



# Technical Assistance Subproject Report

---

Project Number: 46380-020  
Transaction Technical Assistance (C-TRTA)  
August 2017

## Republic of Indonesia: Sustainable Infrastructure Assistance Program (Financed by the Government of Australia)

### Subproject Number 10: Subproject Strengthening Results- Based Lending Independent Monitoring in Irrigation

This document is being disclosed to the public in accordance with ADB's Public Communications Policy 2011.

Asian Development Bank

## CURRENCY EQUIVALENTS

(as of 17 August 2017)

Currency unit	–	rupiah (Rp)
Rp1.00	=	\$0.0000749
\$1.00	=	Rp13,342

## ABBREVIATIONS

ADB	–	Asian Development Bank
BPKP	–	<i>Badan Pengawasan Keuangan dan Pembangunan</i> (Financial and Development Supervisory Board)
DGWR	–	Directorate General of Water Resources
DLI	–	disbursement-linked indicator
IIP	–	irrigation improvement program
M&E	–	monitoring and evaluation
MPWH	–	Ministry of Public Works and Housing
O&M	–	operation and maintenance
PAP	–	program action plan
RBL	–	results-based lending
TRTA	–	transaction technical assistance

## NOTE

In this report, "\$" refers to US dollars.

<b>Vice-President</b>	S. Groff, Operations 2
<b>Director General</b>	R. Subramaniam, Southeast Asia Department (SERD)
<b>Directors</b>	J. Zhang, Environment, Natural Resources and Agriculture Division, SERD W. Wicklein, Country Director, Indonesia Resident Mission, SERD
<b>Team leader</b>	E. Quincieu, Senior Water Resources Specialist, SERD
<b>Team member</b>	K. Chua, Associate Operations Officer, SERD
<b>Peer reviewer</b>	R. Osti, Water Resources Specialist, East Asia Department

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

## CONTENTS

	<b>Page</b>
I. THE ONGOING PROJECT	1
II. THE TECHNICAL ASSISTANCE	3
A. Overall Progress of the TA cluster	3
B. Subproject Scope	3
C. Subproject Outputs and Activities	4
D. Subproject Cost and Financing	4
E. Subproject Implementation Arrangements	5
 APPENDIXES	
1. Cost Estimates and Financing Plan	6
2. List of Linked Documents	7



## I. THE ONGOING PROJECT

1. Boosting rural incomes and improving food security are significant concerns in Indonesia. Despite positive trends in agricultural production, Indonesia still faces rising food imports, higher domestic food prices, and sporadic food shortages. With most of the rice coming from irrigated areas, water resources and irrigation management play an important role in the country's efforts to increase agricultural output.<sup>1</sup> However, water availability to the farm community is erratic in many areas. The Ministry of Public Works and Housing (MPWH)—in charge of irrigation infrastructure—estimates that only 55% of the nation's irrigation system is functioning at full capacity, limiting yields and reducing cropping intensity.<sup>2</sup> Irrigated agriculture is also sensitive to climate change.

2. Since 2006, the Directorate General of Water Resources (DGWR), MPWH, has introduced reforms to improve water delivery and operation and maintenance (O&M) services and farmer's involvement by applying participatory irrigation management.<sup>3</sup> In 2010, the DGWR established a directorate dedicated to O&M for water resources. Asset management and needs-based budgeting processes have been introduced to address the long-term sustainability of the infrastructure. In 2015, the DGWR institutionalized reforms introduced under the Asian Development Bank (ADB)-financed Participatory Irrigation Sector Project to improve sector performance.<sup>4</sup> This provides a robust regulatory framework for irrigation infrastructure, management, and O&M.

3. However, there are gaps that constrain effective implementation of the Government of Indonesia's (the government) irrigation improvement program (IIP).<sup>5</sup> Institutions and processes need strengthening, especially at the subnational level, to ensure sufficient budget allocation for routine O&M.<sup>6</sup> To this end, a sound irrigation asset management registry and better planning at the scheme level are required, as a basis for needs-based budgeting and performance benchmarking. Water delivery services also need improvements to provide the intended level of service and to cope with climate variability. Irrigation schemes need to be rehabilitated or upgraded to improve water efficiency and climate resilience. Improving irrigation services is necessary to increase rice yields and cropping intensity, provide farmers with an incentive to diversify from low- to high-value crops, increase rural incomes, and enhance food security. Better integration between irrigation and agriculture is needed to adapt to climate risks.

4. The Integrated Participatory Development and Management of Irrigation Program<sup>7</sup> (the program) will support the government in implementing its IIP, 2015–2025, which advances the overarching agenda of food security and rural poverty reduction through increased and improved water delivery. The focus of ADB support will be on improving irrigation system operation, maintenance, and water delivery to farmers. The program will finance a time slice of the government's IIP in 74 districts. The International Fund for Agricultural Development is providing parallel financing to the Ministry of Agriculture for improved delivery of agricultural

---

<sup>1</sup> Surface irrigation is spread across about 48,000 irrigation systems covering 7.2 million hectares.

<sup>2</sup> Government of Indonesia, MPWH. 2014. *Irrigation Systems Rapid Assessment*. Jakarta.

<sup>3</sup> Participatory irrigation management is a process that involves farmers in the planning, design, construction, and operation and maintenance of irrigation systems. Irrigation service fees are not applied in Indonesia.

<sup>4</sup> ADB. 2003. *Report and Recommendation of the President to the Board of Directors: Proposed Loans to the Republic of Indonesia for the Participatory Irrigation Sector Project*. Manila.

<sup>5</sup> The IIP is a subprogram of the Sector Plan for Water Resources from the Ministry of Public Works and Housing. It is aligned with the 2015–2025 strategy for irrigation. Government of Indonesia, MPWH. 2011. *Kebijakan Irigasi Tahun, 2015–2025*. Jakarta.

<sup>6</sup> "Subnational" refers to provincial and district levels.

<sup>7</sup> ADB. 2017. *Report and Recommendation of the President to the Board of Directors: Proposed Loans to the Republic of Indonesia for the Integrated Participatory Development and Management of Irrigation Program*. Manila.

services to maximize the benefits of the irrigation improvements.<sup>8</sup>

5. This operation will be delivered using the results-based lending (RBL) modality. The RBL program will strengthen capacity to address institutional weaknesses, organizational fragmentation, and weak governance to improve O&M and management of irrigation systems. The RBL program will also enhance processes through introduction of high level technology.<sup>9</sup> It will also improve water delivery to farmers by rehabilitating infrastructure. This combination of measures will improve rural resilience and boost water resource productivity. The RBL program's impacts will be improved rural incomes and livelihoods, and enhanced food security. The outcome will be sustainable and more productive irrigated agriculture in 74 districts. The program scope is summarized in Table 1.

**Table 1: Program Scope**

Item	Broader Government Program	Results-Based Lending Program
Outcome	Sustainable and more productive irrigated agriculture in Indonesia	Sustainable and more productive irrigated agriculture in 74 districts
Key outputs	Rehabilitated or upgraded irrigation infrastructure; appropriate operation and maintenance; improved farmers' participation; and strengthened institutions.	Same elements as the broader government program, organized into three outputs: (i) systems and institutional capacity for sustainable irrigated agriculture strengthened; (ii) irrigation operation, maintenance, and management improved; and (iii) irrigation infrastructure improved.
Activity types	Rehabilitation or upgrading of irrigation infrastructure; improved asset management and needs-based budgeting; establishment of water users associations; and institutional strengthening of water resources agencies and irrigation commissions.	Upgrading of engineering guidelines; operationalization of irrigation commissions; improved asset management and needs-based budgeting through use of information system; establishment and strengthening of water users associations; institutional strengthening of water resources agencies; water accounting; and rehabilitation or upgrading of irrigation infrastructure.
Program expenditure	\$9.94 billion	\$1,679 million
Main financiers and the respective financing amounts	Government of Indonesia: \$7.24 billion Development institutions: \$2.70 billion	\$1,051 million: Government of Indonesia (62.60%) \$600 million: ADB (35.73%) <sup>a</sup> \$28 million: World Bank (1.67%) <sup>b</sup>
Geographic coverage	National	74 districts
Implementation period	2015–2025	2017–2021

ADB = Asian Development Bank.

<sup>a</sup> Including \$100 million from the Association of Southeast Asian Nations Infrastructure Fund.

<sup>b</sup> Parallel financing provided under the ongoing Water Resources and Irrigation Sector Management Program II.

Source: Asian Development Bank estimates.

6. **Program Action Plan (PAP).** A PAP had been developed to strengthen government processes and capacity to implement them. It includes key actions in specific result areas, risk mitigation measures, and program management and monitoring and evaluation (M&E) actions.

<sup>8</sup> International Fund for Agricultural Development financing of €94.56 million was approved in December 2015 and will be recorded as collaborative cofinancing.

<sup>9</sup> This includes (i) a web-based and geospatial interface for the irrigation asset management information system to facilitate data management; (ii) aerial and LIDAR surveys to reduce costs and improve the quality of the asset registry; (iii) water accounting using satellite data to predict water availability and adjust engineering design; (iv) pilot testing water productivity measurement as a future vehicle for policy making and improving water security; and (v) improving standards for engineering design to integrate infrastructure, agriculture, and climate resilience

The PAP aims to strengthen country systems based on the outcome of technical, fiduciary, and program safeguard-system assessments. The PAP will support the achievement of key program results, thus making the program results more sustainable.

7. Results monitoring and the measurement of outcome and output indicators (including disbursement-linked indicators [DLIs]) will rely on the reporting system of the DGWR. The Financial and Development Supervisory Board (BPKP) will be the independent verification agency. The verification process is designed to strengthen government capacity in supporting the implementation of the IIP. ADB will conduct review missions to confirm the achievement of DLIs.

8. During loan negotiations, the government expressed needs for technical support as the RBL modality is new in the public sector. The Ministry of Finance requested technical assistance to track programmatic expenditure through the program. While the government will procure consulting services to support the implementation of the PAP, additional resources are needed on specific aspects of the program. More specifically, the independent verification agency and MPWH Inspectorate General will need to be strengthened on DLIs that are linked to the introduction of high level technology, such as DLI5 (irrigation asset management information system). The upgrading of the DGWR M&E system to an irrigation data warehouse will also require guidance to ensure that results are reported in a timely way. The preparation of unaudited financial statement at program level, covering all sources of financing, will require special attention to fulfill the requirements set in the loan agreement. Therefore, it is proposed to provide a transaction technical assistance (TRTA) to address above issues. The TRTA was not processed together with the RBL program as (i) the government's request came at a late stage of processing; and (ii) the source of funding was not confirmed with the financier.

## **II. THE TECHNICAL ASSISTANCE**

### **A. Overall Progress of the TA cluster**

9. The Technical Assistance Cluster (TAC) for Sustainable Infrastructure Assistance Program (SIAP) is financed by the Government of Australia through the Department of Foreign Affairs and Trade and administered by ADB.<sup>10</sup> The TAC was approved on 17 June 2013 and is due to close on 30 June 2019. As of 19 July 2017, total commitments are \$12,080,000 (76%) against time elapsed of 67% and disbursements are 52% of commitments. Nine subprojects have been approved, three of these are closed. On 13 June 2017, the SIAP Steering Committee endorsed an additional four subprojects and additional financing for two existing subprojects for a total value of \$4.685 million.<sup>11</sup> This technical assistance proposal is one of those endorsed by the Steering Committee. SIAP is on track to meet its outcome and outputs. To date, SIAP has supported the preparation of approved projects and programs valued at nearly \$3 billion (\$1,748 million in OCR and \$1,128 million in cofinancing). As of 9 July 2017, TAC 0013-INO: SIAP has an available balance of \$3,000,753 taking in to consideration the management fee and foreign exchange reservations.

### **B. Subproject Scope**

10. The TRTA is a subproject under the TAC 0013-INO: SIAP as agreed with the

---

<sup>10</sup> ADB. 2013. *Technical Assistance Cluster for Sustainable Infrastructure Assistance Program*. Manila. (TAC 0013-INO). This technical assistance cluster, amounting AU\$20 million is financed by the Government of Australia, through the Department of Foreign Affairs and Trade, and administered by ADB.

<sup>11</sup> Subprojects under SIAP range from energy, water, connectivity and procurement harmonization.

Department of Foreign Affairs and Trade. The TRTA will support the MPWH in effectively implementing the program to accelerate the delivery of the 2015–2019 National Medium Term Development Plan targets. The TRTA will complement the RBL program to help address key gaps identified during program processing. The TRTA will strengthen financial management system and capacity towards results based financing. This will help government to track programmatic expenditure through the program, which is key action under the PAP. The TRTA will also provide technical advice to upgrade the M&E system and procedures to ensure a timely and accurate reporting of the Program key indicators – including DLIs. This is an important element of the RBL approach required for timely disbursements toward DLIs achievements. Finally, the TRTA will strengthen capacity to verify achievement of the high level technology DLIs and the PAP actions that cover a broad range of issues. Those key activities have to be delivered at early stage of the program to ensure that all key procedures and instruments are in place. The TRTA is included in ADB’s country operations business plan, 2017–2019 for Indonesia.

### C. Subproject Outputs and Activities

11. The major outputs and activities are summarized in Table 2.

**Table 2: Summary of Major Outputs and Activities**

Major Outputs	Delivery Dates	Key Activities with Milestones
1. Results based financing system and capacity strengthened	2017–2019	1.1 develop procedures to consolidate financial statements for the program; <sup>a</sup> 1.2 identify key gaps in government legal framework and formulate recommendations to apply results based financing for national budget spending for priority infrastructure programs; 1.3 provide advice to the executing and implementing agencies to comply with the PAP and loan covenants for financial management.
2. M&E system and procedures upgraded <sup>b</sup>	2017–2018	2.1 design and program a data warehouse for the IIP combining existing databases and key performances indicators for the sector and develop interface modules as required; 2.2 prepare technical references, user manual, standard operating procedures and support implementation of a training program for maintenance of the data warehouse and its modules; 2.3 provide technical support for management of the MPWH server; 2.4 provide support to DGWR for interagency coordination to ensure timely data collection and entry
3. Independent verification capacity strengthened	2017–2019	3.1 provide capacity building to the independent verification agency and MPWH Inspectorate General to verify DLIs; 3.2 review technical soundness of upgraded guidelines under DLI2; 3.3 provide independent review PAP achievements covering technical, fiduciary, institutional and safeguards dimensions.

ADB = Asian Development Bank, DLI = disbursement linked indicator, IIP = irrigation improvement program, M&E = monitoring and evaluation, MPWH = Ministry of Public Works and Housing, PAP = program action plan.

<sup>a</sup> Build on the results from the Program Fiduciary System Assessment.

<sup>b</sup> Build on the results from the Program Monitoring and Evaluation System Assessment.

Source: Asian Development Bank.

### D. Subproject Cost and Financing

12. The TRTA is estimated to cost \$850,000, of which \$800,000 will be financed from the TAC on a grant basis by the Government of Australia, administered by ADB as a subproject of TAC 0013-INO: SIAP (footnote 10). The key expenditure items are listed in Appendix 1. The government will provide counterpart support in the form of counterpart staff, office



accommodation, and other in-kind contributions.

## E. Subproject Implementation Arrangements

13. ADB will administer the subproject. The ADB Southeast Asia Department will select, supervise and evaluate consultants. The direct administration of these consulting services will enable ADB to provide timely and dedicated support. The TRTA executing agency will be DGWR. Activities will be coordinated with relevant agencies such as the Ministry of Home Affairs, the Ministry of Agriculture, MPWH Inspectorate General, the BPKP, the National Planning Agency (BAPPENAS) and the Ministry of Finance.

**Table 3: Implementation Arrangements**

Aspects	Arrangements		
Indicative implementation period	August 2017– August 2019		
Executing agency	Directorate General of Water Resources, Ministry of Public Works and Housing		
Implementing agencies	Ministry of Home Affairs, Ministry of Finance, National Planning Agency (BAPPENAS)		
Consultants	To be selected and engaged by ADB in accordance with the Guidelines on the Use of Consultants (2013, as amended from time to time)		
	ICS	111.46 person-months	\$594,174
Procurement <sup>a</sup>	To be procured by consultants in accordance with ADB's Procurement Guidelines (2015, as amended from time to time)		
	Shopping	1 contract	\$2,000
Disbursement	The TA resources will be disbursed following ADB's <i>Technical Assistance Disbursement Handbook</i> (2010, as amended from time to time).		
Asset turnover upon TA completion	Assets purchased under the transaction TA will be handed over to the Ministry of Public Works and Housing.		

ADB = Asian Development Bank, ICS = individual consultant selection, TA = technical assistance.

<sup>a</sup> This includes printers and scanner.

Source: Asian Development Bank estimates.

14. **Consulting services.** Consultants will be recruited on an intermittent basis (over a period of two years). Expertise will range from financial management, information and communication technology and irrigation infrastructure and management. The TRTA will require services of two international consultants (totaling 9.64 person-months) and 7 national consultants (totaling 101.82 person-months). The proposed works require consultants who have experience in result based financing with a high level of understanding of government planning, budgeting and M&E processes. This type of expertise is still limited in Indonesia. Therefore, the consultants will be engaged by ADB in accordance with the Guidelines on the Use of Consultants (2013, as amended from time to time) using the individual consultant selection. Consultant contracts will be input-based contracts with liquidation of advance. Workshops will be organized at key stages of the Program implementation to update and provide key agencies with advice on improving the delivery of the IIP objectives. Equipment, training, workshops and surveys will be procured or organized by ADB or by the consultants in accordance with ADB's Procurement Policy and Procurement Regulations for ADB Borrowers, 2017.

15. **Financier requirements.** Regular progress reports will be submitted to the Department of Foreign Affairs and Trade as per agreement in the umbrella TAC 0013-INO: SIAP (footnote 10).

**COST ESTIMATES AND FINANCING PLAN**  
(\$'000)

Item	Amount
<b>Government of Australia<sup>a</sup></b>	
1. Consultants	
a. Remuneration and per diem	
i. International consultants (9.64 person-months)	202.90
ii. National consultants (101.82 person-months)	338.22
b. Out-of-pocket expenditures	
i. International and local travel	46.00
ii. Reports and communications	7.05
2. Workshops, training, seminars, and conferences <sup>b,c</sup>	
a. Workshops	89.00
b. Training Program	100.00
3. Equipment <sup>d</sup>	2.00
4. Contingencies	14.83
<b>Total</b>	<b>800.00</b>

Note: The TRTA is estimated to cost \$850,000 of which contributions amounting to \$800,000 financed on a grant basis by the Government of Australia and administered by ADB as a subproject of TAC 0013-INO: SIAP are presented in the table above. The Ministry of Public Works and Housing will provide counterpart support in the form of counterpart staff, office accommodation and supplies, furniture, equipment, utilities, internet connection, and other miscellaneous support. The value of MPWH's contribution is estimated to account for 5.9% of the total cost of the TRTA.

<sup>a</sup> Administered by the Asian Development Bank.

<sup>b</sup> Includes rent of venue and other facilities, food and beverages (excluding alcoholic beverages), promotion and training materials, and other related costs.

<sup>c</sup> This includes travel costs of ADB staff when engaged as resource persons, as well as support services as per the Strategy, Policy and Review Department and Budget, Personnel and Management Systems Department memo dated 26 June 2013.

<sup>d</sup> This includes printers and scanner.

Source: Asian Development Bank estimates.

**LIST OF LINKED DOCUMENTS**

<http://www.adb.org/Documents/LinkedDocs/?id=46380-020-TARreport>

1. Terms of Reference for Consultants