

Country Name	- Project on Capacity Development for RBOs in Practical Water Resources Management and Technology
Republic of Indonesia	- Project on Capacity Development for River Basin Organizations in Integrated Water Resources Management in the Republic of Indonesia (Phase 2)

I. Project Outline

Background	<p>Indonesia was faced with water-related issues such as water shortages in rural and urban areas due to delays in water resource management. In this regard, the Water Resource Law No.7/2004 was enacted to strengthen water resource management in the country by means of managing water resources by river basin. River Basin Organizations (RBOs) were established to cover all the river basins so as to fulfill the aim of the Water Resource Law. The Minister of Public Works established 30 RBOs and the local government also established 57 RBOs under the respective jurisdictions in 2008. The main functions and responsibilities of RBOs were to plan, construct, operate and maintain water resources infrastructure such as dams, weirs and canals to meet the needs of various water users and to control floods. However, RBOs were not able to fully play their expected roles and responsibilities due to a lack of human resources and institutional capacities.</p> <p>In response to that issue, Ministry of Public Works and Housing made a plan to establish the Dissemination Unit for Water Resources Management and Technology (DUWRMT) for strengthening RBO's practical capacity in water resource management and requested JICA for supporting their initiatives through a technical cooperation project.</p>				
Objectives of the Project	<p>Through development of Capacity Development (CD) Plans and implementation and periodic evaluation of the CD activities, the project aims at improvement of the capacity of RBOs on the Integrated Water Resources Management (IWRM), thereby contributing to continuous enhancement of the capacity of RBOs through the developed Capacity Development Framework (CDF).</p> <p><Phase 1></p> <ol style="list-style-type: none"> 1. Overall Goal: The Capacity of RBOs related to implementation of practical water resource management is enhanced at the basin level. 2. Project Purpose: The capacity development system for RBOs by DUWRMT in practical water resources management is established. <p><Phase 2></p> <ol style="list-style-type: none"> 1. Overall Goal: The capacity of RBOs on IWRM is continuously enhanced through the developed Capacity Development Framework (CDF). 2. Project Purpose: The capacity of RBOs on IWRM is improved through the upgraded mechanism of the capacity development activities for RBO. <p>Note: RBOs are classified to Large River Basin Organization (Balai Besar Wilayah Sungai: BBWS) and River Basin Organization (Besar Wilayah Sungai: BWS) according to the scale of rivers.</p>				
Activities of the Project	<ol style="list-style-type: none"> 1. Project Site: <ul style="list-style-type: none"> <Phase 1> River basin managed by RBOs under the central government <Phase 2> Jakarta, Bandung, Solo, Field Practice (FP) sites (BBWS Ciliwung Cisadane and BWS Sulawesi I) 2. Main Activities: <ul style="list-style-type: none"> <Phase 1> <ol style="list-style-type: none"> 1) Executing the Training to RBOs, 2) Developing the guidelines/manuals on practical water resources management, 3) Establishing mechanism of counselling to RBOs, and so on. <Phase 2> <ol style="list-style-type: none"> 1) Developing short and middle term CD plans, carrying out CD activities, and improving each CD plan based on the field practices, 2) Periodic capacity evaluation of RBOs and inspection of CD activities' performance to review and reflect on the CD plan, 3) Organizing workshop and seminar for the use of CDs. 3. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>Japanese Side</p> <p><Phase1></p> <ol style="list-style-type: none"> 1) Experts: 14 persons 2) Trainees Received: 21 persons 3) Equipment: Vehicle for site survey, Simple measuring instruments for watershed monitoring, etc. 4) Operating cost <p><Phase2></p> <ol style="list-style-type: none"> 1) Experts: 10 persons 2) Trainees Received: 31 persons 3) Equipment: Precipitation Transmitter with Data Taker, Water Level Sensor </td> <td style="width: 50%; vertical-align: top;"> <p>Indonesia Side</p> <p><Phase1></p> <ol style="list-style-type: none"> 1) Staff Allocated: 34 persons 2) Land and facilities: Office space in PU for expertise 3) Operation cost. training cost to RBOs, traveling expenses, etc. <p><Phase2></p> <ol style="list-style-type: none"> 1) Staff Allocated: 17 persons 2) Land and facilities: Office space 3) Operation cost: Cost for training to RBO and monitoring etc. </td> </tr> </table> 			<p>Japanese Side</p> <p><Phase1></p> <ol style="list-style-type: none"> 1) Experts: 14 persons 2) Trainees Received: 21 persons 3) Equipment: Vehicle for site survey, Simple measuring instruments for watershed monitoring, etc. 4) Operating cost <p><Phase2></p> <ol style="list-style-type: none"> 1) Experts: 10 persons 2) Trainees Received: 31 persons 3) Equipment: Precipitation Transmitter with Data Taker, Water Level Sensor 	<p>Indonesia Side</p> <p><Phase1></p> <ol style="list-style-type: none"> 1) Staff Allocated: 34 persons 2) Land and facilities: Office space in PU for expertise 3) Operation cost. training cost to RBOs, traveling expenses, etc. <p><Phase2></p> <ol style="list-style-type: none"> 1) Staff Allocated: 17 persons 2) Land and facilities: Office space 3) Operation cost: Cost for training to RBO and monitoring etc.
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Project Period	<p><Phase 1> (ex-ante) July 2008-July 2011 (37months) (actual) July 2008-July 2011 (37months)</p> <p><Phase 2> (ex-ante) July 2014-July 2018 (49months) (actual) January 2015-January 2019 (49months)</p>	Project Cost	<p><Phase 1> (ex-ante) 240 million yen (actual) 267million yen</p> <p><Phase 2> (ex-ante) 370 million yen (actual) 209 million yen</p>		

Implementing Agency	<p><Phase 1></p> <ul style="list-style-type: none"> Dissemination Unit for Water Resources Management and Technology (DUWRMT)*, Ministry of Public Works * DUWRMT was later reorganized to Center for River Basin Organization and Management (CRBOM) in December 2013, and then Ministry of Public Works was re-organized to Ministry of Public Works and Housing (MOPWH) in April 2015. In addition, there was another reorganization in 2020 and now as the Directorate of Operation and Maintenance, under the Directorate General of Water Resources (DGWR), MOPWH. <p><Phase 2></p> <ul style="list-style-type: none"> Directorate General of Water Resources (DGWR), Ministry of Public Works and Housing (MOPWH) Research and Development Agency (RDA)**, MOPWH ** The organization is no longer exist and has been integrated under the Directorate General of Water Resources. Human Resources Development Agency (HRDA)***, MOPWH *** HRDA was designated as the implementing agency after April of 2015.
Cooperation Agency in Japan	<p><Phase 1,2></p> <p>Ministry of Land, Infrastructure, Transportation and Tourism, Japan Water Agency</p>

II. Result of the Evaluation

<Special Perspectives Considered in the Ex-Post Evaluation>

- The two phases of the technical cooperation projects were evaluated as one project. Since the activities of Phase 2 were designed and implemented based on the outcomes of Phase 1, the effectiveness of the projects is evaluated using the indicators of the Project Purpose and the Overall Goal of Phase 2.
- Overall Goal has the same indicators of Project Purpose, so “Continuation Status of Project Effects at the Time of Ex-Post Evaluation” should be evaluated under “Status of Achievement of the Overall Goal at the Time of Ex-Post Evaluation”. Then, the achievement status of Overall Goal is judged based on the achievement status of the indicators of the Project Purpose between the time of project completion and the time of the ex-post evaluation.

1 Relevance/Coherence

[Relevance]

<Consistency with the Development Policy of Indonesia at the Time of Ex-Ante Evaluation >

The project was consistent with the development policies of Indonesia such as “the Water Resources Law No.7/2014”, “The Medium-Term National Development Plan (2004-2009)”, and “The Medium-term National Development Plan (2010-2014)” identifying infrastructure development as one of the priority areas in terms of socioeconomic growth as well as aiming to improve water resources management including flooding.

<Consistency with the Development Needs of Indonesia at the Time of Ex-Ante Evaluation >

The project was consistent with the development needs of Indonesia for strengthening water resource management in the country by means of managing water resources by river basins.

<Appropriateness of Project Design/Approach>

The project design/approach was appropriate. No problem attributed to the project design/approach was confirmed.

<Evaluation Result>

In light of the above, the relevance of the project is ③¹.

[Coherence]

<Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with the Japan’s Country Assistance Policies for Indonesia (2004 and 2014) to address “Building a Democratic and Just Society” which includes “Assistance in development measures to combat natural disasters such as frequent flooding, mud slides and droughts (2004 policy) and “Assistance for correction of inequality and establishment of a safe society” (2014 policy) as one of the priority areas.

<Collaboration/Coordination with other JICA’s interventions>

Although collaboration/coordination between the project and other JICA’s intervention was not clearly planned at the time of ex-ante evaluation, the JICA Indonesia office worked on interlinkage with other on-going JICA Projects during the project implementation period such as Urban Flood Control System Improvement in Selected Cities (ODA Loan Project) (Signing of L/A in 2009), the Project for Capacity Development of Jakarta Comprehensive Flood Management (Technical Cooperation Project 2010-2013) and The Project for Assessing and Integrating Climate Change Impacts into the Water Resources Management Plans for Brantas and Musi River Basins (Technical Cooperation Project 2013-2020). Through the above collaboration, synergy effects have been well realized. For example, the ODA loan project upgraded the administrative capabilities of the target BWS involved in the preparation of master plans and flooding maps in conjunction with the infrastructure development. This helped to enhance the operation and maintenance capacity of BWS Sulawesi I which was in charge of one of the project sites, and facilitated the smooth implementation of the project. Also, the lessons learned from the above technical cooperation projects were reflected in the guidelines developed by this project.

<Cooperation with other institutions/ Coordination with international framework>

The cooperation/coordination with other institutions was not clearly planned at the time of ex-ante evaluation. During the project implementation, there was an ongoing project of capacity building for RBO by ADB in MOPWH. Although, there was not any direct cooperation with JICA projects, both projects have contributed to the capacity development of RBOs.

<Evaluation Result>

In light of the above, the coherence of the project is ③

[Evaluation Result of Relevance/Coherence]

In the light above, the relevance/coherence of the project is ③.

2 Effectiveness/Impact

¹ ④:very high, ③:high, ②:moderately low, ①:low *To be the same afterwards.

<Status of Achievement of the Project Purpose at the Time of Project Completion>

At the time of project completion, the Project Purpose was almost achieved as planned. The number of CD training and seminar for all RBOs were 15 with 414 participants during the three years from 2016 to 2018. Also, the number of CD training and seminar for FP sites which included on-the-job training (OJT) was 65 with 70 participants during the same period. Although no target value for indicator 1: “Number of capacity development activities to RBOs per year” was set, the number of training and seminar per year tended to increase (indicator 1). Similarly, although no target value for indicator 2: “Benchmarking Score²” was set, 28 BBWS/BWS improved the score among all 34 RBOs evaluated. The average of improved score was 0.47 point from 2015 to 2018. Meanwhile, 4 BBWS/BWS did not conduct benchmarking every year, and 2 BBWS did not improve the score from 2015 to 2018 (Indicator 2).

<Continuation Status of Project Effects at the Time of Ex-Post Evaluation>

The Status of Project Effects at the Time of Ex-Post Evaluation has been partially continued.

<Status of Achievement of the Overall Goal at the Time of Ex-Post Evaluation>

At the time of ex-post evaluation, the Overall Goal has been partially achieved. HRDA, an implementing agency of the project, has continued to conduct CD training, seminar and workshop every year, which are not only targeted for RBOs, but are also open to staff from various Directorates including DGWR. Usually each training has fewer than 50 participants. The number of CD training, seminar, and workshop conducted by HRDA has fluctuated due to a limited budget allocation by MOPWH. On the other hand, the Directorate of Operation and Maintenance (O&M), DGWR, which was reorganized from the Directorate of Water Resource Management, has conducted training related to capacity development specifically on the Benchmarking annually by utilizing the guidelines developed by the project as the references (indicator 1). And most of RBOs slightly improved their benchmarking score from 2018 to 2021 (slightly improved: 31 RBOs, slightly declined: 2 RBOs, unknown: 1 RBO). The average score of all RBOs improved from 2.93 in 2018 to 3.24 in 2021 which represents an improvement of 0.31 points in the three years after the completion of Phase 2 (indicator 2).

<Other Impacts at the Time of Ex-Post Evaluation>

No negative impact on natural environment was observed.

<Evaluation Result>

Normally, the overall goal should be set above the project purpose, but in the case of this project, the continuity of the project purpose is deemed as the overall goal, which is at a lower level than the normal projects. Thus, the achievement target for the overall goal is set at a lower level than usual. This means the overall goal of this project is easier to be achieved than the normal projects. On the other hand, the growth rate of the benchmarking score after the project completion, which is an indicator of overall goal, has slowed down comparing to the project completion.

In light of the above, the effectiveness/impact of the project is ②.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results	Source																																		
(Project Purpose) The capacity of RBOs on IWRM is improved through the upgraded mechanism of the capacity development activities for RBOs	Indicator 1 Number of capacity development activities to RBOs per year	<p><u>Status of the Achievement (Status of the Continuation): mostly achieved as planned (partially continued)</u> (Project Completion)</p> <ul style="list-style-type: none"> The number of CD training and seminar for all RBOs were 15 with 414 participants during the three years from 2016 to 2018. The number of CD training and seminar for FP sites were 65 with 70 participants during the same period. The numbers of training and seminar per year tended to increase. <p><Number of CD training and seminar for all RBOs and FP sites></p> <table border="1"> <thead> <tr> <th rowspan="2">Year</th> <th colspan="2">For all RBOs</th> <th colspan="2">For FP sites</th> <th rowspan="2">Per Year</th> </tr> <tr> <th>Training</th> <th>Seminar</th> <th>BBWS Ciliwung Cisadane</th> <th>BWS Sulawesi I</th> </tr> </thead> <tbody> <tr> <td>2016</td> <td>8</td> <td>-</td> <td>-</td> <td>-</td> <td>8</td> </tr> <tr> <td>2017</td> <td>4</td> <td>-</td> <td>-</td> <td>18</td> <td>22</td> </tr> <tr> <td>2018</td> <td>2</td> <td>1</td> <td>13</td> <td>24</td> <td>40</td> </tr> <tr> <td>Total</td> <td>14</td> <td>1</td> <td>13</td> <td>52</td> <td>-</td> </tr> </tbody> </table> <p>Note: CD training and seminar for FP sites are included OJT.</p> <p>(Ex-Post Evaluation)</p> <ul style="list-style-type: none"> Refer to Indicator 1 of Overall Goal. 	Year	For all RBOs		For FP sites		Per Year	Training	Seminar	BBWS Ciliwung Cisadane	BWS Sulawesi I	2016	8	-	-	-	8	2017	4	-	-	18	22	2018	2	1	13	24	40	Total	14	1	13	52	-	Source: Project completion report (Phase2)
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	Indicator 2 Benchmarking Score	<p><u>Status of the Achievement (Status of the Continuation): mostly achieved as planned (continued)</u> (Project Completion)</p> <ul style="list-style-type: none"> Among all 34 RBOs evaluated, 28 BBWS/BWS improved the score. An average of improved score was 0.47 from 2015 to 2018. 4 BBWS/BWS did not conduct benchmarking every year, and 2 BBWS did not improve the benchmarking score from 2015 to 2018 <p>(Ex-Post Evaluation)</p> <ul style="list-style-type: none"> Refer to Indicator 2 of Overall Goal. 	Source: Project completion report (Phase2)																																		
(Overall Goal) The capacity of RBOs on IWRM is continuously enhanced through the	Indicator 1 Number of capacity development activities to RBOs per year	<p>(Ex-Post Evaluation) <u>partially achieved</u></p> <ul style="list-style-type: none"> HRDA has continued to conduct CD training, seminar and workshop every year, which are not only targeted for RBOs, but are also open to staff of various Directorates including DGWR. The number of CD training, seminar, and workshop conducted by HRDA 	Source: Annual Report of the Directorate Operation and Maintenance																																		

² The Benchmarking Score is categorized into 15 indicators including the indicators relating involvement of water users, technical development, data processing, financial efficiency, and so on.

developed Capacity Development Framework (CDF)		has fluctuated due to a limited budget allocation by MOPWH.																									
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3 Efficiency

Both the project cost and the project period were within the plan (the ratio against the plan:78 % and 100 %). According to Project Completion Report, activities in RBO conducted during Phase 2 are well planned and carefully managed. This resulted in relatively low cost of the project implementation. Outputs were produced as planned.

In the light above, the efficiency of the project is ④.

4 Sustainability

<Policy Aspect>

Law No. 5/2014 on state civil apparatus mentions that state civil apparatus has a right to capacity development. The Water Resources, Law No. 11/1974 describes the water resource management. As a follow-up, the Strategic Plan, which presents the vision and mission of DGWR, has reflected the need for capable officers to manage river basin areas to achieve integrated water resources management.

<Institutional/Organizational Aspect>

HRDA, MOPWH was established in 2015 during the project implementation period to concentrate on providing high-quality training which was formerly done by different parts of MOPWH. Now HRDA is responsible for planning and implementation of all human resource development activities for MOPWH staff. In DGWR, the Directorate of O&M is responsible for policy implementation, technical guidance and supervision in the field of development planning and O&M of water resources of river basin. Also, the Directorate of Water Resources Engineering Development has been assigned to prepare norms, standards, and procedures and provide technical guidance as well as supervise the field of technical and non-technical development of water resources. The Directorate of O&M is in the position to provide a budget and implement the annual program for evaluating benchmarking scores of all RBOs and to support HRDA technically to implement training on IWRM for all RBOs' and MOPWH staff.

With regards to the number of staff, HRDA has approximately 900 staff. It is difficult to identify the number of staff only in charge of the training implementation on RBO since they open training to various sectors in MOPWH. However, considering that all formulation and planning is conducted by their head quarter in Jakarta and that the division tasks are clearly defined with an emphasis on implantation in representative offices in 9 cities, it is considered that the number of staff of HRDA is sufficient in terms of continuing the capacity development training for RBOs. Furthermore, HRDA can also sometimes invite staff from other related directorates as a lecturer or trainer. Regarding the Directorate of O&M, they have a limited number of staff members (less than 10) in charge of directly conducting benchmarking evaluations to RBOs. However, when evaluating benchmarking, there is a system in which the Directorate of O&M can request human resources support from other directorates and consult on some issues if necessary. As for The Directorate of Water Resources Engineering Development, they are not in a position to organize training, but they technically support the capacity development training for RBOs by dispatching a staff as a trainer.

<Technical Aspect>

HRDA and the Directorate of O&M has been implementing training with the support of the Directorate of Water Resources Engineering Development. The technical materials such as the guidelines and manuals on practical water resources management developed by the project have been continuously utilized as their reference to implement their task by the Directorate of Water Resources Engineering Development and to evaluate Benchmarking, as well as to support training implemented by HRDA. According to MOPWH, the technical materials developed by the project contain basic concept and comprehensive structure for the relevant engineering materials based on the Japanese experiences which are very important to improve the basic understanding of IWRM. Meanwhile, the number of capacity development activities in HRDA may be affected by the budgetary situation of MOPWH in the future. Under such circumstances, there are other opportunities for RBO staff to maintain, enrich and improve their technical capacity through participating to the training programs organized by other counterparts (e.g. other Indonesian ministries and agencies) and foreign donors. However, due to the complexity of internal procedure in MOPWH for applying to such training opportunities, the candidates sometimes discourage to apply the training program or also failed to meet the registration deadline. Therefore, it is necessary to improving and simplify the internal procedure of MOPWH in order to promote their staff to the training opportunities outside of the ministry.

<Financial Aspect>

During the three years between 2019 and 2022, the budgets for DGWR and HRDA have fluctuated. The Directorate of O&M. DGWR has been allocated the budget for training and evaluation on Benchmarking for RBOs annually. Meanwhile, the technical training for RBOs on river management and O&M of water resources is to be provided by HRDA. Therefore, it is uncertain at the time of ex-post evaluation whether the sufficient budget for RBOs' technical training will be allocated to HRDA stably and continuously or not since it depends on the future budget situation of MOPWH.

<Environmental and Social Aspect>

No negative impact on the natural environment was observed.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the financial aspect, and slight problems have been observed in the

institutional/organizational aspect and the technical aspect of the implementing agency. Therefore, the sustainability of the project effects is ③.

5 Summary of the Evaluation

The project achieved Project Purpose as planned to improve the capacity of RBOs on IWRM through the upgraded mechanism of the capacity development activities for RBOs, and partially achieved Overall Goal to continuously enhance the capacity of RBOs on IWRM through the developed Capacity Development Framework. As for sustainability, slight problems have been observed in terms of the financial aspect.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- It is suggested that the budget of the Directorate of O&M be allocated to continue the training on IWRM for RBOs and maintain the established capacity of RBOs by the project.
- It is suggested that HRDA could continuously improve the content of the training considering the flood occurrence due to climate change as well as the modernization of the technology to meet the needs of RBOs officials. In addition, the simplification of permission approval for the RBO staff in MOPWH needs to be highly considered to smoothen the application for joining both internal or external training programs organized by other counterparts or donors.

Lessons Learned for JICA:

- In December 2017, the indicators for Overall Goal and Project Purpose were changed, and following the changes, the indicators for Overall Goal have been totally the same as those of Project Purpose. Also, no concrete target value was set for indicators for Overall Goal and Project Purpose. However, the reason for the above changes was not stated in the reports. These made it difficult to evaluate the achievement status of Project Purpose and Overall Goal objectively. When PDM is changed, information such as the reason for the change and the verification results about the rational and relevance of the new indicators should be recorded in a document such as a report.



Automatic Water Level Recorder installed in BWS Sulawesi I.



RBO's staff is checking equipment in BWS Sulawesi I.



Benchmarking evaluation in Palembang City in 2018



Online benchmarking evaluation in BWS Sumatra V Padang in 2022