

**PROJECT INFORMATION DOCUMENT / INTEGRATED SAFEGUARDS DATA  
SHEET (PID/ISDS)  
CONCEPT STAGE**

Report No.:PIDISDSC17699

**Date Prepared/Updated:** 15-Jun-2016

**I. BASIC INFORMATION**

**A. Basic Project Data**

<b>Country:</b>	Indonesia	<b>Project ID:</b>	P157585
		<b>Parent Project ID (if any):</b>	
<b>Project Name:</b>	Strategic Irrigation Modernization and Urgent Rehabilitation Project (P157585)		
<b>Region</b>	EAST ASIA AND PACIFIC		
<b>Estimated Appraisal Date:</b>	15-May-2017	<b>Estimated Board Date:</b>	12-Sep-2017
<b>Practice Area (Lead):</b>	Water	<b>Lending Instrument:</b>	Investment Project Financing
<b>Borrower(s)</b>	Republic of Indonesia		
<b>Implementing Agency</b>	Ministry of Public Works (DG Water Resources)		
<b>Financing (in USD Million)</b>			
<b>Financing Source</b>			<b>Amount</b>
Borrower			78.00
International Bank for Reconstruction and Development			500.00
Total Project Cost			578.00
<b>Environmental Category:</b>	B-Partial Assessment		
<b>Concept Review Decision:</b>	Track II - The review did authorize the preparation to continue		
<b>Is this a Repeater project?</b>	No		
<b>Other Decision (as needed):</b>			

**B. Introduction and Context**

**Country Context**

Indonesia has emerged over the last decade as a vibrant middle-income economy, with a GDP per capita of US\$3,510 (current prices). With a population of 250 million living across over 6,000 inhabited islands, Indonesia is the world's fourth most populous nation and has made significant gains in poverty reduction over the past decade. The poverty rate has more than halved from 24 percent at the time of the Asian financial crisis down to 11 percent by 2014. For the past decade it has sustained

an annual growth rate of about 6 percent. However, GDP growth moderated to 5.0 percent in 2014 and current estimates show growth of about 4.7 percent for 2015 and Indonesia's achievements are now under stress.

Poverty reduction has begun to stagnate and inequality is increasing rapidly. As measured by the current national poverty rate of 11.3 percent, there are 28 million poor people in Indonesia, with a near zero decline in 2014. Between 2003 and 2010, consumption of the bottom 40 percent grew at 1-2 percent annually, while that of the two richest quintiles grew by about 6 percent. Consequently, the Consumption Gini coefficient, an indicator of inequality, rose from 30 to 42 over this period. This is amongst the fastest widening of inequality in East Asia. The future of the bottom 40 percent of the population is further clouded by high inequality of opportunity, one-third of which is attributable to circumstances of birth (gender, ethnicity, birthplace or family background). Indonesia is also facing rapid rates of deforestation and land degradation which have a disproportionate impact on the poor.

Poverty in Indonesia remains a predominantly rural phenomenon. It is estimated that 60 percent of those earning less than US\$1.25 per day rely on the agricultural sector. Despite its decline as a share of GDP over the past 50 years, accounting for 14 percent of GDP in 2014, the agricultural sector continues to play a vital role in the Indonesian economy. Agriculture is the main source of employment in the rural areas and employs more than 40 million people (2014), equivalent to 33 percent of the labour force. Irrigated agriculture is the main driver for food production. However, rice yields have stagnated due to deteriorating infrastructure, lack of innovation and low levels of technology uptake. Rehabilitation and modernization are central to sustaining production and it is estimated that a 7 percent per annum increase in smallholder productivity could result in US\$50 billion increase in agricultural revenues by 2030.

The Government's Mid-Term Development Plan (RPJMN 2015-2019) reflects its strategy to meet these development challenges by focusing on human and community development, narrowing the income gap through increased productivity and poverty reduction measures, and increasing development without environmental degradation. Development of the agricultural sector through rehabilitation and modernization of the irrigation sector is central to the Government's strategy. The RPJMN promotes: (i) the rehabilitation of 3.2 million ha of irrigated land; (ii) the development of 1.0 million ha of new irrigation systems; (iii) the adoption of sustainable approaches to farming on rehabilitated upland areas; (iv) the development of farm roads; and, (iv) increased adoption of environmentally friendly technologies for food crops. Meeting these targets and realizing the contribution of the irrigation sector to poverty alleviation will require a dual approach focused on the rehabilitation of existing infrastructure and increased productivity and efficiency through irrigation modernization.

### **Sectoral and Institutional Context**

Indonesia's natural endowments provide a highly fertile environment for agricultural development. Situated in the tropical monsoon, the country is blessed with year round precipitation and flat, highly fertile volcanic land. The nation's total land area is around 190 million hectares, of which some 55 million hectares are agricultural land. Of the agricultural land, 24 million hectares consist of arable land, 20 million hectares are under permanent crops, while 11 million hectares consist of meadows and pastures (FAOSTAT 2013). Some 7.4 million hectares, roughly 30 percent of the total arable land, is equipped with irrigation infrastructure and irrigation is central to the Government's development objectives.

The 7.4 million hectares of public irrigation systems are divided into three categories: (i) national schemes larger than 3,000 hectares, accounting for around 33 percent of the total; (ii) provincial-level

schemes with a size between 1,000 and 3,000 hectares, accounting for 16 percent of the total; and, (iii) smaller district-level schemes with a size of less than 1,000 hectares, accounting for 51 percent of the total area. The tertiary units are the full responsibility of the farmers through their WUAs and the Water User Association Federations (WUAFs), which are composed of several WUAs, and are partners in O&M of the primary and secondary canals of the central, provincial, and district schemes. The vast majority (83 percent) of the irrigated areas are located on Java, Bali, Sumatra and Sulawesi, with Java and Bali accounting for nearly half of total irrigated area.

The level of irrigation development varies from traditional systems to modern irrigation schemes. It is estimated that nearly half of the 7.4 million hectares of irrigated area in Indonesia require some form of rehabilitation. Of the 50 percent requiring rehabilitation, 16 percent are considered heavily damaged, just under 20 percent considered to have medium levels of damage and nearly 15 percent considered lightly damaged. The majority of the irrigated areas requiring rehabilitation are located at the local level, within the kabupaten, with 60 percent of the 3.7m hectares of district schemes considered to require rehabilitation. Most of these schemes are run of river systems, with only about 11 percent of the total command area served by reservoirs. This 11 percent are all national and classified by the Government as premium schemes that have been prioritized for rehabilitation and modernization.

	National	Provincial	Kabupaten	Total
Total (ha)	2,357,904	1,143,227	3,646,588	7,147,719
Total (%)	32.99	15.99	51.02	100.00
Good (ha)	1,826,433	532,629	1,492,233	3,851,295
Good (%)	77.46	46.59	40.92	53.88
Damaged (ha)	531,471	610,598	2,154,355	3,296,424
Damaged (%)	22.54	53.41	59.08	46.12

Irrigation production in Indonesia continues to be dominated by rice, with rice production accounting for 30 percent of all land used for agricultural purposes. Rice is grown by approximately 77 percent of all farmers (25.9 million), and over 80 percent of rice production is irrigated. Sixty percent of this is located in Java. New production systems have been introduced, such as the System of Rice Intensification (SRI), but the impact of these on national production has not been as predicted due to a range of constraints experienced in the field. An aging infrastructure, coupled with deferred or under-resourced maintenance, has resulted in a deterioration of the irrigation systems resulting in under performance. This has undermined the maximum potential benefits gain from utilizing full capacity of existing irrigation facilities and make the agriculture diversification more challenging. As a result, the government has been required to import about one million ton of rice per year from neighbor countries.

New irrigation management approaches are needed to re-orientate towards delivering a well defined, reliable and responsive service to mitigate farmers' increasing risks. The challenge is to ensure rehabilitation of existing infrastructure and provide a platform for modernization that is able to develop resilient, reliable and sustainable irrigation management institutions and infrastructure that can enhance productivity of land, water and human resource base, improve farmers' livelihoods and to minimize risks related to climate variability and price volatility. Specific measures include: (i) reassessing the current level of spending, (ii) increasing the coverage of water systems, (iii) reversing the deterioration of the water network, and (iv) setting incentives to invest in service delivery.

Indonesia has a well-defined sector plan for irrigation and water resources from the Ministry of Public Works and Housing. This includes policy measures and priority investments over a five year period

outlined in the Sector Plan for Water Resources from 2015 to 2019. The cost of the measures outlined in the strategic plan is estimated to be around US\$24.68 billion, including investments for improved irrigation systems and their management. Since the Law on Water Resources No.7/2004, the system of participatory irrigation management, which involves farmers through water user associations (WUA) in planning, design, construction and O&M activities, is credited with driving improvements in the management of irrigation systems and supporting the increase in rice production. Despite these improvements in O&M, much of the network is still in need of large-scale rehabilitation and investment, which can only be undertaken by the public sector.

Modernization and rehabilitation are central to the Government's irrigation policy. These are aimed at achieving water and food security and improving the economic conditions of farmers. This requires a change from a traditional supply oriented irrigation management paradigm to a demand driven service oriented management approach. Through expert consultation the Government has formulated a modernization concept suitable for the Indonesian condition that can be summarized as an "effort to materialize participatory irrigation management with objective to fulfill an effective and efficient level of irrigation services, in the context of supporting food and water security, through improvement of reliable water, infrastructure, institution and management, as well as human resources".

The basic approach to implementing this vision and strategy is built around five pillars that involve moving towards the provision of services that are responsive to the needs of water users and that facilitate sustainable agriculture, increases in productivity and farm incomes, and ensure food security through improved water management. The five pillars include: (i) improving water security and availability; (ii) rehabilitation and upgrading of infrastructure; (iii) improvement of management system; (iv) strengthening of institutions; and, (v) strengthening of human resources. These five pillars are implemented through an integrated approach that is intended to respond to the requirements and differentiate the response of the individual schemes to inform the process of modernization. The management approach is directed toward ensuring that irrigation management is transparent, participative and accountable, built on accurate and increasingly real time information that utilizes digital information technology to facilitate demand driven, effective and more efficient management. The Government acknowledges the need to couple this approach with the establishment and enhancement of institutional measures to improve coordination and accountability, as well as increasing agricultural water productivity. However, there are a number of key challenges, including strengthening governance and management institutions at all levels of government, addressing and improving fiscal sustainability of the sector, investing in the upgrading of water resources and irrigation infrastructure, and creating room to increase agricultural water productivity.

### **Relationship to CAS/CPS/CPF**

The proposed project contributes directly to the goals articulated by Government through the mid-term development plan (RPJMN 2015-2019) issued in early 2015 to meet Indonesia's development challenges. The government's vision is focused around the realization of a self-reliant nation that maintains its unique national characteristics whilst existing in mutual cooperation and respect within the global community. This contributes to the outcomes envisaged in the broader, longer term Master Plan for "Acceleration and Expansion of Indonesia's Economic Development 2011-2025" that seeks to accelerate development through a pro-growth, pro-jobs, pro-poor and pro-green strategy.

The proposed project is aligned to the CPF for FY16-20 and contributes directly to the twin goals by supporting the GoI to eliminate extreme poverty, generate prosperity and share this more widely amongst all its people. The pathways to the twin goals and priorities of government outlined in the CPF are addressed through infrastructure development with three additional engagement areas and two

supporting beams.

The proposed project contributes to and is included under Engagement Area 1: Infrastructure Platforms at the National Level. This is part of the CPF contribution to the Government's ambitious goals under the RPJMN for the modernization of irrigation infrastructure. This includes the rehabilitation of three million hectares and construction of one million new hectares of irrigation.

### **C. Proposed Development Objective(s)**

#### **Development Objective(s) (From PCN)**

The proposed Project Development Objective is: to improve irrigation services and strengthen management of irrigation schemes in selected areas. This objective will be achieved through rehabilitation and modernization of irrigation systems; institutional strengthening and improved management, operation and maintenance of these systems.

#### **Key Results (From PCN)**

The PDO indicators are proposed to include a combination of those reflected in the Government's Blue Book and the World Bank's core indicators, including:

- a. Area with irrigation and drainage services rehabilitated (ha)
- b. Area with modernization of infrastructure and management (ha)
- c. Area under irrigation with increased water productivity (kg per cubic meter)
- d. Water users provided with improved irrigation and drainage services (number)
  - i. Water users provided with irrigation and drainage services - female (number)
  - ii. Water users provided with irrigation and drainage services ? male (number)
- e. Operational Water User Associations strengthened (number)
- f. Water User Association Federation strengthened (number)
- g. Staff with improved capacity (number)
- h. Improved irrigation asset management (%)

### **D. Concept Description**

The project is designed around the five pillars that define the concept of irrigation modernization in Indonesia. These are intended to support the Government's efforts to address the infrastructure, institutions, information and technical issues required to enhance irrigation efficiency through a coherent participatory approach through national premium schemes. The five pillars include elements of the ABCDE+F approach advocated in the WBG Country Assessment Towards a Policy for Irrigation Management Modernization. The framework advocates for Accounting, Bargaining, Codification, Delegation, Engineering with Feedback to improve an existing irrigation system to better meet participatory irrigation management services, to be more efficient, effective and sustainable management.

Component A: Urgent Rehabilitation and Infrastructure Improvements (estimated = US\$ 180m) is aligned with the Government's Modernization Pillar 2 Rehabilitation and Upgrading of Infrastructure. The objective would be to support the rehabilitation of at least 100,000 hectares of irrigated command area. The Government has identified a preliminary list of 41 irrigation schemes, with a total of 335,268 hectares, spread across 11 provinces and 12 balais or river territories. 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. Two of the schemes are rice-fields in low lying areas where the water level is influenced by tidal movement.

Potential activities proposed to be financed under this component would include: (i) water resource

assessments and optimization studies; (ii) special studies, surveys, investigations and designs (SID) for the rehabilitation and development of priority schemes; (iii) rehabilitation and possible construction of canals, including canal lining and control structures, measurement devices, storage facilities and supporting infrastructures (roads, bridges, field offices etc.); (iv) rehabilitation and construction of tertiary and on-farm system development.

A set of objective criteria have been discussed and will be further elaborated during preparation to assist in the prioritization of investments among the proposed schemes. Accelerated preparation is being facilitated through an amendment to consultants under the ongoing Water Resources and Irrigation Sector Management Program (WISMP2) to assist with the screening and studies, investigations and designs. These will allow the Directorate General of Water Resources (DGWR) to prepare the priority first year investments of roughly 35,000 ha and guide implementation through an objective schedule.

Component B: Strategic Infrastructure Modernization (estimated = US\$ 220m) is aligned with the Government's Modernization Pillar 2 Rehabilitation and Upgrading of Infrastructure. The objective would be to increase serviceability of premium irrigation systems through modernization of existing infrastructures by introducing a higher level of technology to support the national food water security program. The project will focus the modernization efforts on the 240,000 ha Jatiluhur Irrigation Scheme, which is served by the Citarum River in Java and the first of the premium government schemes to undergo extensive modernization, along with prioritized schemes identified for rehabilitation and upgrading.

The Jatiluhur Irrigation Scheme is the country's premium development and the most critical candidate for modernization given the complexity of issues and institutional arrangements relating to the transitional challenges in Indonesia. There are three main blocks in the scheme served by three main canals namely West Tarum Canal (WTC); East Tarum Canal (ETC) and; North Tarum Canal (NTC) with areas served of 52,626 ha; 90,230 ha, and 85,945 ha, respectively. The Jatiluhur Irrigation Scheme is included in the ongoing WISMP2 but the scope of work is limited to pilot secondary blocks for implementation of Participatory Irrigation Management (PPSIP) and removal of bottlenecks in the main ETC and NTC canals. WISMP2 is currently financing a study to formulate the approach to modernization of the scheme that will inform preparation.

Potential activities proposed to be financed under this component would include: (i) water resource assessments and optimization studies; (ii) diagnostic studies, surveys, investigations and designs for modernization of priority schemes; (iii) infrastructure rehabilitation, construction, including canal lining, and on-farm improvements; and (iv) the introduction of innovations such as climate smart agriculture.

Component C: Modernization of Management Systems (estimated = US\$ 75m) is aligned with the Government's Modernization Pillar 3 Improvement of Management Systems. The objective would be to support the modernization of management systems in irrigated command areas. This would focus on the Jatiluhur Irrigation Scheme under Component B and the preliminary list of 41 irrigation schemes identified for urgent rehabilitation under Component A.

Potential activities to be financed under the project would include: (i) hydrological and meteorological monitoring networks, data collection and analysis, and information management systems; (ii) provision of equipment for telecommunication, operation and maintenance, monitoring, and research; (iii) introduction of telecommunication systems and mobile data collection systems; (iv) supervisory Control and Data Acquisition (SCADA) system for remote monitoring and control; (v) development of

Management Information Systems (using the SCADA system); development of Decision Support Systems (using the SCADA system); (vi) implementation of Asset Management Systems; (vii) performance management and incentive mechanisms; and, (viii) climate smart agriculture pilots (System of Rice Intensification, moisture monitoring, crop management, etc.)

Component D: Institutional Modernization and Empowerment (estimated = US\$ 25m) is aligned with the Government's Modernization Pillars 4 Strengthening of Institutions and 5 Strengthening of Human Resources. The objective would be to support institutional modernization of and the development, empowerment of human resources in selected irrigated command areas. This would focus on the Jatiluhur Irrigation Scheme under Component B and the preliminary list of 41 irrigation schemes identified for urgent rehabilitation under Component A. Additional support will be provided to local, provincial and national institutions to support modernization and enhancement of human resources.

Potential activities to be financed under the project would include: (i) institutional reviews, improvements and establishment (including Water User Associations, WUA Federations, Basin Councils or TKPSDAs; basin territories and organizations; NGOs and other Non-State Actors); (ii) legal, regulatory and other instruments to improve organization, transparency, accountability and efficiency of irrigation, water management, financial sustainability, information management etc.; (iii) participation and empowerment of staff and communities; (iv) research and technical studies, including climate smart irrigation and agriculture; (v) training and knowledge exchanges; (vi) knowledge centers and knowledge products; (vii) project management; and (viii) incremental operating costs.

It is proposed to include provisions for climate smart agriculture and irrigation. Climate smarting the agricultural and irrigation sectors in Indonesia will involve a combination of farming practice adjustments and investments in infrastructure and management, such as avoiding water saturation when rice is not grown and shortening the duration of continuous flooding during the rice growing season. SRI is being promoted in many rice-producing countries but with mixed success in Indonesia due to infrastructure constraints, insufficient technical guidance to farmers and external influences. However, SRI has been shown to reduce the amount of flooding of irrigated rice, reduce methane emissions, save water, and possibly reduce nitrous oxide emissions and will be further supported under the project.

The preliminary cost estimates are shown below and will be subject to further review and investigation during preparation and confirmed at appraisal.

Preliminary Cost Estimates	(US\$)
Total IBRD GoI	
Component A: Urgent Rehabilitation & Infrastructure Improvements	180
Component B: Strategic Infrastructure Modernization	220
Component C: Modernization of Management System	75
Component D: Institutional Modernization & Empowerment	25
Total	578 500 78

## II. SAFEGUARDS

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

The project will include national and sub-national level activities that are in line with the strategic planning of the Ministry of Public Works and Housing on water sector; the main focus of the project

will include these locations:

- Component A: urgent rehabilitation and infrastructure improvements: this includes locations on Java, Sumatra, Kalimantan, Sulawesi and West Nusa Tenggara. 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.
- Component B: strategic infrastructure modernization: this would focus on the 240,000 ha Jatiluhur Irrigation Scheme served by the Citarum River in Java. There are three main blocks in the scheme served by three main canals namely West Tarum Canal (WTC); East Tarum Canal (ETC) and; North Tarum Canal (NTC) with areas served of 52,626 ha; 90,230 ha, and 85,945 ha, respectively. Considering the budget proposed and condition of the areas it was agreed that the project will cover the last two blocks.

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 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 will be adapted and adopted to meet the needs of the project and inform the Environmental and Social Management Framework (ESMF) as the instrument that will be prepared prior to Appraisal.

The Government has identified a preliminary list of 41 irrigation scheme spread across 11 provinces and 40 districts irrigations scheme proposed for rehabilitation under the Component A of the project. Screening will be carried out during preparation to determine the presence of an indigenous peoples at each of the sites. Initial pre-screening indicates that there are no indigenous community in the proposed irrigation schemes 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-scale physical rehabilitation works, there are not expected to be any significant adverse impacts to indigenous groups. The Jatiluhur Irrigation Scheme to be supported 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.

## **B. Borrowers Institutional Capacity for Safeguard Policies**

The executing agency is the Ministry of Public Works and Housing with the proposed project to be implemented through the Directorate General of Water Resources. A Project Management Unit (PMU) will be established under the Directorate of Irrigation and Swamps and will include representatives from relevant directorates, such as the Directorate of Water Resources Infrastructures Development, Directorate of Operation and Maintenance, Directorate of Water Resources Management, and the Bureau of Planning within MPWH. The PMU will be assisted in management of the project by dedicated Technical Assistance. A Project Implementation Unit (PIU) will be established in each of the implementing entities at the central level and in the river territories or Balai Wilayah Sungai (B(B)WS). Depending on the final project design a PIU may also be established in the Center of Water Resources Research, Balai of Irrigation, and Provincial Water Resources Service to implement the activities under the Tugas Pembantuan arrangements and de-concentration within the context of decentralization. An Independent Monitoring and Evaluation Unit (IMEU) will be established in the National Steering Committee of Water Resources (NSCWR) in BAPPENAS to assist in monitoring of the project impact.

The Ministry of Public Works and Housing has a long history of experience working in collaboration with the World Bank. This includes previous and ongoing water resources projects, both relating to irrigation, flood control and dam safety projects, such as WISMP and DOISP. As such, the MPWH has a good understanding of the social and environmental safeguard requirements and standards, as well as the implementation requirements to meet the World Bank and GOI regulations. This notwithstanding, there are no dedicated focal points for environmental and social safeguards within the MPWH or the PMU for the ongoing projects (WISMP-2 and DOISP). All the tasks have been transferred to the consultants providing short term, intermittent inputs. A dedicated focal point for safeguards within the MWPB PMU will be confirmed during project preparation. The focal point will be responsible for preparation, implementation, monitoring and reporting of the safeguard requirements. The focal point will continue to be supported during implementation by dedicated consultants who will assist the PMU/PIUs in the preparation, implementation, monitoring and reporting related to safeguard documents. The safeguard focal point will be responsible on final quality control and communication with the World Bank.

### C. Environmental and Social Safeguards Specialists on the Team

Ninin K. DewiGSUID

Virza S. SasmitawidjajaGEN2A

### D. POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered ?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>The main focus of the project is to rehabilitate and modernization of existing irrigation systems. Construction activities will be limited on farm and so the potential environmental impacts are expected to be localized and manageable with proper mitigation measure and the implementation of best engineering and housekeeping practices.</p> <p>The construction works involve in the project including:</p> <ul style="list-style-type: none"> <li>- Component A: point (iii) rehabilitation and possible construction of canals, canal control structures, measurement devices, storage facilities and supporting infrastructures (roads, bridges, field offices etc.); and, (iv) rehabilitation and construction of tertiary and on-farm system development.</li> <li>- Component B: point (iii) infrastructure rehabilitation, construction and on-farm improvements.</li> </ul> <p>The project will not fund new dam constructions.</p> <p>The preliminary identified rehabilitation is for 41 irrigation schemes, spread across 11 provinces and 12 balais or river territories.</p>

		<p>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.</p> <p>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 probably require environmental and social management plans (ESMP) or UKL-UPL when the threshold below the Ministry of Environment Regulation No. 5, 2012 on Activities requiring AMDAL. No subproject is anticipated to require AMDAL. The project is therefore in Category B for environmental assessment.</p> <p>The mitigation measures will be incorporated in the ESMF which will be built upon the existing ESMF of WISMP. If upon the environmental impact screening the first year subprojects will require ESMP/UKL-UPL, the instruments will be prepared and be disclosed along with the ESMF in the InfoShop as well as MPWH's website prior to Appraisal.</p>
Natural Habitats OP/BP 4.04	Yes	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. Furthermore, it is not anticipated that there will be any negative impacts on critical natural habitats or conservation areas.
Forests OP/BP 4.36	No	The project will not finance any activity in the forest areas.
Pest Management OP 4.09	Yes	The project will not procure pesticides. However, improvements to the irrigation system may lead to the intensification of

		<p>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 will include the framework for managing and handling pesticides.</p>
Physical Cultural Resources OP/BP 4.11	Yes	<p>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 will be included in the ESMF to guide any civil works for this purpose.</p>
Indigenous Peoples OP/BP 4.10	TBD	<p>The Government has identified a preliminary list of 41 irrigation scheme spread across 11 provinces and 40 districts irrigations scheme proposed for rehabilitation under the Component A of the project. Initial pre-screening indicates that there are no indigenous community in the proposed irrigation schemes 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-scale physical rehabilitation works, there are not expected to be any significant adverse impacts to indigenous groups. The Jatiluhur Irrigation Scheme to be supported 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.</p> <p>However, as there will be subprojects (irrigation schemes) to be identified during project implementation, an Indigenous Peoples Policy Framework (IPPF) will be 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.</p> <p>The IPPF will be disclosed in the Infoshop as</p>

		well as MPWH's website prior to Project Appraisal.
Involuntary Resettlement OP/BP 4.12	Yes	<p>The physical activities will be mostly small rehabilitation of the existing irrigation systems. 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. Learning from WISMP, all the activities of canal rehabilitation are in small scale with small size of land required, obtained through land donation.</p> <p>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 through voluntary land donation, A Land Acquisition and Resettlement Policy Framework (LARPF) shall be prepared for the entire project, to highlight principles and processes to be followed. Guidance of the voluntary land acquisition will also be part of the LARPF.</p> <p>If the detailed screening of the subprojects identifies land acquisition required for the first year of implementation, specific LARAPs will be prepared prior to Appraisal. Later schemes (subproject areas) will also be subject to criteria and screening, and LARAPs prepared as required. The LARPF and LARAPs of the first year, if any will be disclosed in the InfoShop as well as MPWH's website prior to Project Appraisal.</p>
Safety of Dams OP/BP 4.37	Yes	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.
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.

## E. SAFEGUARD PREPARATION PLAN

### 1. Tentative target date for preparing the Appraisal Stage ISDS:

15-Feb-2016

### 2. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing should be specified in the Appraisal-stage ISDS.

The process of preparing the ESMF will begin in July 2016. A detailed schedule for preparation of site specific assessments will be prepared during preparation and confirmed in the PAD-stage ISDS.

## III. Contact point

### World Bank

Contact: Marcus J. Wishart  
Title: Sr Water Resources Mgmt. Spec.

Contact: Cuong Hung Pham  
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### Borrower/Client/Recipient

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### Implementing Agencies

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## V. Approval

Task Team Leader(s):	Name: Marcus J. Wishart, Cuong Hung Pham	
<i>Approved By:</i>		
Safeguards Advisor:	Name: Peter Leonard (SA)	Date: 28-Mar-2017

Practice Manager/Manager:	Name: Sudipto Sarkar (PMGR)	Date: 29-Mar-2017
Country Director:	Name: Rolande Simone Pryce (CD)	Date: 30-Mar-2017

<sup>1</sup> Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.