



The World Bank

Preparation of a Program Towards Sustainable Flood Management in the Greater Metro Manila Area Project
(P145237)

REPORT NO.: RES40336

RESTRUCTURING PAPER

ON A

PROPOSED PROJECT RESTRUCTURING

OF

PREPARATION OF A PROGRAM TOWARDS SUSTAINABLE FLOOD MANAGEMENT IN THE GREATER METRO MANILA AREA
PROJECT

APPROVED ON SEPTEMBER 16, 2014

TO

REPUBLIC OF THE PHILIPPINES

WATER

EAST ASIA AND PACIFIC

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ABBREVIATIONS AND ACRONYMS

CPF	Country Partnership Framework
DA	Designated Account
DPWH	Department of Public Works and Highways
ESIA	Environmental and Social Impact Assessment
ICC	Investment Coordination Committee
NEDA	National Economic and Development Authority
PCN	Project Concept Note
PH-PTF	Australia – World Bank Philippines Development Trust Fund
PHRD	Japan Policy and Human Resources Development
PMRBFMP	Pasig-Marikina River Basin Flood Management Project
S&E	Social and Environmental
ToR	Terms of References



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BASIC DATA

Product Information

Project ID	Financing Instrument
P145237	Investment Project Financing
Original EA Category	Current EA Category
Approval Date	Current Closing Date
16-Sep-2014	31-Jan-2020

Organizations

Borrower	Responsible Agency
Department of Finance	Department of Public Works and Highways

Financing (in USD Million)

SUMMARY

Total Project Cost	0
Total Financing	0
Financing Gap	0

DETAILS

Project Development Objective (PDO)

Original PDO

The objective is to prepare priority projects, identified by the flood management master plan, that aim to improve flood management and resilience in and around Metro Manila.

**Summary Status of Financing**

TF	Approval	Signing	Effectiveness	Closing	Net		
					Commitment	Disbursed	Undisbursed
TF-18611	04-Jun-2015	19-Jun-2015	19-Jun-2015	31-Jan-2020	2.73	.52	2.21

Policy Waiver(s)

Does this restructuring trigger the need for any policy waiver(s)?

No

I. PROJECT STATUS AND RATIONALE FOR RESTRUCTURING

1. This restructuring proposes a five-month extension of the closing date of the PHRD grant, from January 31, 2020 to June 30, 2020 and flexibility in the Designated Account ceiling from US\$300,000 to an amount based on the six-month cash disbursement projection of the project. These actions were requested in a letter from the Secretary of Finance, dated December 4, 2019. This will be the third closing date extension, for a cumulative period of 41 months from the original closing date. In January 2017, government requested a three-year closing date extension. However, the Bank approved a one-year closing date extension in January 2017 to give time for the recipient to procure consultants, and when that was done, a two-year closing date extension was approved in January 2018 to implement the grant.
2. **Background of PHRD Grant.** In 2014, the Japan Policy and Human Resources Development (PHRD) Technical Assistance Grants Program, Pillar IV provided US\$2.73 million to support the Preparation of a Program Towards Sustainable Flood Management in the Greater Metro Manila Area (P145237). The PHRD Grant Funding Request was approved on November 25, 2014 and the Grant Agreement was countersigned by government on June 19, 2015 with a closing date of January 31, 2017. The PHRD Grant is implemented by the Flood Management Cluster of the Department of Public Works and Highways (DPWH).
3. The PHRD Grant objective is to prepare priority projects, identified by the flood management master plan (Master Plan), that aim to improve flood management and resilience in and around Metro Manila. The grant finances the design of flood protection works in the Upper Marikina River, as well as the necessary social and environmental studies; development of a flood forecasting and early warning system for the Greater Metro Manila Area; and development of institutional arrangements for sustainable flood management. These activities are part of government's Master Plan approved by government in 2012. Progress with implementation of the PHRD grant has of late been satisfactory and consulting teams have carried out most tasks in their original terms of references. About US\$2.1 million has been committed, although actual disbursement is currently about US\$520,000 and another US\$140,000 is being processed for disbursements.
4. **Link to PH-PTF-funded Grant.** The PHRD grant is linked to a US\$3.2 million grant from the Australia – World Bank Philippines Development Trust Fund (PH-PTF) for Studies for Sustainable Flood Management (P145391). This grant



closed on December 31, 2018, with as main output a feasibility study, detailed design, design drawings, and bidding document for the proposed Marikina Dam.

5. Flood management infrastructure is needed to temporarily store flood waters so that the remaining water can be conveyed safely through the city into Laguna de Bay and Manila Bay. The proposed Marikina Dam will be a key structure, but by itself will not be able to avoid flooding in the city caused by a 100-year rainfall event. The proposed interventions identified under the PHRD grant, in particular a retention basin, will also be needed.
6. Since the two grants are linked, the Bank agreed, as part of the 2018 restructuring, that the services required under the PHRD grant for the design of flood protection works in the Upper Marikina River could be contracted through an amendment of the contract with the technical consulting firm that was designing the Marikina Dam. The rationale was that the Marikina Dam and the flood protection works in the upstream part of the Marikina River are inter-related and considered a natural continuation of the works. Much of the hydrological and other data collected by the consultants, the mathematical modeling, and other design aspects of the dam were to be used for the Upper Marikina River flood protection works as well. In other words, both designs had to be fully synchronized.
7. **Current Status of Implementation of PHRD Grant.** Three consulting teams have been recruited under the PHRD Grant, a technical consulting firm, social and environmental (S&E) consultants, and a consulting firm for flood forecasting and early warning. As per agreed terms of references (ToR), the technical consulting firm and the S&E consultants focused on interventions downstream of the Marikina Dam, in particular a retention basin. The consulting firm for the flood forecasting and early warning focused on Metro Manila's main river basins that still have inadequate flood forecasting and early warning facilities, including lack of radio telemetric rain and water level monitoring stations and early warning systems that are effective in reaching people in a timely manner. The latter is especially important for the Pasig-Marikina River Basin as the construction of the proposed flood management infrastructure will change the river flood regime and could have major negative impacts in case of an emergency. The three consulting teams have made good progress and are expected to deliver their main outputs by the end of January 2020. The outputs would include the feasibility study and draft design for the retention basin, related safeguards studies, and a plan for flood forecasting and early warning.
8. **Rationale for Closing Date Extension and Action Plan.** As indicated, the feasibility study financed by the PHRD grant focused on a retention basin between the San Mateo Bridge and Montalban Bridge, as also suggested in the Master Plan. Mathematical modeling showed that the capacity of the retention basin would have to be around 20 million m³ to reduce flood risks associated with a 100-year rainfall event, in conjunction with the proposed Marikina Dam. Land was identified between the two bridges on the right bank of the river. However, since the land area is restricted to about 140 ha and the required storage volume is large, deep excavation, substantially below the adjacent river bed, would be required, as well as the construction of large intake and outlet structures and a high capacity pumping station. The deep excavation of the retention basin would lead to river seepage and inflow of groundwater from higher areas. Although complicated, it would be technically feasible to construct such large retention basin, but it would have high operation and maintenance costs due to the constant need for pumping. It would be technically and operationally better not to excavate below river bed level, which would mean that the storage volume of the retention basin would have to be limited to around 12 million m³ and combine that with upstream storage. Several options have been considered, including heightened of the Marikina Dam or two small additional dams on tributaries of the Pasig-Marikina River. A pre-Project Concept Note (PCN) meeting was held for the proposed Bank project which will use the findings of the reports financed through this PHRD grant. In that meeting, that was chaired by the Country Director and attended by the Regional Director of Sustainable Development, a recommendation was made to focus on heightening of the proposed Marikina Dam, if feasible, by about 6-7 meters to about 81 meters. This would hold



additional water and preclude the need for a deeper retention basin. The task team has now identified that this would be possible, but an update of the Marikina Dam design would be needed, which would be done under this proposed additional time.

9. The proposed action plan does not include any new procurement of consultants. Each of the consulting firms with active contracts will have to carry out additional works related to the heightening of the Marikina Dam that was not envisaged in their original ToRs. DPWH, consultants, and the task team have already discussed the revisions of the ToRs and contract costs implications that will be finalized as soon as the decision is made on the proposed restructuring. The technical consultants will have to add some additional staff related to dam designs. As mentioned, the technical firm that is now working on the retention basin is the same as the one that designed the original dam, and the firm will bring back the dam designers that were involved earlier. They will mobilize as soon as decision on this restructuring is made, while the processing of the addendum to the contract is being one in parallel. The addendum will include the additional tasks and outputs and contract cost increase to update the important design aspects of the dam. The first task would be the update of the feasibility study, required by National Economic and Development Authority (NEDA) (see below), by the end of Q1 of 2020, followed by an update of the dam design by the end of June 2020. The environmental and social consultants and the flood forecasting consultants have all required staff in place. They have agreed to start the additional works immediately, while the addendums to the contracts are being processed. The ToR would have to be amended to update the ESIA and other safeguards documents for a heightened Marikina Dam. This would also require a contract addendum and additional time until the end of June 2020 to complete all safeguards documents. The firm working on the flood forecasting and early warning would be requested to take into account a higher Marikina Dam and the impact in case of an emergency, e.g. a dam break during an earthquake event. This additional work would require some change to the original ToR and about three months additional time, i.e. until the end of April 2020. The addendums to the three contracts would be financed from the uncommitted US\$600,000 from the PHRD grant. Based on these discussions and commitments, it can be concluded that the actions to be taken will allow a quick start with the additional activities.
10. **Rationale for Flexible Ceiling of Designated Account.** The current ceiling of the Designated Account (DA) is US\$300,000. Considering that many payments remain to be made to consultants and the time-consuming process to request and receive funds in the DA, an increase in the ceiling to US\$700,000 was requested by government to ensure that all payments can be made in the relatively short remaining grant implementation period plus the four months grace period. The Bank has recommended that the DA ceiling be made flexible based on the six-month cash disbursement projection for project activities. There are no outstanding audits.
11. **Importance of the PHRD Studies for the Proposed Pasig-Marikina River Basin Flood Management Project.** The Government of the Philippines recently requested Bank support to finance the identified interventions in the basin through the proposed Pasig-Marikina River Basin Flood Management Project (PMRBFBMP; P171897). The proposed project is included in the Philippines Country Partnership Framework for the period July 2019 to December 2023 (CPF, Report No. 143605-PH, approved on December 17, 2019), in particular Focus Area #3: Addressing Core Vulnerabilities by Promoting Peace and Building Resilience and Objective #10: Increased resilience to natural disasters and climate change. The total project cost estimate is US\$700 million for structural measures (large dam and a retention basin; catchment rehabilitation; sediment management; and early warning systems), non-structural measures (inundation mapping, emergency response planning), and support to indigenous people living in the project area. The activities that are being financed under the PHRD grant and the proposed additional works will be key inputs for the preparation of the PMRBFBMP. The estimated investments that will be generated by the PHRD grant, including the heightened dam, are about US\$600 million. A PCN meeting is scheduled for January 29, 2020, after which the Bank team will start the formal project preparation process. Government's internal approval process, through NEDA's Investment



Coordination Committee (ICC), has started but for it to be completed, updated feasibility studies will be needed. As mentioned above, these updates will be the first task after approval of the proposed closing date extension. Based on discussions with DPWH and NEDA, it is expected that the government approval for the proposed project can be obtained late Q2 or early Q3 of 2020.

12. Conclusions. The recent change in technical scope to a smaller retention basin and a heightened Marikina Dam will require additional time by the various teams of consultants and some increase in contract costs, for which about US\$600,000 uncommitted grant funds are available. Implementation and completion of the activities funded by the PHRD grant are of significant importance as they will facilitate the design of critical flood protection works along the Pasig-Marikina River. A satisfactory completion of the described activities will be important inputs for the preparation of the PMRBMP and will allow an early start of project implementation.

II. DESCRIPTION OF PROPOSED CHANGES

13. This restructuring proposes for the following changes:

- (a) **Change in Results Framework.** The dates of the achievement of the indicators have been adjusted to the new proposed closing date.
- (b) **Change in Closing Date.** A five-month closing date extension from January 31, 2020 to June 30, 2020 to complete the activities that will be funded by the PHRD grant.
- (c) **Change in Disbursement Arrangements and Estimates.** The DA ceiling will be made flexible based on the six-month cash disbursement projection for project activities and disbursement estimates have been updated.
- (d) **Change in Implementation Schedule.** With the proposed Grant closing date extension, the implementation schedule will be updated accordingly, with all tasks to be completed by the end of June 2020.
- (e) **Update of ISDS.** The original ISDS was prepared outside the Portal and the update of the ISDS was again done outside the Portal. The Portal doesn't show that the project is currently a Cat. A and none of the policies shows as triggered. It will be ensured that the ISDS will be disclosed after RVP decision.

III. SUMMARY OF CHANGES

	Changed	Not Changed
Results Framework	✓	
Loan Closing Date(s)	✓	
Disbursements Arrangements	✓	
Disbursement Estimates	✓	
Implementation Schedule	✓	
Implementing Agency		✓
Project's Development Objectives		✓
Components and Cost		✓



Cancellations Proposed		✓
Additional Financing Proposed		✓
Reallocation between Disbursement Categories		✓
Change in Overall Risk Rating		✓
Safeguard Policies Triggered		✓
EA category		✓
Legal Covenants		✓
Institutional Arrangements		✓
Financial Management		✓
Procurement		✓
Other Change(s)		✓

IV. DETAILED CHANGE(S)

RESULTS FRAMEWORK

Project Development Objective Indicators

Proposals for Upper Marikina River structural measures fully designed that are technically, economically, socially, and environmentally sound and that are ready for appraisal.

Unit of Measure: Number

Indicator Type: Custom

	Baseline	Actual (Current)	End Target	Action
Value	0.00	0.00	2.00	Revised
Date	22-Dec-2014	31-Dec-2019	30-Jun-2020	

Proposals for an integrated flood forecasting and early warning system fully designed and ready for appraisal.

Unit of Measure: Number

Indicator Type: Custom

	Baseline	Actual (Current)	End Target	Action
Value	0.00	0.00	1.00	Revised
Date	22-Dec-2014	31-Dec-2019	30-Apr-2020	

Proposals for institutional arrangements for sustainable flood management in the Greater Metro Manila Area acceptable to the Government of the Philippines and key stakeholders and ready for implementa



Unit of Measure: Number
Indicator Type: Custom

	Baseline	Actual (Current)	End Target	Action
Value	0.00	0.00	1.00	Revised
Date	22-Dec-2014	31-Dec-2019	30-Jun-2020	

Intermediate Indicators

Feasibility study for the proposed interventions in Upper Marikina River completed.

Unit of Measure: Number
Indicator Type: Custom

	Baseline	Actual (Current)	End Target	Action
Value	0.00	1.00	2.00	Revised
Date	22-Dec-2014	31-May-2019	29-Feb-2020	

Mid-term report with draft proposals for institutional arrangements for sustainable flood management completed.

Unit of Measure: Number
Indicator Type: Custom

	Baseline	Actual (Current)	End Target	Action
Value	0.00	0.00	1.00	Revised
Date	22-Dec-2014	31-Dec-2019	30-Apr-2020	

LOAN CLOSING DATE(S)

TF	Status	Original Closing	Revised Closing(s)	Proposed Closing	Proposed Deadline for Withdrawal Applications
TF-18611		31-Jan-2017	31-Jan-2018, 31-Jan-2020	30-Jun-2020	30-Oct-2020

DISBURSEMENT ESTIMATES

Change in Disbursement Estimates

Yes



Year	Current	Proposed
2018	100,000.00	300,000.00
2019	1,000,000.00	0.00
2020	1,630,000.00	2,400,000.00