Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)
# BASIC INFORMATION

## A. Basic Project Data

<table>
<thead>
<tr>
<th>Country</th>
<th>Project ID</th>
<th>Project Name</th>
<th>Parent Project ID (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>P157585</td>
<td>Strategic Irrigation Modernization and Urgent Rehabilitation Project</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Estimated Appraisal Date</th>
<th>Estimated Board Date</th>
<th>Practice Area (Lead)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAST ASIA AND PACIFIC</td>
<td>12-Apr-2018</td>
<td>15-May-2018</td>
<td>Water</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Financing Instrument</th>
<th>Borrower(s)</th>
<th>Implementing Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment Project Financing</td>
<td>Republic of Indonesia</td>
<td>Ministry of Public Works and Housing</td>
</tr>
</tbody>
</table>

**Proposed Development Objective(s)**

The Project Development Objective is to improve irrigation services and strengthen accountability of irrigation schemes management in selected areas.

**Components**

- Component A: Urgent Rehabilitation of Irrigation and Drainage System
- Component B: Strategic Modernization of Irrigation and Drainage System
- Component C: Project Management

**Financing (in USD Million)**

<table>
<thead>
<tr>
<th>Financing Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian Infrastructure Investment Bank</td>
<td>250.00</td>
</tr>
<tr>
<td>Borrower</td>
<td>78.00</td>
</tr>
<tr>
<td>International Bank for Reconstruction and Development</td>
<td>250.00</td>
</tr>
<tr>
<td><strong>Total Project Cost</strong></td>
<td><strong>578.00</strong></td>
</tr>
</tbody>
</table>

**Environmental Assessment Category**

B - Partial Assessment

**Decision**
Other Decision (as needed)

B. Introduction and Context

Indonesia has emerged as a vibrant middle-income economy but poverty reduction and inequality are becoming a growing challenge. With a population of 250 million, Indonesia had been experiencing a steady rise in Gross Domestic Product (GDP) and poverty more than halved, from 24 percent in the mid-1990s to 11 percent in 2016. However, the current national poverty rate is facing a near zero decline over recent years, with 28 million people still poor. Furthermore, the Consumption Gini coefficient, an indicator of inequality, has increased from 30 in 2000 to 42 in 2016. This is amongst the fastest widening of inequality in East Asia.

Irrigated agriculture plays a key role in supporting poverty reduction and inclusive growth by providing farmer livelihoods and increasing agricultural productivity. Agriculture represents 13.7 percent of the economy and around 33 percent of the entire labor force (40 million people). It is estimated that 60 percent of the poor (those earning less than US$1.25 per day) rely on agriculture for their income. Thus, irrigated agriculture holds large potential in reducing income deficits of the poor if the sector can be improved.

Improved irrigated agriculture is also a critical component of enhancing domestic food security. A majority or 77 percent of Indonesian farmers depend on rice cultivation, and Indonesia has the highest per capita rice consumption in the world. However, the country is still dependent on imports to secure the domestic rice supply. The government acknowledges that maintaining food security will require greater focus on the management of irrigation sector. The 2007-2008 global food crisis, when rice prices doubled and global trade was highly constrained, heightened the commitment to increase domestic rice production as a critical component of the country’s overall food security. In 2011, the Government called for rice production to increase by 15 percent or 10 million tons.

Indonesia is highly vulnerable to climate change effects, and irrigated agriculture possesses a high potential for mitigation and adaptation measures. Recent estimates reveal that climate change impacts as sea level rise and changing weather patterns could decrease agricultural output, costing Indonesia around 61 trillion rupiahs, or 0.8 percent of today’s GDP by 2050. The poorest and most marginalized populations that tend to live in high-risk areas are particularly prone to hydro-meteorological disasters, which make up to 80 percent of disaster occurrences in Indonesia. Thus, Indonesian food security and welfare of farmers are highly dependent on the reliability of irrigation services to mitigate risks from climate variability.

C. Proposed Development Objective(s)
The Project Development Objective is to improve irrigation services and strengthen management of irrigation schemes in selected areas.

D. Project Description

The Strategic Irrigation Modernization and Urgent Rehabilitation Project (SIMURP) is part of an ongoing National Reform Agenda that focuses on decentralization, democratization, and modernization and is based on the principles of participatory irrigation management known as PPSIP (Pengembangan dan Pengelolaan Sistem Irigasi Partisipatif). Where attention has been paid only to the decentralized provincial and district irrigation systems, SIMURP will now focus on the improvement of service delivery in the national irrigation schemes, through modernization of the management systems and associated rehabilitation and upgrading of the irrigation infrastructure.

SIMURP will affect the management of 67 percent of all the National irrigation systems. In addition to the Jatiluhur Irrigation System (176,000 ha), the project has selected 14 systems with a total of 100,000 ha in nine RBOs out of the priority list of 41 national irrigation systems for institutional strengthening and urgent rehabilitation for improved service delivery. The nine RBOs will cooperate in the irrigation systems management with the eight provinces which they are located. These eight provinces have a total national irrigation area of 1.4 million ha or 67 percent of the total national irrigation systems area, which will benefit through the institutional measures supported by the project. To facilitate the introduction of the modernized management for the remaining 27 systems, the project will also provide necessary technical assistance for required surveys and other preparations to cover all 41 prioritized national systems.

The project interventions focus on increased accountability, transparency and cost effectiveness towards reliable and sustainable delivery of irrigation and drainage services and comprise: (i) the establishment of service agreements between different management tiers in the irrigation systems; (ii) introduction of a benchmarking system of Irrigation Service Providers to be eventually linked to annual budget allocations; (iii) introduction of asset management planning; (iv) publication of service delivery plans and performance reports; and (v) introduction of client feedback through user surveys and audits. All of these interventions will be suitable for application in all national irrigation systems. These activities will be supported by: (vi) the development of management information systems (MIS); (vii) upgrading and modernization of irrigation hydraulic infrastructure; (viii) capacity development of the irrigation management and water user institutions. These activities are for the selected national schemes under the project which will have a potential demonstration effect in the sector.

The components of this project are designed to generate climate co-benefits to contribute to the climate policy objectives. For climate change mitigation, Components A and B as described below, will respectively rehabilitate and modernize irrigation infrastructures which are all gravity-based systems, thus improving capacity of these systems to provide irrigation services with zero emissions. Component A also supports measures to improve soil carbon pool as part of the activities to rehabilitate two lowland tidal irrigation systems, contributing to negative net GHG emissions from the improved efficiency of on-farm water delivery to rice farms (decreasing anaerobic conditions and methane releases). Net annual average GHG emissions of the Project are estimated to be -439,743 tons of CO2 equivalent. For climate change adaptation, the infrastructure improvement work under Component A and Component B will incorporate climate-resilient designs and climate-resilient irrigation management strategies.
Enabled by investments, the project will support pilots of climate-smart agriculture (CSA) to increase adaptive capacity of agricultural production in the project areas. Climate Smart Agriculture will focus on agriculture practice that will help enhancing productivity and reduce income risks through increasing resilience to climate change effects. It will also contribute to the reduction of GHG emissions through better field water management practices. Effective and reliable irrigation service delivery is an essential precondition for the introduction of CSA.

A. Project Components

**Component A: Institutional Strengthening and Urgent Rehabilitation (US$222 Million)**

For the project, the Government has selected 14 schemes spread across nine RBOs in eight provinces out of a long-list of 41 systems following a set of readiness and performance criteria (see Annex 1). In these 14 schemes, this component will support the Institutional strengthening and rehabilitation and revitalization of about 100,000 hectares of irrigated command area aligned with the Government’s five pillars of modernization. This includes about 84,000 hectares of gravity upland irrigation systems and 16,000 hectares of tidal lowland systems. The Component will include activities as: (i) assessments of water resources and schemes performance; (ii) engineering surveys, investigations and designs; and (iii) rehabilitation and upgrading of the irrigation and drainage infrastructure. The Component will also include the modernization of irrigation management systems and strengthening of irrigation management institutions in Project Area. Finally, the component will also support the operationalization of the installed management tools for the other irrigation systems that are being managed under the responsibility of the respective RBOs. This involves support for surveys, data entry and associated supportive equipment enhancing the effectiveness of the initial investments to cover the entire 41 prioritized national irrigation systems.

Sub-component A.1: Enhancing Water Availability for Water Security (US$0.5 Million) will finance assessments of water resources and system performance assessment of 14 national irrigation systems. These assessments include: (i) water availability and water needs under various management and service delivery scenarios; (ii) water shortage risks and physical and non-physical options for mitigation; and (iii) options/scenarios for physical and non-physical measures to enable delivery of desired services.

Sub-component A.2: Rehabilitation and Improvement of National Irrigation Systems (US$ 199.0 Million) will support rehabilitation and upgrading of 74,000 hectares existing gravity run-of-the-river irrigation and drainage systems, 16,000 hectares of existing lowland systems and modernization of 10,000 hectares of existing irrigation systems to be supplied from new reservoirs.

Sub-Component A.3: Irrigation Management Modernization (US$16.4 Million) will focus on creation of more accountability, transparency and sustainability and include: (i) establishment of water accounting systems, formulation of service delivery standards, and establishment of service agreements; (ii) installation of water distribution and service delivery monitoring network; and (iii) installation and operationalization of management information and decision support systems for water and asset management and management performance monitoring and reporting; (iv) the establishment of a benchmarking system of service delivery performance assessment of the participating irrigation systems; and (v) carrying out climate smart agriculture pilots.
Sub-Component A.4: Irrigation Management Institutions (US$1.2 Million) will include: (i) institutional reviews to assess current management arrangements and inform future institutional options; (ii) improvement of Inter Agency Coordination and Support to Stakeholder Involvement; (iii) support for enhancement of the legal and regulatory framework on national and local level to synchronize, harmonize and coordinate tasks and responsibilities among irrigation management institutions and coordination platforms; (iv) ensure for participatory irrigation management to be incorporated in programming, planning and budgeting for investments and O&M in the regional planning documents (RPJMD); (v) conduct investigations and piloting of possibilities for outsourcing of irrigation management tasks through maintenance contracts, management contracts or partnerships with WUAF/WUAA; and (vi) conduct studies to the possibilities of reducing the O&M budget gap by reducing O&M cost through more cost effective O&M practices while increasing resources for O&M through revenue generating activities and intensified cooperation with WUAFs.

Sub-Component A.5: Human Resources Development (US$ 5.4 Million). Activities under the sub-component includes (i) socialization and training of participatory irrigation management and irrigation management modernization for government agencies and WUAFs in the 14 selected systems and provinces; (ii) establishment and strengthening of WUAs and WUAFs as management partners of the irrigation agency; and (iii) gender focused activities (information provision and group trainings) and gender diagnostics to inform the design of WUA formation and WUA trainings, including with the objective to actively encourage female participation.

Component B: Jatiluhur Irrigation Management Modernization (US$336 Million)

The Modernization of the Management of the Jatiluhur Irrigation System is covered under a separate component because of the different institutional arrangement and because of the size and complexity of the system, although the activities are similar as in Component A. The Jatiluhur Irrigation System is located in the West Java province. With the total irrigation area of 240,000 ha, the area provides approximately 40 percent of the rice needs for West Java Province and 9.4 percent for the country. The Jatiluhur Irrigation System falls under the management responsibility of the State-Owned Enterprise (PJT2) while capital investments and the assets are the responsibility of the BBWS Citarum. This component will support the increase of serviceability and management of 176,000 hectares of main, secondary and tertiary networks in the East (ETC - 90,230 ha) and North (NTC - 85,945 ha) Tarum Canals along with two pilot projects in the ETC command area to pioneer irrigation management modernisation principles.

Sub-component B.1: Enhancing Water Availability for Water Security (US$ 0.5) will finance studies and investigations concerning water availability and water needs under various management and service delivery scenarios of the Jatiluhur Bulk System and Secondary Systems and assessment of water shortage risks and physical and non-physical options for mitigation, etc.

Sub-component B.2: Detailed Planning, Design and Implementation (US$311.2 Million) will include the rehabilitation and modernization of the JIS bulk water gravity-system, including the East and North Tarum primary Canals, as well as design and implementation of the secondary and tertiary.

Sub-Component B.3: Modernization of Irrigation Management in Jatiluhur Irrigation System (US$17.3 Million) will include: (i) the preparation, introduction and operationalization of a system management plan including hydrological data gathering; (ii) establishment of asset management systems; (iii) evaluation of irrigation
systems performance; (iv) development of irrigation management cooperation; (v) installation of advanced information system, telemetry and tele-control irrigation system; (vi) modernization of water irrigation allocation and distribution; and (vii) climate smart agriculture and pilot of agriculture process management.

Sub-Component B.4: Irrigation Management Institutions (US$2.8 Million) will include activities such as: (i) institutional reviews to assess current management arrangements and inform future institutional options in the context of outsourced management to PJT2; (ii) support for enhancement of the legal and regulatory framework on national and local level for Jatiluhur irrigation management; (iii) investigation and piloting of possibilities for outsourcing of irrigation management tasks through maintenance contracts, management contracts or partnerships with WUAF/WUAA; and (iv) development of a modified strategy for organization of water users in the Jatiluhur Area to accommodate the transition in land ownership, tenure and agriculture practice.

Sub-Component B.5: Human Resources Development (US$4.0 Million) will finance: (i) establishment and strengthening of WUAs, WUAFs and Irrigation Commissions (KOMIR); (ii) strengthening of Citarum RBO and PJT2; (iii) development and implementation of training programs for irrigation service development and irrigation system modernization; iv) training implementation in the introduction of Climate Smart Agriculture activities and irrigation management to WUA and WUAFs; and v) gender focused activities (information and group trainings) and gender diagnostics to better inform approaches, and training programs that will be implemented under these sub-components.

Component C: Project Management (US$20 Million)

This component will provide support to overall project management and implementation through: (i) the Central Project Management Unit (CPMU) within the Ministry and Project Implementation Units (PIU) at the RBOs to provide the necessary support services for timely and effective project implementation, including monitoring & evaluation, procurement, financial management, safeguard compliance and monitoring; (ii) Technical Assistance for the RBOs and other implementing entities to ensure timely and effective implementation; (iii) support to the National Steering Committee for Water Resources; and (iv) the incremental operating costs of the CPMU and the PIUs for activities related to project implementation.

E. Implementation

The executing agency for the proposed project is the Ministry of Public Works and Housing and it will be implemented through the Directorate General of Water Resources (DGWR), where Central Project Management Unit (CPMU) will be established. CPMU will include relevant directorates, such as Irrigation and Lowlands, Water Resources Infrastructures Development, Operation and Maintenance, and Water Resources Management. The CPMU will also be assisted in management of the project by dedicated Technical Assistance (TA).

The DGWR will implement the project through its river basin organizations (BBWS) responsible for each of the respective irrigation schemes. A Project Implementation Unit (PIU) will be established in each of the eight BBWS responsible for the activities from Components A required for the rehabilitation and revitalization of irrigation schemes. A PIU will also be established in the BBWS Citarum for Component B associated with the
modernization of the Jatiluhur Irrigation Scheme. The PIUs will be supported in implementation through TA. The TA will be centrally located within the Central Project Implementation Unit (CPIU), with regional sub-teams established in each BBWS to provide guidance and supervision during implementation.

The planning and design of improvement works for the primary to tertiary canals, and the construction of primary and secondary canal works will be implemented by the respective BBWS. The construction of tertiary canal works will be done by WUAs and WUAFs guided by a District Irrigation Agency (Dinas PU). The Irrigation Commission (KOMIR) in each province and district will be responsible for coordinating and endorsing all irrigation programs in their respective province.

The Directorate General of Regional Development (DG-Bangda) of Ministry of Home Affair (MOHA) will be involved to ensure coordination and synchronization with the local government irrigation program. The DGRD of MOHA in coordination with the DGWR of MPWH will carry out institutional strengthening and provide training to the Provincial and District Dinas PU and the Water User Associations/ Federations. The budget for the institutional strengthening and training will be provided through the state budget (APBN).

F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)

The project locations of SIMURP includes 14 national irrigation schemes of Component A, which includes islands of Java, Sumatra, Kalimantan, Sulawesi and NTB, and Jatiluhur Irrigation Scheme in Component B. The average size of the proposed schemes is roughly 8,000 hectares, ranging from the largest of 21,000 hectares to the smallest which is 3,000 hectares of the area to be served by the irrigation systems. The physical infrastructure activities will mainly take place in the existing irrigation systems and so there are not expected to be any major adverse environmental impacts and no significant alterations of the local land use patterns. The project will focus on rehabilitation and upgrading of the irrigation system at selected scheme both for Components A and B, while the construction will mainly focus on flow measurement devices, gates and supporting infrastructures such as service roads and also the development of tertiary system. Most of the irrigation schemes are run of the river systems and only 11% area served by reservoir. The potential environmental impacts will be mitigated in compliance with the World Bank safeguards policies, as well as the GOI regulations. Existing environmental and social frameworks from other irrigation projects including WISMP (Water Resource and Irrigation System Management Program) has been adapted and adopted to meet the needs of the project and inform the Environmental and Social Management Framework (ESMF).

Components A and B are gravity-based irrigation systems, thus improving capacity of these systems to provide irrigation services with zero emissions. Component A also supports measures to improve soil carbon pool as part of the activities to rehabilitate two lowland tidal irrigation systems, contributing to reduction of GHG emissions from land use. With regards to social safeguards screening has been carried out and has determined that no indigenous peoples reside in the subproject sites. All of these schemes having been in operation for a number of years without any issues relating to indigenous communities. Since the activities will work in the existing irrigation schemes and be limited to small to medium scale physical rehabilitation works, no significant adverse impact to indigenous groups is expected. There are no indigenous people residing in Jatiluhur irrigation area (West Java) of Component B.
G. Environmental and Social Safeguards Specialists on the Team

Ninin Kania Dewi, Social Safeguards Specialist
Virza Syafaat Sasmitawidjaja, Environmental Safeguards Specialist

SAFEGUARD POLICIES THAT MIGHT APPLY

<table>
<thead>
<tr>
<th>Safeguard Policies</th>
<th>Triggered?</th>
<th>Explanation (Optional)</th>
</tr>
</thead>
</table>
| Environmental Assessment OP/BP 4.01| Yes        | The main focus of the project is to rehabilitate and modernize existing irrigation systems. Activities will be limited on farm land and peri urban area and so the potential environmental impacts are expected to be localized and managed with proper mitigation measure and the implementation of best engineering and housekeeping practices. The project will not fund new dam and/or irrigation constructions. The rehabilitation works involved in the project include:

- Component A.2: rehabilitation and possible construction of canals, canal control structures, measurement devices, storage facilities and supporting infrastructures (roads, bridges, field offices etc.); and rehabilitation and construction of tertiary and on-farm system development.

- Component B.2: upgrading and modernizing of river infrastructure, where relevant, including irrigation and drainage canals, and storage facilities, flow control structures, measurement devices, and supporting infrastructure such as service roads. And the development and improvement of tertiary systems to facilitate introduction of climate smart agriculture incorporating climate-resilient (such as enhanced reservoir, slope protection, etc.) and water-efficient features.

The preliminary identified rehabilitation is for 14 irrigation schemes of component A and Jatiluhur...
irrigation scheme of Component B. This includes locations on Java, Sumatra, Kalimantan, Sulawesi and NTB. The average size of the proposed schemes is roughly 8,000 hectares, ranging from the largest of 21,000 hectares to the smallest which is 3,000 hectares of the area to be served by the irrigation systems. As they are dispersed across the country, no cumulative impacts from the civil works are anticipated.

As they were in WISMP, the potential impacts are expected to be low to moderate in magnitude and numbers, local in extent, and not significant/sensitive, irreversible, or unprecedented, and temporary. These impacts can be managed mostly by good engineering design and construction management practices, but some subprojects will require environmental and social management plans (ESMP) or UKL-UPL in Indonesia system. No subproject is anticipated to require AMDAL (full environmental assessment), unless for Jatiluhur where AMDAL is already available from WISMP and DOIISP project and will be used in this project. For minor rehabilitation works, simplified ESMP will be used as safeguards instruments in compliance with OP/BP 4.01 requirement about ESMP. The project is therefore in Category B for environmental assessment.

The mitigation measures are incorporated in the ESMF which built upon the existing ESMF of WISMP. The 1st year project implementation will consist of five irrigation rehabilitation schemes (Kedung Putri, Talang, Pamukkulu, Jurang Batu, and Jatiluhur). In all five schemes, activities will include canal improvement, reshaping, de-silting, lining, and repair or replace hydraulic structures. For Jatiluhur, activities will also include installation of new the hydraulic structures and flow monitoring systems. ESMP for these five schemes have been prepared as the safeguard instrument, in addition to the SPPLs available for Kedung Putri, Talang, Pamukkulu and Jurang Batu as well as the AMDAL (EIA) available for the overall Jatiluhur area. The public consultations have been conducted in each of the subproject sites that discussed the potential impacts and mitigation
<table>
<thead>
<tr>
<th>Category</th>
<th>OP/BP</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Habitats OP/BP 4.04</td>
<td>Yes</td>
<td>The project may have potential impacts on the aquatic ecosystems of those rivers upon which the irrigation schemes rely. The impacts would occur temporarily during the construction which are localized and easily to be managed through the implementation of best engineering and housekeeping practices. Such as material run-off from construction activities that will be mitigated by setting up the net to prevent the construction debris to enter the water body. Furthermore, it is not anticipated that there will be any negative impacts on critical natural habitats or conservation areas.</td>
</tr>
<tr>
<td>Forests OP/BP 4.36</td>
<td>No</td>
<td>The project will not finance any activity in the forest areas.</td>
</tr>
<tr>
<td>Pest Management OP 4.09</td>
<td>Yes</td>
<td>The project will not procure pesticides. However, improvements to the irrigation system may lead to the intensification of farming activities and hence an increase in the consumption of pesticides. The project will support agricultural practices to implement integrated pest management (IPM) as much as possible. The ESMF includes the framework for managing and handling pesticides.</td>
</tr>
<tr>
<td>Physical Cultural Resources OP/BP 4.11</td>
<td>Yes</td>
<td>The project will not impact any PCR as the project will finance the rehabilitation of the existing irrigation schemes. However, as there may be excavation work involve in the rehabilitation activities that may affect any inadvertent PCR, hence, the chance find procedures is included in the ESMF to guide any civil works for this purpose.</td>
</tr>
<tr>
<td>Indigenous Peoples OP/BP 4.10</td>
<td>Yes</td>
<td>Screening indicates that there are no indigenous community in the proposed irrigation schemes under component A and Jatiluhur irrigation scheme of component B to be included under the project, with all of these schemes having been in operation for a number of years without any issues relating to indigenous communities. Since the activities will work in the existing irrigation schemes and be limited to small to medium-scale physical rehabilitation works, no significant adverse impacts to indigenous groups are expected. The Jatiluhur Irrigation Scheme (in West Java) to be supported</td>
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However, as there will be subprojects (irrigation schemes) to be identified during project implementation, an Indigenous Peoples Policy Framework (IPPF) is developed to provide guidance for the preparation of Indigenous Peoples Plans (IPP) if the subprojects affecting indigenous communities, as well as guidance to prepare the Social Assessment as a basis for developing IPP.

The IPPF is incorporated into the ESMF and has been disclosed and publicly consulted prior to Appraisal.

No IPP is required for the 1st year subprojects as none of the 5 irrigation schemes to be rehabilitated is located in the area where IPs reside.

**Involuntary Resettlement OP/BP 4.12**

Yes

The physical activities will be mostly small to medium rehabilitation of the existing irrigation systems. In the event that the canal rehabilitation works require additional land, such as along the right of way or easements, acquisitions usually is based on voluntary land donation (VLD). VLD is only applicable to people directly benefiting from the irrigation scheme. Learning from WISMP, all the activities of canal rehabilitation are in small scale with small size of land required, obtained through land donation.

For the proposed project, as an anticipation for a bigger physical works during project implementation that may need larger scale of land that cannot be acquired though voluntary land donation, A Land Acquisition and Resettlement Policy Framework (LARPF) is prepared for the entire project, to highlight principles and processes to be followed. Guidance of the voluntary land acquisition is also part of the LARPF. The LARPF is incorporated in the ESMF and has been disclosed and consulted publicly prior to Appraisal.

If the detailed screening of every subproject identifies that land acquisition is required specific

<table>
<thead>
<tr>
<th>Involuntary Resettlement OP/BP 4.12</th>
<th>Yes</th>
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under Component B has been supported under previous and ongoing WBG financed projects and it has been confirmed that there are no indigenous peoples residing in the area.
<table>
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<tr>
<th>Safety of Dams OP/BP 4.37</th>
<th>Yes</th>
</tr>
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</table>

Land Acquisition and Resettlement Action Plan (LARAPs) will be prepared.

No LARAP is required for the 1st year, as there is no involuntary land acquisition will take place. One of the 5 (five) subprojects, DI Pamukkulu (South Sulawesi) will need 1500 m² additional land owned by two land owners for the aqueduct that already been identified to be acquired through voluntary basis with willing-seller willing-buyer approach. Identification of the land owners and the plan for the approach has been provided in the ESMP of DI Pamukkulu. While in other schemes, including in Jatiluhur which is located in urbanized area, there is no land acquisition or issue on encroachers for the 1st year investment.

The project will not finance the construction of new dams but will involve the rehabilitation of irrigations schemes relying on upstream dams and reservoirs. Dam safety assessments will be assessed as part of the preparation for the rehabilitation works. Most of these dams are included under the ongoing Dam Operation Improvement and Safety Project (DOISP) financed by the World Bank.

There are two subprojects that identified to be sourced from dams, namely Jatiluhur and Pamukkulu. Jatiluhur reservoir/dam is the largest reservoir/dam in Indonesia with almost 3 billion m³ storage. It is one of three cascade dams in Citarum river. The O&M of this dam conducted by PJT2, a state-owned company. The two dams located in the upstream are Saguling and Cirata, which are operated by state owned company under National Electric Company (PLN).

The first Dam Safety Project (DSP, 1992-1998) in Indonesia by the World Bank included Jatiluhur Dam that financed improvement of downstream and upstream slope nearby morning glory tower. The second Bank dam safety project (DOISP) financed replacement of two giant hollow cones, design of radial gates and minor works of crane rehabilitation. In both projects the panel of experts (POE) was established. The operation system of this dam was approved by the Indonesia Dam Safety Commission.
The newly approved DOISP2 project will finance construction of two radial gates in the emergency spillway located in Ubrug saddle dam, to replace the existing fixed concrete wall. The dam safety assessment for Jatiluhur has been submitted to the RSS.

The Pamukkulu irrigation scheme will receive the water from the dam that will be constructed within the next 2 years to be ready, while it is included in the 1st year subproject, the activities should be completed within 1-year period. Hence, there is no dam safety issue in the development of the Pamukkulu dam. The safety procedure has been followed and endorsed by the Dam Safety Commission (DSC), in accordance with the existing regulation.

The design of Pamukkulu dam has been reviewed and endorsed by the DSC and the government’s approval for construction was given on December 7, 2017. The construction is in the process tendering. The River Basin Organization (BBWS Pompengan Jeneberang) representing the owner of the dam, will prepare and complete the EPP before construction is completed, as the condition to obtain certificate for reservoir filling from the DSC.

The current Bank financed Dam Operational Improvement and Safety Project (DOISP2, Loan. no. 8711-ID), which the Executing Agency already established Panel of Expert (POE), will assess, monitor and ensure the safety aspect of the Pamukkulu dam.

| Projects on International Waterways OP/BP 7.50 | No | The project locations are not expected to affect international waterways as all will be within the country boundaries. |
| Projects in Disputed Areas OP/BP 7.60 | No | The project is not located in any known disputed areas as defined under the policy. |
KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

The overall social impacts are expected to be positive because it will support water quality management improvement in selected river basins, thereby reducing negative impacts on people’s health and the environment; (b) improve resource management, coordination, water use right management both at local and basin levels, including the recognition of ecological and in-stream water uses. In addition, Components A and B as described above, will respectively rehabilitate and modernize irrigation infrastructures which are all gravity-based systems, thus improving capacity of these systems to provide irrigation services with zero emissions. Component A will also support measures to improve soil carbon pool as part of the activities to rehabilitate two lowland tidal irrigation systems, contributing to reduction of GHG emissions from land use.

The project activities to be financed under Components A and B are continuation of WISMP-1 and WISMP-2 project activities that have proven no major adverse environmental impacts generated by the project. The project will not finance any new construction and is focused on the rehabilitation of existing irrigation infrastructure and associated structures, including canal lining and normalization, rehabilitation of intake and control structures, etc. The potential environmental impacts will only occur during the construction activities which will be only temporarily (localized erosion; temporary deterioration of water quality, scouring of canal banks, and other minor construction related impacts). No major in-direct or long-term negative impacts are expected.

In the event that the rehabilitation works require additional land, such as along the right of way or easements, acquisitions will be based on voluntary land acquisition. The physical activities under Component A are rehabilitation and repairs of existing irrigation schemes and river infrastructure of small to medium scales. Under the on-going WISMP, very similar physical works such as canals lining and other minor works were mostly carried out by the community organizations, Water User Association Federations (WUAFs). No land acquisition with compensation took place during the implementation of WISMP. The limited land required for the construction was donated by the concerned land owners who are WUAF members and direct beneficiaries of program. In some schemes, the irrigation canals were in the urbanized area that structures, mostly temporary, are occupying parts of the embankment, for instance in main East Tarum Canal of Jatiluhur, which if the parts are going to be rehabilitated in the future may have social issues, in particular dealing with encroachers who have been occupying the embankment for quite long time for running informal businesses. Land Acquisition and Resettlement Policy Framework (LARPF) has been developed to manage and mitigate such the issues if those parts are going to be rehabilitated in the future. Five irrigation schemes of Component A and Jatiluhur of Component B of the 1st year investment have shown that there will be no involuntary land acquisition and/or encroacher issue involved for the canal rehabilitation. During project implementation, safeguard screening will be conducted for any activities proposed for financing under SIMURP. Relevant safeguard instruments are to be prepared as a result of screening. Guidance for screening as well as preparation of safeguard instruments are provided in the ESMF.

On indigenous peoples, the project will not undertake physical works or develop policies regarding resource (water) use that would negatively affect indigenous peoples. Experience of WISMP showed that all the project activities are in existing irrigation schemes in the downstream area, where no indigenous peoples reside. It is confirmed that there are no indigenous communities present in the areas of the proposed first year work program of SIMURP. However, since
the proposed project will last for multiple years and some project sites are yet to be identified, there might be indigenous groups to be found in the areas of project activities. An Indigenous Peoples Policy Framework has thus been developed to ensure that the subprojects will be designed and implemented in such a way that foster full respect for IP’s dignity, human rights and cultural uniqueness so that they receive culturally compatible socio-economic benefits.

On other environmental safeguards policies: Component A and B that involve civil work activities will not likely have significant, irreversible or unprecedented adverse environmental impacts, or affect vulnerable or protected sites or be on critical natural habitats. There may be a potential increase of pesticides utilization by the farmers as a consequence from the increased irrigation quality and water supply for cultivation, the project will anticipate this through the promotion of integrated pest management (IPM) where the application of the chemical will be on the needed basis only, so that no excessive pesticides that is considered as expensive input by the farmers unnecessary applied. The safety of dam is anticipated by the review of the dam safety assessment for Jatiluhur prepared under the DOISP, the report covers the thorough inspection results of the dam for its safety and effectiveness of the instrumentations, which no issues encountered. There is no accumulative impact from the project anticipated.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

No major in-direct or long-term negative impacts are expected. Learning from WISMP, a similar on-going project, all the activities of canal rehabilitation are in small scale with no long term impacts. Cumulative impacts have not been experienced to date and are not expected under the new project.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

Alternative analysis was carried out for scale, contents and focus of the proposed project and components and locations of different river basins and districts for various project interventions, including a ‘no project’ option. The focus is on institutional development and capacity building for basin water resources and participatory irrigation management with small scale rehabilitation of physical works. For the physical works rehabilitation, technical designs have been and/or will be optimized to minimize needs for resettlement and land acquisition, and environmental impacts.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

The DGWR of MPWH has prepared the Environmental and Social Management Framework (ESMF) for instruments that needed to comply with the policies triggered and to mitigate the potential environmental and social impacts. The ESMF provides guidance to the DGWR for the incorporation of the requirements of the World Bank safeguards policies in the activities that are proposed to be financed under the Project, this also includes Land Acquisition and Resettlement Policy Framework (LARPF) and Indigenous Peoples Planning Framework (IPPF) that are prepared to anticipate activities that may involve land acquisition temporarily or permanently or activities that take place in the area where indigenous communities are present. The ESMF also provides guidance for training and other capacity building activities to strengthen implementing agencies at central and regional levels.

The process of land acquisition and assets compensation during project implementation will follow not only the Government of Indonesia policy/regulations, but also the World Bank on involuntary resettlement policy. The ESMF which includes land acquisition and resettlement policy framework is developed to bridge the gaps between these policies, and provide general guidance for land acquisition and resettlement implementation. The Framework not only regulates land acquisition with compensation (for land and other assets, such as buildings and crops) but also provides procedures for marginal land or asset acquisition through voluntary contributions which may happen in small
irrigation system rehabilitation, as experienced in WISMP. During the project preparation and implementation periods, the project implementing units will screen all subprojects to see if they involve land acquisition and determine the scale of acquisition and compensation, and the land contribution needs. For any subprojects that require land acquisition, LARAP in accordance with the ESMF will be developed and disclosed to those affected upon clearance by the World Bank, prior to the subproject authorization for financing. The government project management will ensure that the LARAP will be followed during the land acquisition implementation.

To ensure that the indigenous community will get equal social and economic benefits as the majority groups in the project areas, the Indigenous Peoples Policy Framework (IPPF) is developed as part of the ESMF. Once IP is identified in subproject areas, Indigenous Peoples Plan (IPP) of each subproject will be developed in accordance with the IPPF. The IPPF also includes provision of the free, prior and informed consultation for broad IP community support.

Institutional capacity. The MPWH (DGWR) has experiences in dealing with land acquisition following the regulations of Government of Indonesia, and has implemented over the years many Bank-funded projects. The CPMU within DGWR, with the help of a technical assistance consultant team, has successfully developed the ESMF through consultation process. During project implementation, the CPMU with assistance of implementation support consultants will lead the preparation of LARAPs and EAs/EMPs for subprojects involving land acquisition and having significant environmental impacts. The CPMU has become familiar with the safeguards policies of the World Bank through more than ten years of managing WISMP implementation, as well as DOISP. For Jatiluhur which potentially involve bigger physical activities with potentially bigger scale of land acquisition, the implementing unit, BBWS Citarum also knows the requirements of the Bank safeguards policies through implementing Bank and other donor (e.g. Asian Development Bank) funded projects.

However, the capacity of Borrower’s project teams need to be strengthened further, to ensure that the safeguards screening and assessment are properly done, documents are prepared timely in conformity with the Bank policy requirements and the agreed framework and plans are implemented satisfactorily. To this end, safeguards policy training focusing on environmental impact assessment, involuntary resettlement and indigenous people policies and application of the ESMF will be organized prior to loan effectiveness for implementing units responsible for physical works subprojects. This will be followed by refreshment training sessions to be undertaken by the safeguards specialists of CPMU/TA team. For the community-level physical activities, as the land acquisition will likely be very minor and be done mostly through voluntary land contribution, the WUAFs facilitated by the community organizers are capable of managing it. The community organizers and District Irrigation Committees involved in the project will help ensure that the land acquisition (and contribution) follows the proper process and is documented by WUAFs concerned for record and review during supervision visits and that the indigenous groups, if present in the project areas, will be included in the program.

Internal as well as external monitoring, as necessary of environmental management and land acquisition by project management units and M&E consultants respectively will be conducted. The CPMU will provide the Bank with report on the implementation progress and results of different subprojects, including consolidated information on community-level land contributions. It will enable the Bank to keep track of implementation of the agreed action plans. This will be enhanced by regular supervision visits to the concerned subproject sites by the Bank.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

The main stakeholders for the project include concerned national and local government agencies, civil society and beneficiary farmer and water user communities, including the indigenous community, if any. Potentially, affected
people will also be part of the project beneficiary groups among whom vulnerable households will be identified. The project design and implementation will follow program approach. The selection, preparation and implementation of each subproject and irrigation scheme will be highly participatory. Similarly the safeguards assessment and management action planning will be based on intensive consultation and involvements of concerned stakeholders, as depicted in the ESMF. The mitigation mitigation/action plans will be disclosed to those affected before the subprojects are authorized.

The draft ESMF has been disclosed at the project’s website prior to the public consultation. Public consultation was held during October 31 to November 9, 2017 at six regions: Palembang (South Sumatera), Lombok (West Nusa Tenggara), Purworejo (Central Java), Jember (East Java), Takalar (South Sulawesi), Cirebon (West Java) and Subang (West Java, for Jatiluhur area) to cover all participating balais and districts. The consultation was intended for seeking inputs for the ESMF finalization as well as to consult relevant stakeholders for the subprojects that will be implemented in the 1st year. The final ESMF is re-disclosed at the DGWR’s website as well as at the Image Bank.

B. Disclosure Requirements

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<th>Environmental Assessment/Audit/Management Plan/Other</th>
<th>Date of receipt by the Bank</th>
<th>Date of submission for disclosure</th>
<th>For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors</th>
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"In country" Disclosure

| Indonesia | 13-Oct-2017 |

Comments

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<th>Resettlement Action Plan/Framework/Policy Process</th>
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"In country" Disclosure

| Indonesia | 13-Oct-2017 |

Comments
Indigenous Peoples Development Plan/Framework

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"In country" Disclosure

Indonesia
13-Oct-2017

Comments

Pest Management Plan

Was the document disclosed prior to appraisal?
Yes

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"In country" Disclosure

If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.

If in-country disclosure of any of the above documents is not expected, please explain why:

C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting)

OP/BP/GP 4.01 - Environment Assessment

Does the project require a stand-alone EA (including EMP) report?
Yes

If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?
Yes

Are the cost and the accountabilities for the EMP incorporated in the credit/loan?
Yes

OP/BP 4.04 - Natural Habitats

Would the project result in any significant conversion or degradation of critical natural habitats?
No
If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?
NA

OP 4.09 - Pest Management

Does the EA adequately address the pest management issues?
Yes
Is a separate PMP required?
No
If yes, has the PMP been reviewed and approved by a safeguards specialist or PM? Are PMP requirements included in project design? If yes, does the project team include a Pest Management Specialist?
NA

OP/BP 4.11 - Physical Cultural Resources

Does the EA include adequate measures related to cultural property?
Yes
Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?
NA

OP/BP 4.10 - Indigenous Peoples

Has a separate Indigenous Peoples Plan/Planning Framework (as appropriate) been prepared in consultation with affected Indigenous Peoples?
Yes
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?
Yes
If the whole project is designed to benefit IP, has the design been reviewed and approved by the Regional Social Development Unit or Practice Manager?
NA

OP/BP 4.12 - Involuntary Resettlement

Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?
Yes
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?
Yes
OP/BP 4.37 - Safety of Dams

Have dam safety plans been prepared?
Yes

Have the TORs as well as composition for the independent Panel of Experts (POE) been reviewed and approved by the Bank?
Yes

Has an Emergency Preparedness Plan (EPP) been prepared and arrangements been made for public awareness and training?
Yes

The World Bank Policy on Disclosure of Information

Have relevant safeguard policies documents been sent to the World Bank for disclosure?
Yes

Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?
Yes

All Safeguard Policies

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?
Yes

Have costs related to safeguard policy measures been included in the project cost?
Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?
Yes

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?
Yes

CONTACT POINT

World Bank

Jun Matsumoto
Sr Water Resources Mgmt. Spec.

Cuong Hung Pham
Sr Water Resources Mgmt. Spec.

Marcus J. Wishart
Sr Water Resources Mgmt. Spec.

**Borrower/Client/Recipient**

Republic of Indonesia
Mr. Robert Pakpahan
Director General of Budget Financing and Risk Management

**Implementing Agencies**

Ministry of Public Works and Housing
Ir. Imam Santoso
Director General of Water Resources
dirjensda@pu.go.id

**FOR MORE INFORMATION CONTACT**

The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 473-1000

**APPROVAL**

| Task Team Leader(s): | Jun Matsumoto  
| Cuong Hung Pham  
| Marcus J. Wishart |

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