



## 1. Project Data

<b>Project ID</b> P156125	<b>Project Name</b> National Urban Water Supply Project		
<b>Country</b> Indonesia	<b>Practice Area(Lead)</b> Water		
<b>L/C/TF Number(s)</b> IBRD-88720	<b>Closing Date (Original)</b> 31-Dec-2022	<b>Total Project Cost (USD)</b> 95,425,789.39	
<b>Bank Approval Date</b> 06-Jun-2018	<b>Closing Date (Actual)</b> 30-Nov-2024		
	<b>IBRD/IDA (USD)</b>	<b>Grants (USD)</b>	
Original Commitment	100,000,000.00	0.00	
Revised Commitment	95,497,718.93	0.00	
Actual	95,497,718.93	0.00	
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## 2. Project Objectives and Components

### a. Objectives

The Project Development Objectives in the PAD (p.8) are: (i) provide access to improved water sources for the population, and (ii) strengthen the operational performance of water service providers in selected urban areas. The Financing Agreement for the loan (p. 5) has the same objectives. This review has assessed the PDO achievement in terms of the following two objectives:

- i. provide access to improved water sources for the population, and



ii. strengthen the operational performance of water service providers in selected urban areas.

**b. Were the project objectives/key associated outcome targets revised during implementation?**

No

**c. Will a split evaluation be undertaken?**

No

**d. Components**

**Component 1: Investment Support for Urban Water Supply Infrastructure Development.** (US\$560 million at appraisal, and US\$1,038 million actual). Activities financed under this component included seed grants, matching grants, and performance-based grants to support infrastructure investments to expand coverage. Seed grants target low-capacity Perusahaan Daerah Air Minum (Local Water Supply Enterprise) (PDAMs) for capital investments. Matching grants encouraged financially capable PDAMs to access non-government financing, such as domestic banks, regional infrastructure funds, private sector investments, and capital markets. Performance-based grants, built on the government's existing Water Hibah program, to reward PDAMs that achieve efficiency and service improvements such as additional household connections, NRW reduction, improved collection efficiency, development of business and investment plans, etc. (PAD, p. 51). The IBRD financing of (US\$70 million at appraisal, US\$67.8 million actual) was prioritized to finance the grant mechanisms above (PAD, p. 8). The non-IBRD financing from central government (US\$75 million at appraisal), local government (US\$100 million at appraisal), and other government infrastructure funding sources and non-government funding (US\$315 million at appraisal) (PAD, p. 12) financed infrastructure investments. It was not clear if these funds were channeled through the grant mechanisms, with the exception of the government's existing Water Hibah program, which is an output-based financing program. At project closing, there was no breakdown in the ICR of non-IBRD financing sources and what mechanisms used to channel the funds. Of the reported US\$1,038 million that financed infrastructure through this component, US\$67.8 million from IBRD went through grant mechanisms, US\$160 million came from the private sector, and US\$810.5 million from various government funding sources, both central and local, some of which went through the Water Hibah program, but the amount is not reported. There was no explicit mention of other donor funding.

**Component 2: Technical Assistance and Capacity Building for Local Governments and PDAMs.** (US\$15 million at appraisal, and US\$22.6 million actual). Activities financed under this component included training in water safety planning, climate-resilient urban water management, utility reform, competency-based human resources development, utility financing, citizen engagement, and inclusive services for the poor. This component supported the development of new modules and training through the Government's Center of Excellence, targeting staff from up to 200 local governments (LG) and PDAMs. The component financed field-level assistance to LGs and PDAMs to collect and report data, identify investment and capacity needs, prepare proposals, and improve operational and financial performance. The component also financed a Technical Assistance and Capacity Building Team at the central level to support proposal review, monitoring, and alignment with water supply master plans and business plans. The estimated cost for this component at appraisal was US\$15.5 million of which US\$10 million was IBRD (64 percent). The actual cost was US\$22.6 million, of which US\$5.9 million was IBRD (26 percent).

**Component 3: Advisory and Policy Development Support for Central Government.** (US\$6.8 million at appraisal, and US\$1.36 million actual). Activities financed under this component included developing



policies and operational guidelines for urban water management, utility governance, private sector involvement, performance-based financing, performance-based contracting, financing mechanisms, and inclusive services. Advisory teams will provide technical support to improve monitoring and evaluation systems for LGs/PDAMs, guide policy reform, and ensure systematic tracking of sector performance towards universal access targets. Additional activities include developing complementary instruments, supporting regulatory alignment, and coordinating with donors to enhance national-level urban water management strategies. The estimated cost for this component at appraisal was US\$6.8 million, of which US\$5 million was IBRD (74 percent). The actual cost was US\$1.36 million of which US\$1.19 million was IBRD (88 percent).

**Component 4: Project Implementation and Management Support.** (US\$20.3 million at appraisal, and US\$23.23 million actual). Activities financed under this component included project management, communication and dissemination, screening and assessment of LGs and PDAM proposals, and monitoring and evaluation of project implementation. This component financed a Central Project Management Unit (CPMU) and Central Project Implementation Units (CPIUs), Regional Management and Advisory Consultants (RMACs) who provided technical and implementation support to provincial units and participating LGs and PDAMs, coordinated with the Technical Assistance and Capacity Building Team for training and capacity-building access, and oversaw Field Assistants and Provincial Coordinators. The component also included financing for monitoring the operationalization of the National Urban Water Supply Project (NUWAS) framework as a national platform, ensuring that lessons, reporting, and performance tracking extend beyond participating LGs/PDAMs. The estimated cost for this component at appraisal was US\$20.3 million of which US\$15 million was IBRD (74 percent). The actual cost was US\$23.23 million of which US\$20.58 million was IBRD (89 percent).

#### e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

**Cost:** The estimated total project cost at appraisal was US\$602.6 million. The actual total cost was US\$1,089 million. (ICR, p. 5 and 6). The financing table on page ii of the ICR double-counts the Borrower's contribution and is incorrect. Also, there is a slight discrepancy in the project costs at closing reported in the ICR between the table in Annex 3 and the figures reported on pages 5 and 6. The total project costs referenced above use the figures from pages 5 and 6 of the ICR.

**Financing:** At appraisal, the IBRD financing was estimated at US\$100 million. The amount disbursed at closing was US\$95.52 million. The government refunded the balance of the IBRD loan to the World Bank. The project disbursed 95.5 percent of the loan. The ICR reported that private sector financing totaled US\$160 million, and it included this amount in the Borrower's contribution (ICR, p. ii).

**Borrower Contribution:** The Borrower provided a total of US\$833.65 million in counterpart *public* financing. The ICR (p. ii) reports the Borrower's contribution as both public and non-public financing (US\$833.65 million + US\$160 million totaling US\$993.6 million).

**Dates:** The Project was approved on June 6, 2018, and became effective on August 8, 2018. The project closing date at appraisal was December 31, 2022, but the actual closing date was extended by 23 months until November 30, 2024, for a total implementation period of six years and six months. The project had two restructurings that included the following:



- In October 2022, a level 2 restructuring extended the project closing date by 15 months, modified a project indicator that recalculated the number of people per connection based on the statistical data from the district or municipalities, and reallocated loan proceeds between components.
- In April 2024, a second level 2 restructuring extended project closing date by 8 months, modified the indicator completion dates in line with the extended project implementation timeframe, reallocated loan proceeds between components, and adjusted disbursement estimates and the implementation schedule.

### 3. Relevance of Objectives

#### Rationale

Indonesia is an upper-middle-income country of about 285 million people in 2025, made up of over 6,000 inhabited islands, and was the world's tenth-largest economy in terms of purchasing power parity. According to the new international extreme poverty line, 5.4 percent of Indonesians were poor in 2024, 19.9 percent were poor according to the line typical of lower middle-income countries (LMICs), and 68.3 were poor according to the line typical of upper middle-income countries (UMICs) (World Bank)The Systematic Country Diagnostic (SCD) Update from 2020 identified poor and inequitable access to water supply as a constraint to growth. Under the SCD's Pathway II: Building More Infrastructure, Better, and Faster, it is suggested that water and sanitation be considered a priority area for investments in infrastructure. (SCD, p. 53). The Country Partnership Framework (CPF) at project close prioritized investments in water under Engagement Area II: Improve Infrastructure. The CPF's Objective 2.1: Improve infrastructure provision and quality of service, and its core indicator, the number of people benefiting from new or improved access to urban and rural infrastructure services, is directly linked to the project outcomes. The CPF explicitly identifies the project as a contributor to this core indicator. (CPF, p. 56) Additionally, the project contributes to Engagement Area I: Strengthen Economic Competitiveness and Resilience. This area has Objective 1.2: Increase efficiency, equity, and effectiveness of public spending. The project contributes to this objective given its focus on mobilizing resources from the central government to sub-national levels and incentivizing local water utilities to be financially sustainable through non-public capital mobilization.

Water supply remains a priority for the government. The project was initially supported by the government's National Medium Term Development Plan (2015-2019) to improve water service and strengthen the operational performance of providers. The current administration has an ambitious goal of achieving 100 percent access to safely managed drinking water by 2045. The government's Asta Cita (eight missions) identifies water self-sufficiency as a key factor to enhance national defense. Additionally, the government's 2025-2029 Medium Term Development Plan aims to achieve water self-sufficiency through increasing access to piped water supply.

The project was informed by its predecessor project, the Indonesia Urban Water Supply and Sanitation Project (UWSSP – P090991, 2009-2014). Lessons from UWSSP were incorporated, such as the focus on capacity building over direct infrastructure investment, focusing on tailored capacity building efforts based on the level of performance of PDAMs and strengthening central government capacity, together with LGs and PDAMs.



The PDOs of access to services and strengthening the operational performance of water utilities were appropriately identified at the outcome level, reflecting access to services and not just infrastructure. The PDOs were also appropriate for the country context, reflecting the needs of the government and an appropriate level of service. The rating for relevance of the PDOs is High.

## Rating

High

## 4. Achievement of Objectives (Efficacy)

### OBJECTIVE 1

#### Objective

To provide access to improved water sources for the population in selected urban areas.

#### Rationale

The theory of change (ToC) in the Implementation Completion Report (ICR, p. 4) identified the outcome to be improved water sources for the population in selected urban areas.

The inputs were financing of: (i) transfers from the central government to LGs and PDAMs through the provision of seed grants, matching grants, and performance grants; (ii) technical assistance to support PDAM and LGs to develop funding proposals; (iii) strengthening eligibility requirements to receive central government funding; and (iv) technical assistance to support LGs and PDAMs carry out the NUWAS self-assessment; and expressions of interest to participate in the program. (PAD, p. 8-9)

The expected outputs were: (i) expression of interest submitted, (ii) technical assistance provided and proposals developed and approved, and (iii) seed, matching, and performance grants issued, or non-public funds leveraged.

These outputs were expected to lead to outcomes such as expanded water supply connections and distribution.

These outcomes, in turn, are expected to lead to the PDO of people with increased access to improved water supply in urban areas, contributing to higher-level outcomes of improved health and living standards, and reduced poverty.

The ToC's activities, outputs, and outcomes were generally adequate to make the linkage with the PDO outcome target. Neither the PAD nor the ICR identified assumptions to complement the ToC. The proliferation of PDAMs serving small populations of less than 10,000 people (lack of economies of scale), the management of PDAMs as a LG revenue-generating enterprise where PDAMs pay dividends to LGs (financial sustainability challenges), and the potential for LG political interference in setting tariffs pose



challenges to effectively managing PDAMs sustainably. The ICR could have developed assumptions around these issues or others.

Given the size of the project and its geographic reach, the indicators in the results framework were simplified. Reporting on the number of PDAMs/LGs receiving grants reflected factual data collected under the project on entities that met the minimum input and quality requirements for grant eligibility. These data were directly reported by the client and verified annually through performance-based audits. The project's MIS system tracked a broader set of performance indicators through self-assessments that were audited on an annual basis (Task Team Interview, September 25, 2025).

The output level achievements under this objective included the following:

- 55 Local Governments (LGs) with improved financing support to PDAMs by increasing equity contribution, providing a grant, or providing a guarantee for PDAM to utilize non-public financing (Original target was 40 LGs) (**exceeded**) (ICR, p.22). These LGs received technical assistance to strengthen their business planning and preparation of bankable proposals that resulted in the award of 41 seed grants and 2 performance-based grants, with some LGs receiving more than one type of grant. These 55 LGs and PDAMs were financed by Component 1 of the loan; however, the ICR reports that technical assistance leveraged US\$970.56 million in financing from central and local governments, as well as the private sector. Data provided by the Task Team on PDAMs indicates that approximately 144 PDAMs made progress on increasing household connections that contributed to the PDO 1 outcome, but there is insufficient evidence to link those improvements to financing beyond the 55 PDAMs reported in the ICR based on the information provided for this ICRR. The type and level of financing (grant or otherwise) was unclear for the PDAMs beyond the 55 reported in the ICR. This is a weakness given the ToC in the ICR identified grants and technical assistance/capacity building as key inputs to leverage public and non-public funding sources. The PDAMs eligible for seed and performance grants were from categories 3, 4, and 5, and 2, 3, and 4 of the NUWAS framework, respectively. Of the 55 PDAMs approximately 19 were category 2 (Healthy) and 1 (Sustainably Healthy), 13 in category 3 (Potentially Healthy), 9 in category 4 (Less Healthy) and 2 in category 5 (Sick) according to their 2018 self-assessment toolkit (SAT) highlighting that a balanced approach was used in working with a range of PDAMs that benefited from the project (Supplemental information provided by Task Team) A notable contribution of the project was the introduction of the NUWAS framework that allowed the central government to be more discerning between the PDAM's levels of capacity and performance. This allowed the central government to be selective in the PDAMs that would receive public funding and raised the bar on expectations of what PDAMs, and LGs needed to do to meet basic minimum requirements to receive public financing. This selectivity also created incentives for PDAMs and LGs to focus on expanding access to household connections. This was a contribution to improving the efficiency of public spending in the sector. (Task Team Interview, September 23, 2025).
- 21 LGs/PDAMs receive the matching grants as a result of leveraging non-public financing for infrastructure development. (Original target was 20 LGs/PDAMs). (**achieved**) (ICR, p. 22) The matching grant was targeted at LGs and PDAMs that were more financially capable and were in categories 1 and 2 of the NUWAS performance framework to foster investment from non-public sources such as the domestic private sector and the domestic capital market. In total, the matching grants reportedly leveraged approximately US\$160 million in funding from non-public sources, which included domestic commercial loans (57 percent), public-private-partnership (PPP) (39 percent) and business-to-business (4 percent). (ICR, p. 8-9) Based on the information provided by the Task Team,



these LGs/PDAMs are a subset of the 55 PDAMs from the indicator above, meaning they are not in addition to the 55 PDAMs with improved financial support.

- 1,684,721 new piped household water connections (Original target was 1,200,000 connections). (**exceeded**) (ICR, p. 21) The ICR does not provide a detailed list of the PDAMs that contributed to the achievement of household connections; however, information provided by the Task Team after the ICR interview (September 23, 2025) shows that the expansion of coverage was derived from approximately 144 PDAMs. Of these 144 PDAMs, 55 were identified to have benefited from improved financing, and of those 55, 21 received matching grants because they leveraged non-public financing sources. This leaves approximately 89 PDAMs that contributed to the achievement of household connections but were not identified as receiving grant support. Nor did the ICR identify the level and type of financing for infrastructure investments creating a gap in measuring the ToC. These PDAMs make up about 50 percent of the achievement of the 1,684,721 household connections. The ToC is explicit that increasing coverage will require investment; however, the information on PDAMs receiving financial support from any source is limited to the 55 reported in the ICR. While the group of PDAMs that were not identified as having improved financial support may have benefited strictly from TA/CB activities and invested their own funds to expand access, the ICR did not provide more detailed information to justify how this group of PDAMs was able to make the investments in these improvements in household access to piped water. (ICRR author). The Task Team interview (September 23, 2025) confirmed that the annual self-assessment reports (SAT) provided by PDAMs are audited by the MOPHW and their directorate of General Human Settlements on an annual basis to validate what PDAMs are reporting.
- 336,944 poor households with new piped household connections (Original target was 240,000 connections) (**exceeded**). (ICR, p. 22) The project's allocations to performance-based grants leveraged the government's funding mechanism through the Hibah Program, which targeted the expansion of new connections to poor households. The ICR did not report on which PDAMs contributed to this achievement and therefore it was not possible to validate the result.

## OUTCOMES

- 8,423,605 people provided with access to improved water sources (Original target was 6,000,000 people) (**exceeded**). Based on district-level government population data, the project estimated an average of 5 people per household connection would benefit from the expansion of services. The ICR did not report on how many PDAMs contributed to this achievement, but the information provided by the Task Team after the September 23, 2025, interview indicated that approximately 144 PDAMs made a range of contributions from a few thousand people to tens of thousands of people. The ICR could have provided a summary table indicating the contribution across the PDAMs to justify the achievement, ideally indicating the amount and type of financing received.

The indicators to monitor PDO 1, coupled with the information collected in the MIS, were adequate to partially measure the ToC. The shortcoming for PDO 1 was the ability to assess the financing for the PDAMs beyond the 55 reported in the ICR. Even then, the information provided on the 55 was limited to the type of financial support and did not quantify the amount of financing received. The ICR detailed the breakdown by PDAM on financing for those who received matching grants and the amount leveraged from non-public funding sources. While the ICR reported that the government and private sector contributed approximately US\$970 million under component 1, it is not clear how and what portion of those funds were distributed across the PDAMs, making it difficult to assess the ToC. The output and outcome indicators were achieved or exceeded;



however, given the shortcomings discussed above, the project's efficacy in achieving PDO1 is rated **Substantial** with shortcomings related to the evidence to measure the performance results.

### Rating

Substantial

## OBJECTIVE 2

### Objective

To strengthen the operational performance of water service providers in selected urban areas.

### Rationale

The ToC in the ICR (p. 4) identified the outcome to strengthen the operational performance of water service providers in selected urban areas.

The inputs were financing of: (i) consultants to assist PDAMs/LGs to collect and report data, identify investment and capacity needs, prepare proposals, and improve operational and financial performance, (ii) training for PDAMs/LGs in water safety planning, climate-resilient urban water management, utility reform, competency-based human resources development, utility financing, citizen engagement, and inclusive services for the poor; (iii) consultants at the central government level to support proposal review, monitoring, and alignment with water supply master plans and business plans; (iv) consultancies to develop policies and operational guidelines for urban water management, utility governance, private sector involvement, performance-based financing, performance-based contracting, financing mechanisms, and inclusive services; (v) technical support to improve monitoring and evaluation systems of LGs/PDAMs, development of an online MIS involving local, provincial, and central government. (PAD, p. 39-43)

The expected outputs were: (i) trainings conducted for LGs/PDAMs, (ii) policies and operational guidelines developed for urban water management, governance, and financing, (iii) monitoring and evaluation of LGs/PDAMs on compliance with NUWAS requirements.

These outputs were expected to lead to outcomes such as strengthening the technical capacity of LGs/PDAMs in urban water management and service delivery, enabling an environment of formal rules through policies and guidelines, and increased accountability and vertical coordination through enhanced monitoring and evaluation of the performance of PDAMs.

These outcomes, in turn, are expected to lead to the PDO of strengthened operational performance of water service providers in selected urban areas, contributing to higher-level outcomes of improved health and living standards and resilience to climate change.

Similarly, for PDO 2, the ICR did not articulate any underlying assumptions that might affect or contribute to the outcomes. Assumptions for the PDO would be important to have, particularly for the indicator of a full cost recovery tariff. For example, an assumption would be 'minimal political interference from LGs in setting full-cost recovery tariffs because of alignment with the project'.

The output level achievements under this objective included the following:



- 247 LGs and PDAMs participated in technical assistance and capacity building programs (Original target was 200 LGs/PDAMs) (**exceeded**) (ICR, p. 21) These activities included the development of 76 competency-based training modules, which were handed over to the Ministry of Public Works' Technical Training Center for Water Supply (Balai Teknik Air Minum) (ICR, p.9). The TA/CB programs were implemented in collaboration with other development partners, such as the U.S. Agency for International Development and the Australian Department of Foreign Affairs and Trade, with the project prioritizing LGs/PDAMs not covered by those initiatives. The ICR, however, did not provide a breakdown of the types of training received by PDAMs. Including a table that linked PDAMs' financial and operational performance (e.g., SAT scores) to the specific training modules they received would have strengthened the evidence base. Interviews with the Task Team (September 23, 2025) confirmed that such data was not available to the team. The Task Team was only able to provide the number of participants per PDAM and per year that participated in any training, without details on training content. This limited the ability to assess whether certain training courses correlated with improvements in PDAM performance. While correlation does not imply causation, such analysis would have provided valuable insights for future TA/CB investments. At the institutional level, Technical Assistance and Capacity Building Teams (TACTs) supported the Central Project Management Unit (CPMU) and Central Project Implementation Unit (CPIU) in designing and implementing monitoring and evaluation of TA/CB activities. At the local level, Field Assistant (FA) teams worked with LGs/PDAMs to collect data, update self-assessment toolkits, identify investment and training needs, prepare and submit investment proposals, and support monitoring and reporting of implementation progress.
- 42 PDAMs develop/update Business Plan for investment (Original target was 40 PDAMs) (**achieved**) (ICR, p. 22) The TA and CB support on business planning, improving creditworthiness, and preparing bankable proposals helped the PDAMs to access non-public financing. (ICR, p. 9) with 21 PDAMs successfully leveraging approximately US\$160 million in non-public financing. The additional information provided by the Task Team after the September 23, 2025 indicated that 114 PDAMs had updated business plans as of 2023 and of those 42 PDAMs had bankable proposals, and of those, approximately 34 PDAMs were supported by financing providing a more direct link between inputs and intermediate outcomes.
- 78 PDAMs that achieve full cost recovery tariff (Original target was 50 PDAMs) (**exceeded**) (ICR, p. 22) The Task Team Interview (September 23, 2025) confirmed that the annual financial and technical audit process verified the implementation of full cost-recovery tariffs, and that the central government has a specific methodology used to assess the tariff structure.
- 110 PDAMs with improved customer satisfaction (Original target was 40 PDAMs) (**exceeded**) (ICR, p. 22) The ICR reported that through the project's focus on NRW reduction and energy efficiency, different PDAMs saved between 390,000 m<sup>3</sup> and 1.3 million m<sup>3</sup> of water enabling more water for distribution and improved continuity. The ICR did not discuss how improved customer satisfaction was systematically measured across PDAMs, and to what extent the magnitude of customer satisfaction was improved within and across PDAMs. The ICR also did not explain why the target was surpassed and whether it was due to overly conservative targets or a change in implementation to reach more PDAMs. 110 PDAMs reporting improved customer satisfaction is aligned with the 144 PDAMs expanding access to services.
- The National Urban Water Supply (NUWAS) Framework was operationalized (Original target was yes) (**achieved**) (ICR, p. 25) The ICR states that the NUWAS framework was developed to respond to



issues and challenges in urban water supply services. NUWAS focuses on the provision of water supply services in urban areas. The NUWAS framework covers all urban water supply services (starting with piped water supply services and including non-piped water supply services in the future) and is linked to the national urban development agenda. (ICR, p. 36)

- Key guidelines on sector financing and utility reform adopted (Original target was yes) (**achieved**) The project provided advisory and policy development support for central government. This included guidelines that were developed and adopted by the Directorate for Water Supply of DGHS MPW on the following: (i) Performance-Based Contract for Non-Revenue Water Reduction; (ii) Guidelines on Public-Private-Partnerships (PPP) on Water Supply Sector; (iii) Guidelines on Regional Water Supply Development; (iv) Guidelines and tools for PDAM Financial Management; and (v) Guidelines on Water Supply Sector Financing and Utility Reform. (ICR, p. 23) The ICR only listed these outputs and did not elaborate on how they were implemented. The project estimated that Component 3: Advisory and Policy Development Support for Central Government would cost US\$6.8 million at appraisal, and US\$1.36 million actual.

The outcome level achievements for this objective in the results framework were the following:

## OUTCOMES

- 41 PDAMs that will graduate to the next category - as reference to the categorization mechanism under the NUWAS Framework (Original target was 20 PDAMs) (**exceeded**) (ICR, p. 21) The NUWAS categorization of PDAMs is based on an assessment of four aspects (service, financial, operational and human resources) with more than 50 indicators plus the percentage of the population covered with improved water sources. (PAD, p. 35). The ICR reported that the audited self-assessments (SAT) of the PDAMs against these indicators monitored the change in the level of healthiness of the PDAMs and this was captured in the MIS. Five PDAMs graduated from category 5 (sick) to 4 (less healthy) or 3 (potentially healthy), 13 PDAMs graduated from category 4 to categories 3 and 2 (healthy), and 1 PDAM graduated to category 1 (sustainably healthy). The ICR did not provide details on what aspects these PDAMs improved upon to graduate (e.g. improved coverage, or improvements in a host of indicators that resulted in their increased scores). The interview with the Task Team (September 23, 2025) confirmed that the reasons for graduation were varied across providers, and that the Task Team did not have a mapping of the PDAMs that graduated to a higher category that was connected to the types of training the PDAMs participated in or the grants that were provided. Such as mapping would have more explicitly measured how the trainings and grants (inputs and outputs) led to shifts in the indicators contributing to PDAMs graduating; however, this assessment does not exist.

The project explicitly aimed to reach 200 PDAMs/LGs with training to strengthen their ability to seek public or non-public financing and improve their operational performance. Therefore, the target of 20 PDAMs graduating to a higher performance level, given the level of investment by the World Bank and the borrower, does not appear to match the level of ambition of a project as contemplated in PDO 1 that reached over 8 million people with improved water sources. The project reached 270 PDAMs with training, and of those 55 had infrastructure financed by the World Bank, government, and non-governmental funds. While not explicit in the ICR, data provided by the Task Team reports that 144 PDAMs contributed to the 8 million gaining access to household connections but is not clear on the amount of financing that was received. The rationale to target 20 PDAMS to graduate either assumes a very large graduation failure rate of the training coupled with financing or setting arbitrarily low expectations. It is unclear why the ambitions of PDO 1 and 2 are so different.



The indicators to monitor PDO 2, coupled with the information collected in the MIS, were adequate to broadly measure PDO achievement. However, given the available information to the Task Team, the ICR could have more explicitly mapped the connections between the inputs, outputs, and outcomes for each PDAM to explore the relationship (or lack thereof) and attempt to explain why the PDAMs graduated as a result of the project. This goes unexplored and was a missed opportunity to learn if there were correlations between training, financing, and improved performance. Currently, one has to assume that individually or in combination, the TA/CB and the infrastructure investments resulted in PDAMs graduating, but this remains an assumption.

PDO 2 achieved or exceeded its targets but missed the opportunity to explain the direct, causal linkages between the input, outputs, and outcomes. Thus, given the shortcomings in evidence that directly attribute the project's results to its activities, the efficacy rating for PDO 2 is Substantial with shortcomings.

**Rating**  
Substantial

## OVERALL EFFICACY

### Rationale

The PDO 1 targets were achieved or exceeded, and the supporting evidence is generally documented with shortcomings on the adequacy and clarity of available evidence; therefore, the rating is considered Substantial. The PDO 2 indicators were achieved or exceeded, but had shortcomings in establishing attribution, given analytical weaknesses in the evidence presented linking the inputs, outputs, and outcomes. The PDO 2 rating was Substantial. Moreover, the ICR did not provide any critical assumptions in the project's ToC. The overall efficacy rating is Substantial with shortcomings related to the base and quality of evidence.

### Overall Efficacy Rating

Substantial

## 5. Efficiency

**Ex Ante Economic Efficiency:** The project conducted a cost-benefit analysis (CBA) to determine the economic feasibility of the project and used standard industry approaches at appraisal with the following benefit streams: i) time saving due to the accessibility of PDAM piped water services, which was assigned monetary value based on the average wage per hour, and ii) saved water due to efficiency improvement (reduced non-revenue water (NRW)), which was valued based on the after tariff per cubic meter of water produced and delivered. The costs included the investment costs provided by the loan and an assumption of operation and maintenance costs of 5 percent of the investment costs. (PAD, p. 79) The economic internal rate of return (EIRR) of the



project at appraisal was 28.1 percent, and a net present value (NPV) of US\$64.2 million discounted at 10 percent. (PAD, p. 82).

**Ex Post Economic Efficiency:** The economic analysis at project completion used the same approach and benefit streams as identified at appraisal and used data generated from the project for the analysis. The project at closing had an EIRR of 29.2 percent and an NPV of US\$68.4 million, using a discount rate of 10 percent, which is in line with the World Bank economic guidelines for lower-middle-income countries in Southeast Asia. (ICR, p 35). Based on team clarification, the economic analysis at both appraisal and closing was conducted using total investment costs, including IBRD financing and co-financing.

**Operational and Administrative Efficiency:** The project was approved on June 6, 2018, and became effective on August 8, 2018. The project closing date at appraisal was December 31, 2022, but the actual closing date was extended by 23 months until November 30, 2024, for a total implementation period of 6 years and 6 months. The project team effectively managed implementation and factors outside of their control, such as the COVID-19 pandemic. Changes in key personnel in the Directorate General of Human Settlements (DGHS) affected: (i) the internal review process of procurement documents prior to submission to the Bank; (ii) the mobilization of consultants; and (iii) the establishment of the Provincial Project Implementation Units (PPIUs), which caused delays in the project. In addition, the BPPSPAM (Badan Peningkatan Penyelenggaraan Sistem Penyediaan Air Minum – Agency for Improvement of the Implementation of Drinking Water Supply System) was disbanded in 2020 as part of larger government reforms, which also had an impact on the implementation of the project, and particularly delays with component 2.

**Conclusion.** The project's ex-post NPV and EIRR were slightly higher than at appraisal using the recalculated figures, based on a 10 percent discount rate. The project achieved or exceeded its targets; however, the project was extended by 23 months, adding to operational inefficiencies. The project's efficiency is rated Substantial.

## Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	28.10	0 <input checked="" type="checkbox"/> Not Applicable
ICR Estimate	✓	29.20	0 <input checked="" type="checkbox"/> Not Applicable

\* Refers to percent of total project cost for which ERR/FRR was calculated.

## 6. Outcome

The project's relevance is rated as High. The project achieved or exceeded its outcome and output targets for PDO 1; however, weaknesses in the evidence presented result in a Substantial rating with shortcomings. PDO 2



also achieved its stated targets and is rated Substantial but also had shortcomings in substantiating the measurement of PDO 2. The combined efficacy rating was Substantial with minor shortcomings. The overall efficiency of the project is considered Substantial. The overall rating is considered **Satisfactory**.

**a. Outcome Rating**  
Satisfactory

## 7. Risk to Development Outcome

The risks to the development outcomes are primarily linked to: (i) government commitment to continue with the NUWAS framework. This risk is somewhat mitigated by the client engagement and analytical work that helped design and co-create the framework with government actors. The project had the benefit of a preparation that built on ample analytical work that involved government actors and built off the government's existing evaluative framework of PDAMs/LGs. The NUWAS framework kept the essential elements of the government's framework and added additional aspects to allow for more discernment in the allocation of resources between PDAMs/LGs to improve performance and coverage; (ii) a second risk could be any economic downturns that would limit the central government to continue with its investments in water supply and specifically fiscal transfers to LGs and PDAMs to invest in the expansion of services. Given the small size of many PDAMs, the LG's ability to borrow from the domestic banks may continue to be limited, and continued investments by the central government may be required. This risk was somewhat mitigated by the number of LGs and PDAMs, who are arguably more sophisticated, that successfully sought and obtained non-public financing options, creating fiscal space for the central government to invest in lower capacity LGs and PDAMs; and (iii) government and political commitment to providing TA/CB support. A successful aspect of the project was the combination of investments plus TA/CB, not only to improve the ability of PDAMs/LGs to write proposals to access central government investment resources, but also to make organizational changes to prioritize issues such as NRW and energy efficiency to improve services. If the government does not continue the TA/CB programming, with or without development partner support, then progress on improving sustainable services by the PDAMs may be limited.

## 8. Assessment of Bank Performance

**a. Quality-at-Entry**

The project was highly relevant and aligned with national priorities related to addressing the challenges to expand sustainable access to water supply by LG-owned enterprises.

The design of the project was built upon a long engagement of technical assistance, analytical work, and co-creation with the client. Lessons from the predecessor project that focused on infrastructure investments highlighted the need to invest in TA/CB to strengthen PDAMs and LGs. The decision to make investments in TA/CB were two-fold: (i) to support lower capacity PDAMs/LGs, and (ii) to strengthen vertical coordination between central and LGs and horizontal coordination between central government entities responsible for implementation and evaluation of the project.



The project also envisioned scale from the beginning by working across the archipelago and building on the existing government framework to assess the performance of PDAMs/LGs. The NUWAS framework retained critical elements and adapted others to help the central government be more discerning in how it allocated resources across an array of PDAMs/LGs. Moreover, the design envisioned leveraging the government's own investments in infrastructure and TA/CB.

The results framework and indicators at appraisal were simplified and were broadly fit for purpose for a large project such as NUWAS, and they generally reflected the project's theory of change. However, the framework had minor weaknesses. In particular, it lacked explicit assumptions and did not sufficiently capture the changes required for the 20 PDAMs to graduate from one category to another in order to measure PDO 2 at the outcome level. A stronger results framework would have included additional intermediate indicators to track the distribution of PDAMs across the different categories. Such indicators would have helped explain *why* changes in categories were occurring, for example, distinguishing between PDAMs that moved from Category 3 (Potentially Healthy) to Category 2 (Healthy) due to improved service coverage versus those improving because of stronger financial and operational performance.

Similarly, including indicators that reflected the baseline status of most PDAMs at appraisal would have created a clearer link between project inputs and intended outcomes. While the PAD anticipated mid-term and endline evaluations and surveys, the inclusion of more targeted intermediate indicators would have strengthened the results chain and provided greater clarity on the pathways of change.

The Task Team identified that fiduciary and procurement risks were substantial, given the number of entities involved in the implementation of the project and the historically weak coordination among implementing entities.

## **Quality-at-Entry Rating**

Satisfactory

### **b. Quality of supervision**

The World Bank provided close technical support throughout the project implementation and conducted 12 formal supervision missions – averaging about two per year. The project benefited from having a TTL based in the country, which provided consistent oversight of the project and technical assistance between formal supervision missions. The Bank Task team was proactive and mobilized US\$1 million in trust fund resources to support the client during implementation. During external shocks such as COVID-19 pandemic, the Task Team adjusted and supported the client to advance implementation.

In the initial 18 months of the project, the Bank's Task Team supported the government with roadshows in visiting different parts of the country to introduce and explain the project and to garner interest from PDAMs and LGs. The Bank team also supported initial training of PDAMs on the NUWAS framework to explain the categorization and the type of grants that would be available.

The ICR reported that safeguards monitoring began early in project implementation and included training on the Environmental and Social Framework (ESF) that continued during the implementation of physical works to ensure proper risk management. The main fiduciary issues impacting implementation were



regularly identified and addressed. The ICR reported that the project initially faced procurement challenges due to limited capacity and a lack of familiarity with the World Bank's procedures, which posed significant hurdles for the implementing agencies. The Bank Task Team and procurement specialist provided ongoing training and hands-on support to the client to mitigate the challenges. (ICR, p. 17)

The Task Team reporting was candid in the Implementation Status and Results (ISR) reports, rating which aspects of the project were underperforming. For example, the ISRs highlighted issues around procurement, financial management and monitoring and identified corrective actions that were required. The Task Team appropriately downgraded the project during implementation to call attention to the issues that needed to be resolved.

The overall Bank performance rating is Substantial, given the quality at entry with the alignment of the project with the government's priorities and needs reflected in the design, as well as timely guidance and assistance provided during supervision.

### **Quality of Supervision Rating**

Satisfactory

### **Overall Bank Performance Rating**

Satisfactory

## **9. M&E Design, Implementation, & Utilization**

### **a. M&E Design**

The objectives of project were clearly specified and the indicators in the results framework generally captured the outputs and outcomes for PDO 1 and 2. The results framework indicators for PDO 1 were more complete than PDO 2. The indicators for PDO 2 captured outputs, but it was difficult to see the translation of those outputs into the outcome of PDAMs graduating to high levels of performance categories. The individual output indicators could contribute to the PDO outcome, but their individual achievement also does not mean that PDAMs will graduate to the next level of performance category. The results framework could have included some additional intermediate indicators that measure the improvements in financial and operational scores as specified by the NUWAS framework independently, and the number of PDAMs that have improved their coverage past a threshold to potentially move them up to a higher performance category. The challenge with the PDO outcome indicator is that progress in graduating to a higher level is dependent on a host of variables; however, graduation to a higher performance level may be a result of advancing on some, but not all, of those variables. If the Task Team and client determined that it would be too complicated to track such intermediate outcome indicators, then the project should have explicitly planned to evaluate the factors that helped PDAMs graduate to foster learning for scaling up to other localities. An evaluation could have shed light on which activities were not helpful and which ones were.

The mechanism to monitor progress was through a web-based management information system (MIS). The Directorate General of Human Settlements (DGHS), where the project CPMU was housed, managed the MIS and monitored the performance of LGs/PDAMs. The indicators in the results framework made up



part of the data collection system of the MIS, but the MIS was more extensive. (Task Team interview, September 23, 2025). The project relied upon self-reported assessments reported by the PDAMs and LGs that were incorporated into the MIS, allowing the system to collect a host of information. These self-assessments were independently audited annually by the central government.

## **b. M&E Implementation**

The ICR reported significant challenges with M&E implementation and data coordination in the early part of implementation, due to an 18-month delay in the procurement and mobilization of the Central Management Consultant (CMC). This left the project without an effective monitoring mechanism during that period. Moreover, the M&E system encountered further challenges due to the learning curve associated with the NUWAS framework during implementation with the CPIU, which was assigned to the Ministry of Home Affairs, and the CPMU, which was assigned to the Directorate General of Human Settlements in the Ministry of Public Works and Housing. These two entities used different approaches for data collection, which raised concerns regarding the reliability of the data utilized to monitor the project outcomes. (ICR, p. 16) The ICR reported that the Ministry of Home Affairs and the Ministry of Public Works and Housing reached agreements on measurements and approaches for data collection during implementation. Once the CMC was contracted, they were able to work with both line ministries to harmonize the M&E system and indicators. (ICR, p. 16) The project's ISRs systematically updated the results framework indicators during implementation to reflect progress.

## **c. M&E Utilization**

The central government relied upon the performance data that was collected to determine the amount and types of subsidies to provide PDAMs/LGs, making the web-based MIS system and its information critical to the functioning of the project. The web-based system allowed PDAMs to submit their self-assessment toolkit (SAT) through the portal, allowing them to be categorized into performance groups. This categorization then helped determine the types of interventions that were needed for each PDAM. The CPMU and CPIU would meet monthly to synchronize the data and ensure it was uploaded to the MIS. (ICR, p. 16)

The Bank's Implementation Status and Results reports were updated systematically based on this information, and the monitoring data helped the Bank Task Team make decisions about areas that needed attention.

Overall, the quality of the M&E system is rated as Substantial. The system adequately tracked the indicators in the results framework and helped guide the client and the Bank Task Team make decisions despite minor shortcomings.

### **M&E Quality Rating**

Substantial

## **10. Other Issues**



## a. Safeguards

**Environmental:** The project was classified as a Category B Project, given the nature and scale of its activities, and triggered the environmental Safeguard Policy: OP4.01 Environmental Assessment (EA) because of construction activities. An Environmental and Social Management Framework (ESMF) was prepared as the safeguard instrument to guide the environmental screening, assessment, and management of subproject activities' potential impacts. At appraisal, the Environmental and Social risk rating was considered Moderate, and compliance with OP4.01 was rated as 'Satisfactory' during the life of the project, with some minor implementation issues. In cases where the regional consultants and/or the LGs faced challenges complying with the policies, hands-on support was provided by the Bank. (ICR, p. 17)

The CPMU was responsible for ensuring safeguards implementation, compliance, monitoring, and reporting, and was assisted by the CMC at the national level, while the regional management area consultants, with support from Provincial Coordinators and Field Assistant Teams. (ICR, p. 17) During implementation, the project fulfilled the environmental and social safeguard requirements as outlined in the ESMF.

**Social:** The project triggered OP4.10 Indigenous Peoples (IPs); OP4.11 Physical Cultural Resources; and OP4.12 Involuntary Resettlement (IR) as physical construction activities required smaller-scale land acquisition. The ESMF incorporated a Land Acquisition and Involuntary Resettlement Policy Framework, an Indigenous People Policy Framework. The ratings for OP 4.10, 4.11 and 4.12 were satisfactory throughout the life of the project. As with the environmental safeguards, the CPMU was responsible for ensuring safeguards implementation, compliance, monitoring and reporting, and was assisted by the CMC and RMACs. During the implementation of the social safeguard policies, no major issues were encountered.

## b. Fiduciary Compliance

**Financial management:** The project's financial management was generally satisfactory during implementation but closed with a moderately satisfactory rating. The ICR reported that the project used the government's accounting system, which was implemented by MPWH and MOHA. The CPMU monitored the project implementation and was responsible for preparing the project's financial reports. The ICR reported that all of the project's quarterly interim financial reports were received in a timely manner, and that the undisbursed loan amount of US\$4.250 million was cancelled and reimbursed to the World Bank. The downgrading of the financial management rating was because the FY 2023 audit report identified several overpayments and 15 recommendations from previous audits that were not fully addressed. At the time of writing the ICR, there were still three findings pending from FY2023 and one from FY2022. The ICR reported that the government's Inspectorate General was going to be following up on these pending issues at project close.

**Procurement:** The project faced procurement challenges early in implementation because of factors that extended beyond the project. In 2018, the government suspended all procurement processes for various infrastructure projects for several months, changed their internal procurement staff and system, and implemented stringent evaluation measures, which adversely affected the procurement and implementation of the project. (ICR, p. 14) In addition, the project experienced delays during the first years of implementation due to changes in key personnel in the Directorate General of Human Settlements (DGHS) that affected: (i) the internal review process of procurement documents prior to submission to the



Bank; (ii) the mobilization of consultants; and (iii) the establishment of the Provincial Project Implementation Units (PPIUs). (ICR, p. 14)

These challenges contributed to delays and were compounded by a lack of capacity and knowledge of the Bank’s Procurement Guidelines, and the COVID-19 pandemic. In response, the Bank provided training and hands-on support, which improved the capacity of all implementing agencies and enhanced the quality and timeliness of procurement. The Bank team instituted regular procurement post-reviews that helped ensure compliance with the World Bank’s guidelines. (ICR, p. 17)

**c. Unintended impacts (Positive or Negative)**

The ICR reported that the project introduced innovative technologies to increase water treatment quality and efficiency, which included hollow fiber nano filtration (HFNF) technology to treat peat water into potable water. The application of this technology was a first in Indonesia, along with combined cascade aeration, and filtration using locally available filter media to significantly reduce high iron and manganese concentration from groundwater. These technologies were selected based on feasibility studies that included calculation of costs for O&M and the development of a tariff structure that would ensure full cost recovery for PDAMs and affordability for the community. (ICR, p. 13)

**d. Other**

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**11. Ratings**

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Highly Satisfactory	Satisfactory	Efficacy and efficiency, while rated substantial, had shortcomings in the quantity and analysis of evidence and the causal attribution of project results.
Bank Performance	Satisfactory	Satisfactory	
Quality of M&E	Substantial	Substantial	
Quality of ICR	---	Substantial	

**12. Lessons**

**Long-term sector dialogue and TA prior to project launch can enrich project design, enhance stakeholder ownership, and promote policy alignment and operationalization.** The Bank’s support in developing the NUWAS framework before project launch ensured strong alignment with project objectives and allowed sufficient time for its operationalization. Moreover, active stakeholder



involvement in the development of the framework, built commitment and ownership, proved essential to successful implementation. Although the NUWAS project was based on approximately six years of sector dialogue, it ultimately delivered significant results—benefiting over eight million people, mobilizing US\$160 million in non-public resources, and exceeding most of its targets, among other benefits. Aligning project investments with a key policy framework enhanced the project's sustainability and effectiveness. The NUWAS framework was designed to be fully aligned with government's policies, while retaining the flexibility to be adjusted and strengthened. (ICR, p. 19)

**Continuity within the World Bank Task Team during implementation can allow trust to be built with the client and can have a positive impact on implementation success.** Maintaining a consistent core Task Team (including the TTL and consultants), from project inception through completion allowed for timely adjustments in response to implementation challenges and fostered strong relations with Government counterparts. This project also demonstrated that having a well-established local team (staff and consultants) can be more cost-effective. (ICR, p. 19)

**Incentive-based, customized, and well-targeted interventions can increase investment effectiveness.** Aligning incentives with desired outcomes motivates stakeholders to achieve specific goals, ensuring more efficient use of resources. Customized interventions allowed for tailored solutions that addressed the unique needs and challenges of different PDAMS, leading to more impactful results. Furthermore, better-targeted interventions ensure that investments are directed towards areas with the highest potential for positive change, maximizing the return on investment and fostering sustainable development. Likewise, the differentiation of the types of grants to be applied to different categories of PDAMs allowed the central government to be more discerning in its allocation of resources. (ICR, p. 19)

**Grant allocation criteria can foster inclusiveness, ensuring adequate allocations for broader participation.** For future projects, the following can be considered: a) expanding eligibility criteria to allow more water utilities to benefit promotes equitable access and maximizes the impact of funding, b) including resources for household connections is crucial, as focusing solely on main distribution networks limits direct access to water services, c) increasing the amounts of performance-based grants can enable more utilities to apply, and d) broadening performance criteria beyond NRW and energy efficiency for performance-based grants can enhance PDAM efficiency. (ICR, p. 19)

**Demonstrating the creditworthiness of water utilities can attract private sector investment and mobilize non-public funds.** By demonstrating financial stability and operational reliability, these utilities can build trust with private investors, making them more likely to invest. This financial credibility is essential for accessing diverse funding sources beyond public financing, thereby enabling water utilities to expand their services, upgrade infrastructure, and improve service delivery. Projects like the NUWSP illustrate how innovative approaches can enhance creditworthiness in water utilities and unlock private capital for the sector. (ICR, p. 19)

### 13. Assessment Recommended?

Yes



Please Explain

An assessment is recommended due to the size and potential learning offered by the NUWAS project. The scope and documented variation of performance between local government-owned enterprises for water supply provide an excellent opportunity from a quantitative and qualitative perspective to explore in more detail the efficacy of incentive-based grants coupled with tailored technical assistance and capacity building efforts. A detailed evaluation would not only serve a global knowledge function to inform similar operations but also future operations in Indonesia. This program leveraged significant government resources and mobilized non-public sector funding at scale, which are two aspects aligned with the Bank's priorities.

#### **14. Comments on Quality of ICR**

The ICR provides a detailed overview of the project. The ICR is generally results-focused. The report is concise, follows the majority of the guidelines on the content provided. The ICR could have attempted to triangulate data to reach conclusions for PDO 1 and 2, and also included the critical assumptions in the TOC. The ICR's lessons are relatively clear and useful. The quality of ICR rating is Substantial.

**a. Quality of ICR Rating**  
Substantial