agencies. One high-level steering committee and one technical-level steering committee were established for the overall management and coordination of the master plan. These steering committees will continue to operate during the preparation of the studies, with an expanded membership. In addition, technical staff of DPWH worked closely and effectively with staff of other agencies during the preparation of the Master Plan. DPWH has been implementing both TA and lending operations of the Bank and is familiar with the technical, safeguard, and fiduciary requirements to implement this grant. Several consulting teams will be coordinating closely under the project, particularly the consulting teams working on the dam and the team working on the flood protection works in the Marikina River (funded from the PHRD) as hydrological design parameters will be similar for both studies. This is also true for the technical consultants and the environmental and social consultants that will work together closely to come up with the best technical solutions that are environmentally and socially sound and that can minimize resettlement/rehousing of people.

## VI. Safeguard Policies (including public consultation)

<b>Safeguard Policies Triggered by the Project</b>	<b>Yes</b>	<b>No</b>
Environmental Assessment OP/BP 4.01	<b>X</b>	
Natural Habitats OP/BP 4.04	<b>X</b>	
Forests OP/BP 4.36	<b>X</b>	
Pest Management OP 4.09		<b>X</b>
Physical Cultural Resources OP/BP 4.11	<b>X</b>	
Indigenous Peoples OP/BP 4.10	<b>X</b>	
Involuntary Resettlement OP/BP 4.12	<b>X</b>	
Safety of Dams OP/BP 4.37		<b>X</b>
Projects on International Waterways OP/BP 7.50		<b>X</b>
Projects in Disputed Areas OP/BP 7.60		<b>X</b>

**Comments (optional)**

## VII. Contact point

### **World Bank**

Contact: Joop Stoutjesdijk

Title: Lead Irrigation Engineer

Tel: 5776+2657

Email: [jstoutjesdijk@worldbank.org](mailto:jstoutjesdijk@worldbank.org)

**Borrower/Client/Recipient**

Name: Department of Finance  
Contact: Ms. Stella Laureano  
Title: Director, International Finance Group  
Tel: 5239223  
Email: slaureano@dof.gov.ph

**Implementing Agencies**

Name: Department of Public Works and Highways  
Contact: Mr. Patrick Gatang  
Title: Director, Flood Management  
Tel: 304-3000  
Email: webmaster@dpwh.gov.ph

**VIII. For more information contact:**

The InfoShop  
The World Bank  
1818 H Street, NW  
Washington, D.C. 20433  
Telephone: (202) 458-4500  
Fax: (202) 522-1500  
Web: <http://www.worldbank.org/infoshop>