

Enhanced Water Security Investment Project – National Workshop



A. Background

1. Although the national water security index progressed from 40.9 (over a scale of 0–100) in 2013 to 49.8 in 2016, Indonesia is still at risk.¹ The country is deficient in certain dimensions of water security, especially in household water security, urban water security, and resilience to water-related disasters, for which progress has been slow.² This slow progress is affecting economic development and poverty reduction.

2. The Government is formulating the 2020-2024 Medium- Term National Development Plan (RPJMN) articulated around the five following priority themes: (i) human development; (ii) economic development; (iii) regional development; (iv) infrastructure development; and (v) politic, law, defense, and security development. Water security will be a central element under infrastructure development to support economic and regional development towards a more industrialized, environmentally sustainable and food secured Indonesia.

3. The Asian Development Bank (ADB) is providing technical assistance to the Directorate General of Water Resources (DGWR), Ministry of Public Works and Housing (MPWH) to prepare the Enhanced Water Security Investment Project (EWSIP).³ The proposed EWSIP will support the Government of Indonesia to improve selected dimensions of water security (economic water security and resilience to water-related disasters).⁴ The project will promote an integrated water resources management approach to: (i) improve water resources planning and management to meet rising demands for irrigation and non-agricultural use; (ii) minimize spatial and temporal variations in water availability; and (iii) increase resilience to climate change. The International Fund for Agricultural Development (IFAD) is expected to provide collaborative co-financing to improve land management in upper river basins.⁵

B. Objectives

4. As part of the preparation of the EWSIP loan, a workshop will be held bringing together relevant stakeholders. The workshop objectives are to (i) present the project concept under the river basin approach including flood risks management (FRM) and source to tap (STT) including

¹ The national water security is the composite result of the five key dimensions (household water security, economic water security, urban water security, environmental water security, and resilience to water-related disasters) measured on a scale of 1–5. See <https://www.adb.org/publications/asian-water-development-outlook-2016>.

² Household water security progressed from 5 (over a scale of 20) in 2013 to 6 in 2016, urban water security from 5.6 to 6.3, and resilience to water-related disasters from 3.61 to 4.74. ADB. 2016. *Asian Water Development Outlook 2016: Strengthening Water Security in Asia and the Pacific*. Manila.

³ The transaction technical assistance (TRTA) to prepare the Enhanced Water Security Investment Project is as a subproject under the TAC 0013-INO: Sustainable Infrastructure Assistance Program.

⁴ ADB. 2016. *Asian Water Development Outlook 2016: Strengthening Water Security in Asia and the Pacific*. Manila.

⁵ Under the following project entry from the 2nd Book – List of Medium Term Planned Loans – DRPLN-JM 2015-2019, 2016 Revision: Upland Development for National Food Security, Project No. BB-1519-R0-24-02-0, Book 2, pg 261.

innovations and to discuss in details the proposed EWSIP project design and features on event 1; (ii) discuss the synchronization under L3455 ESP for subproject preparation under Directorate General of Water Resources (DGWR) and the Directorate General of Human Settlements (DGHS) for Source to Tap and FRM; respectively on event 2; and (iii) evaluate guidance on project administration processes on event 3.

C. Format and Logistic

5. On Event 1, an overview of the proposed project will be presented with an introduction to the Flood Risk Management (FRM) and Source to Tap (STT) concepts. FRM participants will participate in knowledge sharing and STT participants will work in groups (per river basin, STT area) on verifying sub-project outlines and project readiness which have been drafted in advance.

6. On Event 2, there will be a plenary session reflecting on the STT approach followed by parallel presentations in FRM and STT by the various groups to share their findings and respond to questions raised by other groups on subproject components and readiness. The groups will consist of Balai⁶/PDAM/Dinas Province/Kabupaten.

The draft program is presented in attachment 1.

7. Outputs and Deliverables:

- (i) workshop proceedings; and
- (ii) Updated subproject readiness of both STT and FRM.

Date	9 – 10 October, 2019
Venue	Mercure Hotel, Jakarta

⁶ Balai Besar/Balai Wilayah Sungai DGWR and Balai Prasarana Permukiman Wilayah DGHS

**Attachment: 1. Program EWSIP – National Workshop
Agenda Event 1: 9 October 2019**

Time	Activities	Facilitator	Participants/ Location
13:00 – 13:30	Registration	EWSIP-ADB	All
13:30 – 13:40	Opening Remarks	Director of Water Resources System Development	All, Plenary room
13:40 – 13:50	Opening Remarks	Director of Drinking Water Supply System Development, DGHS	All, Plenary room
13:50 – 14:30	Introduction of EWSIP: Innovations and Lessons learned: <ul style="list-style-type: none"> Flood Risk Management (FRM) Source to Tap (STT) 	EWSIP-ADB	All, Plenary room
14:30 – 15:00	Panel discussion on Source to Tap (STT) approach as proposed in EWSIP: Challenges, Opportunities, Key lessons	Facilitated panel with BAPPENAS, Directorate General of Water Resources (DGWR) and the Directorate General of Human Settlements (DGHS)	All, Plenary room

Time	Parallel Session Flood Risk Management	Parallel Session Source to Tap Participants																				
15:00 – 16:30	<p>Knowledge Sharing by EWSIP International Partners:</p> <ul style="list-style-type: none"> Earth Observation for Enhanced Water Security in Jratunseluna Basin (LAPAN) Sustainable Water Resources Infrastructure through Nature Based Solutions in Cimanuk-Cisanggarung Basin (Deltares) Upstream watershed protection through UPLAND measures (International Fund for Agricultural Development) 	<p>Knowledge Sharing by EWSIP i) STT Framework, ii) Smart-water Management, and iii) Asset Management Information System</p> <p>Facilitated group work to verify subproject components at 8 STT locations.</p> <table border="1"> <thead> <tr> <th>STT</th> <th>Location</th> <th>STT</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Keureuto</td> <td>5</td> <td>Bener</td> </tr> <tr> <td>2</td> <td>Lau Simeme</td> <td>6</td> <td>Sidan</td> </tr> <tr> <td>3</td> <td>Dadi Muria RWS</td> <td>7</td> <td>Tamblang</td> </tr> <tr> <td>4</td> <td>Jragung</td> <td>8</td> <td>Tukad Unda</td> </tr> </tbody> </table>	STT	Location	STT	Location	1	Keureuto	5	Bener	2	Lau Simeme	6	Sidan	3	Dadi Muria RWS	7	Tamblang	4	Jragung	8	Tukad Unda
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16:30 – 16:45	Coffee Break																					
16:45 – 17:30	<p>Knowledge Sharing by EWSIP International Partners:</p> <ul style="list-style-type: none"> Towards Enhanced Resilience in Water Resources (TA 9191: Building Climate Change Resilience in Asia's Critical Infrastructure with Regional perspective) 	<p>Facilitated group work to verify subproject components (continued).</p> <table border="1"> <thead> <tr> <th>STT</th> <th>Location</th> <th>STT</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Keureuto</td> <td>5</td> <td>Bener</td> </tr> <tr> <td>2</td> <td>Lau Simeme</td> <td>6</td> <td>Sidan</td> </tr> <tr> <td>3</td> <td>Dadi Muria RWS</td> <td>7</td> <td>Tamblang</td> </tr> <tr> <td>4</td> <td>Jragung</td> <td>8</td> <td>Tukad Unda</td> </tr> </tbody> </table>	STT	Location	STT	Location	1	Keureuto	5	Bener	2	Lau Simeme	6	Sidan	3	Dadi Muria RWS	7	Tamblang	4	Jragung	8	Tukad Unda
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Who	Balai/DGWR/Dinas Prov/EWSIP-ADB	Balai ⁷ /PDAM/Dinas Province/Kabupaten, EWSIP-ADB																				
Location	tbc	tbc																				
18:00 – 20:00	Dinner																					

⁷ Balai Besar/Balai Wilayah Sungai DGWR and Balai Prasarana Permukiman Wilayah DGHS

Agenda Event 2: 10 October 2019

Time	Parallel Session Flood Risk Management	Parallel Session Source to Tap Participants																				
09:00 – 12:00	<p>Discussions by groups on subproject readiness, constraints, and opportunities.</p> <ul style="list-style-type: none"> • Cimanuk Cisanggarung River Basin • Jratunseluna River Basin • Belawan Ular Padang River Basin • Mahakam River Basin 	<p>Discussions by groups on subproject readiness, constraints, and opportunities at 8 STT locations.</p> <table border="1"> <thead> <tr> <th>STT</th> <th>Location</th> <th>STT</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Keureuto</td> <td>5</td> <td>Bener</td> </tr> <tr> <td>2</td> <td>Lau Simeme</td> <td>6</td> <td>Sidan</td> </tr> <tr> <td>3</td> <td>Dadi Muria RWS</td> <td>7</td> <td>Tamblang</td> </tr> <tr> <td>4</td> <td>Jragung</td> <td>8</td> <td>Tukad Unda</td> </tr> </tbody> </table>	STT	Location	STT	Location	1	Keureuto	5	Bener	2	Lau Simeme	6	Sidan	3	Dadi Muria RWS	7	Tamblang	4	Jragung	8	Tukad Unda
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Time	Activities	Facilitator	Participants/ Location
12:00 -12:15	Key take away per group Conclusions and Next Steps	Participants BAPPENAS	All, Plenary room
12:15 – 12:30	Conclusion and Closing Remarks	Head, Subdit of Cooperation	All, Plenary room
Who	Balai/DGWR/Dinas Prov/EWSIP-ADB	Balai ⁸ /PDAM/Dinas Province/Kabupaten, EWSIP-ADB inputs from TA 9191- Building Climate Change Resilience in Asia's Critical Infrastructure	
Location	tbc	tbc	
12:30 – 13:30	Lunch		

⁸ Balai Besar/Balai Wilayah Sungai DGWR and Balai Prasarana Permukiman Wilayah DGHS

Attachment 2: Enhanced Water Security Investment Project (EWSIP) Preparation Process

1. The transaction technical assistance (TRTA) has supported DGWR in preparing pre-feasibility studies for Flood Risk Management (FRM) and Source to tap (STT) subprojects. The TRTA conducted technical, social and environment safeguards due diligence; prepared economic-financial analyses, implementation plans, and investment/financing plans. The study reports were prepared in close consultations with the river basin organizations and local stakeholders and were based on numerical modelling and associated data sets provided by national and international partners.⁹ The proposed enhancements will introduce nature-based solutions and consider the impacts of climate change by 2050.

2. Project Preparation Consultants (PPCs) engaged under L3455-INO will prepare Detailed Engineering Designs (DEDs), initial environment examination (IEE), Land Acquisition and Resettlement Plans (LARPs) and Economic and Financial Analysis (EFA) for FRM and STT subprojects (Raw Water Supply (RWS) with Water Treatment and Distribution (WTD) infrastructure, respectively under the responsibility of the Directorate General of Water Resources (DGWR) and the Directorate General of Human Settlements (DGHS) as identified in the pre-feasibility studies. The PPCs are also supporting the river basin to process land acquisition and environment permits. The linkages between the TRTA, Engineering Services Project (ESP); and construction under EWSIP are schematized below (Figure 1).

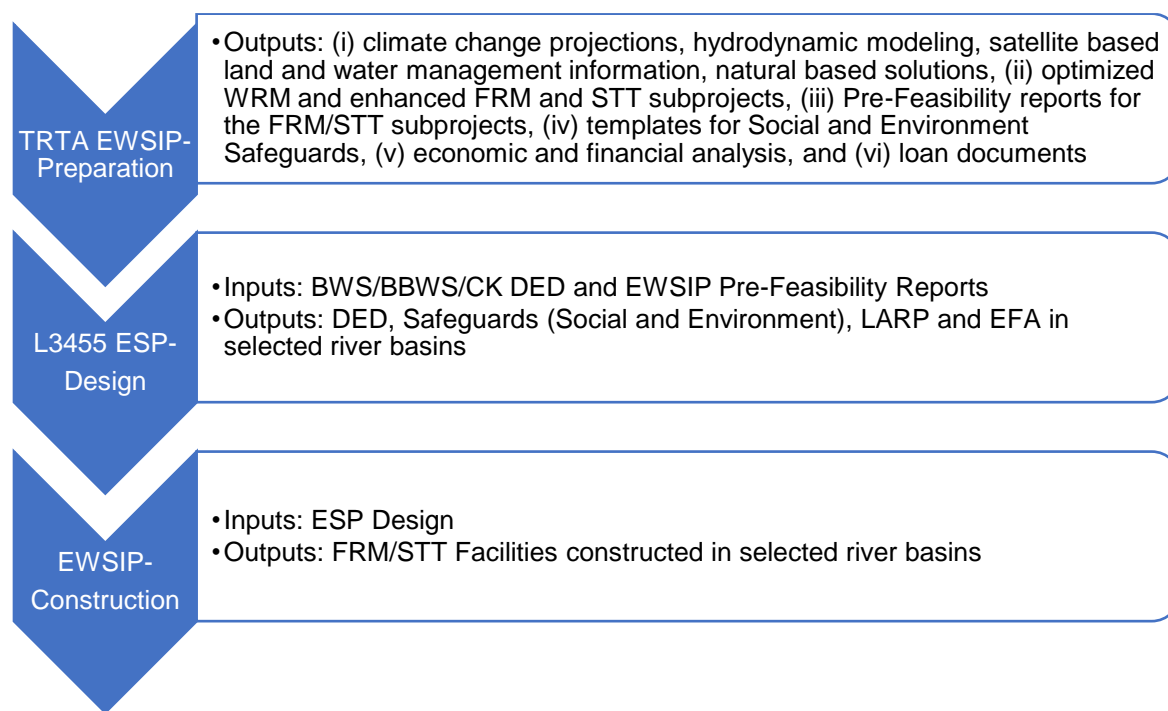


Figure 1: linkages between the TRTA, Engineering Services Project (ESP); and construction under EWSIP

⁹ The national partners/stakeholders include Directorate General of Housing and Settlement (DGHS), Balai (BWS/BBWS), Provincial Housing and Settlement Agency (PHSA), Provincial Water Resources Agency (PWRA), Regional Water Utility Company (PDAM), BIG, BMKG, BNPB, and PUSAIR. The international partners included UNESCO-IHE, IFAD, European Space Agency, and ADB-Climate Change project.

3. ADB leveraged on its partnerships to introduce innovations and enhance the design of the EWSIP towards a more resilient Indonesia. The European Space Agency delivered earth observation products to improve land and water management.¹⁰ IHE Delft prepared water accounting for the three EWSIP basins.¹¹ RETA 9191: Building Climate Change Resilience in Asia's Critical Infrastructure is preparing the Climate change impact analysis. Deltares is advising on inclusion of nature-based solutions.¹² RETA 9634: Strengthening Integrated Flood Risk Management is supporting the preparation of a national flood risks management roadmap 2020-2030. The Bandung Institute of Technology supported EWSIP in site-specific data/document collection, and BAPPENAS in preparing a Water Resources Sector Assessment and Priorities 2020-2024.¹³

4. The subprojects were evaluated in the context of four scenarios (i) Scenario 1: existing conditions, (ii) Scenario 2: future conditions representing infrastructure solutions proposed by the BWS/BBWS, (iii) Scenario 3: future conditions representing enhancements by the EWSIP, and (iv) Scenario 4: future conditions representing EWSIP enhancements in the context of climate change for the years 2030 and 2050. The TRTA discussed the main outcomes of FRM/STT subprojects, as presented in the pre-feasibility reports, with national partners/stakeholders in July and August 2019 to confirm alignments with national/regional plans.

¹⁰ (i) Land Cover Mapping assuring information of spatial distribution of specific land cover types; (ii) Land Cover Changes Mapping containing information of spatial distribution of specific land cover classes, datasets represent subsequent land cover maps, for 1975, 1990, 2000 and 2018; (iii) Cropping Intensity Mapping providing information indicating number of harvests/crops for agriculturally cultivated land (with crops types not differentiated) during the year of monitoring; (iv) Surface Water Monitoring Service providing spatial representation of detected surface water extent store and integrate results of analysis on three levels: for individual S1 scenes, individual passes, and for individual days; (v) Surface Deformation Service containing information on surface deformation: map of mean deformation in cm/year and deformation history for every persistent and distributed scatterers; (vi) Potential Soil Erosion Maps providing information of potential soil erosion in tons per hectare per year. Sediment Yield Maps provide information amount of sediment in tons per hectare per year that is transported to a basin outlet; (vii) Coastal Changes Mapping providing line features representing coastlines as were observed on subsequent satellite datasets for 1975, 1990, 2000 and 2018 and (viii) Long-term Surface Water Coverage Mapping generating data on spatial representation of frequency of detection of surface water; and (ix) Ecosystems and Biodiversity Mapping providing information on ecosystems type, biodiversity, ecosystem primary production during the year of monitoring.

¹¹ Under RETA 6498: Knowledge and Innovation Support for ADB's Water Financing Program

¹² Under RETA 9461: Protecting and Investing in Natural Capital in Asia and the Pacific – Support Introduction of Natural Based Solutions for Flood Risks Management in Indonesia and the Philippines

¹³ Under TA 8858-INO: Strengthening Knowledge Sharing in Indonesia.