PROJECT INFORMATION DOCUMENT (PID)
CONCEPT STAGE

Report No.: PIDC21981

Project Name	Metro Manila Flood Management-Phase 1 (P153814)
Region	EAST ASIA AND PACIFIC
Country	Philippines
GEF Focal Area	International waters
Sector(s)	Flood protection (70%), Solid waste management (15%), Sub-national government administration (15%)
Theme(s)	Water resource management (60%), Municipal governance and institution building (10%), Urban planning and housing policy (10%), Urban services and housing for the poor (20%)
Lending Instrument	Investment Project Financing
Project ID	P153814
Borrower(s)	Republic of the Philippines
Implementing Agency	Department of Environment and Natural Resources, Metro Manila Development Authority
Environmental Category	A-Full Assessment
Date PID Prepared/ Updated	26-Mar-2015
Date PID Approved/ Disclosed	06-Apr-2015
Estimated Date of Appraisal Completion	10-Jun-2015
Estimated Date of Board Approval	19-Nov-2015
Concept Review Decision	Track II - The review did authorize the preparation to continue

I. Introduction and Context

Country Context

The geographic location of the Philippines makes it prone to typhoons, earthquakes, volcanic eruptions, and other natural hazards.Of these natural disasters, typhoons and floods account for 80 percent of all deaths, 90 percent of the total number of affected people, and 92 percent of the total economic impact. 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, caused by human activities such as deforestation and rapid urbanization, and possibly by climate change. Numerous studies conclude that the Philippines will be among the countries that will suffer long-term and repetitive damage

from extreme weather patterns brought about by climate change.

The Greater Metro Manila Area has 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. Strong economic activities in urban areas attract migrants from rural areas in search of better jobs. With no or low paying jobs, migrants are unable to afford decent housing, thus resulting in prevalence of informal settler families (ISF), often living 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), and impacted the lives of millions of people, including many ISFs.

Sectoral and Institutional Context

Many areas in the Greater Metro Manila Area are low-lying and designated as flood prone, with insufficient protection against frequent inundation as natural drainage is restricted. Intensive rainfall in the Philippines is especially severe during the typhoon season from June through October. As a result, flooding of urban areas is a recurrent problem in the Greater Metro Manila Area that affects traffic and causes flooding in houses and buildings. Improvements in urban drainage are therefore an essential element to reduce flooding. Urban drainage relies mostly on a combination of drainage channels, waterways, and pumping stations. The Flood Control and Sewerage Management Office of the Metro Manila Development Authority (MMDA) is responsible for managing the agency's flood management programs and infrastructure. Presently, MMDA operates 57 pumping stations, scattered throughout Metro Manila, including 23 major stations to discharge drainage water from populated areas into waterways and rivers and that service around 8,000 hectares (about 12.5 percent of the total area of Metro Manila) with a population of over 2.2 million people. In addition, MMDA manages 17 pumping stations which service major traffic underpasses and other public infrastructure and 17 relief pumping stations in flood prone areas such as Navotas and Malabon. Many of the pumping stations and appurtenant infrastructure were constructed several decades ago and are not functioning anymore up to design capacity for old and inefficient pumps and their lack of maintenance.

The large volume and difficulties with collection and disposal of solid waste remains an important concern in flood management projects in Metro Manila. Local Government Units (LGU) are responsible for waste collection and disposal at designated landfill facilities. Studies by the National Solid Waste Management Commission (NSWMC) show that when solid waste collection is difficult such as in many cramped informal settlements, nearby water bodies such as creeks and rivers become convenient dumping grounds, ultimately hampering water discharge during the rainy season that contributes to flooding. Solid waste also causes damage to pumping stations thereby affecting their effective pumping functions. The collection and disposal of solid waste that accumulates at pumping stations is the responsibility of MMDA.

The National Housing Agency (NHA) estimates that there are now nearly 600,000 ISFs in Metro Manila. Many ISFs live along and even over the drainage channels and waterways that connect to pumping stations, making access to waterways for cleaning and maintenance very difficult, if not impossible. Over the years, governments have developed a number of shelter programs for the urban poor, mostly administered centrally through various national Key Shelter Agencies (KSAs) and primarily focused on off-site relocation. These off-city resettlement approaches have been

mired with resistance and criticisms in the past, owing to the lack of consideration for the socio-economic impacts (e.g., loss of livelihood and disruption of social networks) on the affected households. The current government launched an initiative called Oplan Likas to move ISFs out of the danger areas and allocated PhP 50 billion (approximately US$1.15 billion) over 5 years from 2011 to 2016 to finance land acquisition and housing construction costs. Taking global and national best practices into account, Oplan Likas advocates for in-city relocation within the vicinity of ISFs' livelihoods, leaving off-city relocation as a last resort. Despite the initiative, however, due to lack of affordability, land constraints, and institutional challenges among many other factors, progress has been slow.

The government, with the technical and financial support of the World Bank, has prepared a Flood Management Master Plan for the Greater Metro Manila Area. The plan, approved by the National Economic and Development Authority (NEDA) Board on September 4, 2012, determines a set of priority structural and non-structural measures to provide sustainable flood management up to a certain safety level. The total estimated cost for the implementation of the Master Plan is about PhP 352 billion (about US$8 billion) over a 20-25 year period. The main elements of the Master Plan are:

1. Structural measures to reduce flooding from river systems that run through the city;
2. Structural measures to eliminate long-term flooding in the flood plain of Laguna de Bay;
3. Structural measures to improve urban drainage;
4. Non-structural measures such as flood forecasting and early warning systems and community-based flood risk management;
5. Improved institutional structure to deal with flood management in an integrated manner.

This proposed project focuses mostly on element 3 of the Master Plan.

Relationship to CAS

The Philippines Country Partnership Strategy (CPS) for FY15-18 is fully aligned with the updated 2011-2016 Philippine Development Plan, which puts high priority on disaster risk reduction and climate change as themes that underlie various sectors. The CPS goals are to promote inclusive growth, reduce poverty, and support shared prosperity through five engagement areas. The proposed project is consistent with the engagement area on climate change, environment, and disaster risk management. The alignment is with strategic outcome 4.1 - increased resilience to natural disaster and climate change impacts and strategic outcome 4.2 - improved natural resource management and sustainable development.

The proposed project would contribute to the Government's goal of promoting inclusive growth and the Bank's twin goals of reducing extreme poverty and boosting shared prosperity. Recurrent flooding has the greatest impact on the poorest populations who generally live in higher-risk flood prone areas. It restricts people's ability to exit from poverty and inhibits growth. Flooding causes damage to houses and property and it limits movement out of flooded areas thereby affecting productive capacity. Designing and investing in the proposed project's multi-sector interventions would reduce the vulnerability of the population to future flood events.

II. Proposed Development Objective(s) / Global Environmental Objective(s)

A. Project Development Objective(s)

The proposed project development objective (PDO) is to reduce flood risks to people and property in flood-prone areas of greater metropolitan Manila that are served by targeted pumping stations. The PDO will be achieved through an integrated set of interventions to modernize existing pumping stations and make improvements to appurtenant infrastructure; switch pumps from diesel to electric power where needed; construct new pumping stations to accommodate urban expansion; increase short-term water retention capacity in the drainage areas; reduce the volume of indiscriminately dumped solid waste into waterways by means of community-based programs where feasible; and support community-driven resettlement of informal settler families encroaching in easements for drains and waterways linked to the project pumping stations to safer in-city locations.

B. Global Environmental Objective(s)

There will be no specific global environmental objective. A GEF Grant (US$7.4 million) will support efforts to accelerate the improvement of water quality of Manila Bay by defining the appropriate institutional arrangements and enhancing the regulatory, monitoring, and planning capacity of the Department of Environment and Natural Resources (DENR). The GEF funds will assist DENR in adequately regulating and monitoring the water quality in the Manila Bay catchment area. The improvement in water quality as a result of the activities in the project, especially solid waste management, will be captured through the water quality monitoring systems to be developed under this GEF grant.

Key Results (From PCN)

The proposed PDO level results indicators include: (i) reduction in flooded areas, measured in hectares that are free of water within 24 hours after a major rainfall event; (ii) direct project beneficiaries (number, including percentage females), defined as population provided with improved flood protection/improved drainage; (iii) increase in solid waste collection efficiency in project areas; (iv) reduction in solid waste collected at the targeted pumping stations (tons/month); and (vi) percentage of community members expressing satisfaction over reduced vulnerability to flooding in the project areas (percentage, measured through beneficiary feedback surveys, including gender disaggregation). A GEF related indicator is the establishment of a hydrodynamic and contaminant model covering the Manila Bay catchment area.

III. Preliminary Description

Concept Description

The proposed project would be a first phase of support by the Bank for the implementation of the Master Plan and focus on measures to reduce flood risks in the Greater Metro Manila Area. This area has grown rapidly during the past decades and in many areas floodwaters cannot be discharged because pumping stations are old and inefficient or for lack of pumping stations. MMDA and several LGUs have constructed small pumping stations during the past years, but there is a need to construct a number of large pumping stations to serve more recent urban developments in a substantial way. The possible impact of climate change, which for Metro Manila is expected to lead to higher intensity rainfall events and rising sea level that would worsen drainage conditions, would be taken into account. The project is expected to focus on about 50 drainage areas in 7-8 LGUs. Based on an institutional assessment that will determine MMDA's and LGUs' capacity to sustainably manage the infrastructure and other developments under the proposed project, an institutional strengthening sub-component may be included in the project as well.

Component 1: Modernization of Pumping Stations (US$362.6 million, preliminary estimate). Many of the 57 pumping stations managed by MMDA are over 30 years old and no longer operate at full

capacity. MMDA has carried out an inventory of its existing pumping stations and it is expected that this component will modernize about 40 pumping stations, the exact number and locations to be determined during project implementation, based on a number of screening criteria. As part of the modernization program pumps will be replaced with modern, more efficient, and higher capacity units. Improvement to appurtenant infrastructure, such as flood gates, manholes, etc., may also be necessary. The energy source will, where needed and possible, be changed from diesel to electricity. The component will also finance cleaning and improving linked waterways and drainage channels, as well as provision of specialized waterways maintenance equipment. This component will support the MMDA program to construct a number of new pumping stations, based on a long-list prepared by LGUs, to serve flood-prone areas around Metro Manila where the population has grown rapidly over the past 10-20 years. A program of increasing the water retention capacity within the project drainage areas will also be developed and implemented.

Component 2 – Minimizing Solid Waste in Waterways (US$75 million). This component will complement the solid waste management programs of the participating LGUs, specifically in the densely populated drainage areas of the targeted pumping stations to reduce solid waste dumped into waterways, which is adversely affecting the efficiency of pump facilities. The component will support awareness and educational programs to change behavior of people, including promoting segregation of waste at the source. It will also support interventions within the project areas such as garbage bins, recycling containers, material recovery facilities, garbage trucks, etc. Government has awarded a contract to prepare a feasibility study for waste-to-energy facilities and the project may incorporate technically and financially viable interventions on a pilot basis, based on the results of the studies. This component plans to develop and implement appropriate institutional arrangements in the implementation and long term operation and maintenance mechanism of the interventions, including possible results-based financing approaches that will incentivize improvements in solid waste management outcomes. Management of water hyacinths or water lilies, one of the causes of pump breakdowns and stoppages, will be addressed. The project will finance appropriate equipment for harvesting, but also programs that encourage processing for reuse of products as community livelihood activities, which are especially practiced by women.

A GEF Grant (US$7.4 million) would assist the Department of Environment and Natural Resources in adequately regulating and monitoring the water quality in the Manila Bay catchment area. The improvement in water quality as a result of the activities in the project, especially solid waste management, would be captured through the water quality monitoring systems to be developed under this GEF grant.

Component 3 – Community Participatory Housing and Resettlement (US$45 million). This component will support, where possible, a community participatory approach to near-site, in-city resettlement for ISFs to be affected by the construction of new pumping stations. Almost all pumping stations, both existing and proposed, are located in densely populated areas with ISFs living along many of the waterways served by the pumping stations. Existing pumping stations to be modernized are typically well fenced with no informal settlers and no need for resettlement. It is possible that some resettlement will be necessary for construction of the new pumping stations. Encroachments along and over some of the associated waterways will necessitate some resettlement. However, the magnitude of project affected persons is estimated to be relatively small, in the order of 2,500 ISFs. This component will support participating LGUs and community organizations to undertake in-city resettlement and on-site upgrading for the ISFs living in encroached spaces above and along the waterways to be served new pumping stations to be built

under the project. Several options have already been tested by NHA and the Social Housing Financing Corporation (SHFC), but as part of the community participatory resettlement process any option suggested by the communities will be considered. The component will also support capacity building to participating LGUs on shelter planning and institutionalizing the Local Housing Boards, which function as a platform for engaging various stakeholders such as communities, key shelter agencies, non-governmental organizations (NGOs), private developers, and others to collaboratively plan and manage ISF housing projects.

Component 4 - Project Management and Coordination (US$10 million). The component would support the operation of the Project Management Office (PMO) to be established by MMDA, headed by a Project Manager, to coordinate the overall planning, implementation, and supervision of project activities, central procurement, and management of funds.

IV. Safeguard Policies that might apply

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

V. Financing (in USD Million)

Total Project Cost:	500.00	Total Bank Financing:	300.00
Financing Gap:	0.00		

Financing Source	Amount
Borrower	192.60
International Bank for Reconstruction and Development	300.00
Global Environment Facility (GEF)	7.40
Total	500.00

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