



REPUBLIC OF INDONESIA
MINISTRY OF NATIONAL DEVELOPMENT PLANNING/
NATIONAL DEVELOPMENT PLANNING AGENCY


PUBLIC PRIVATE PARTNERSHIP

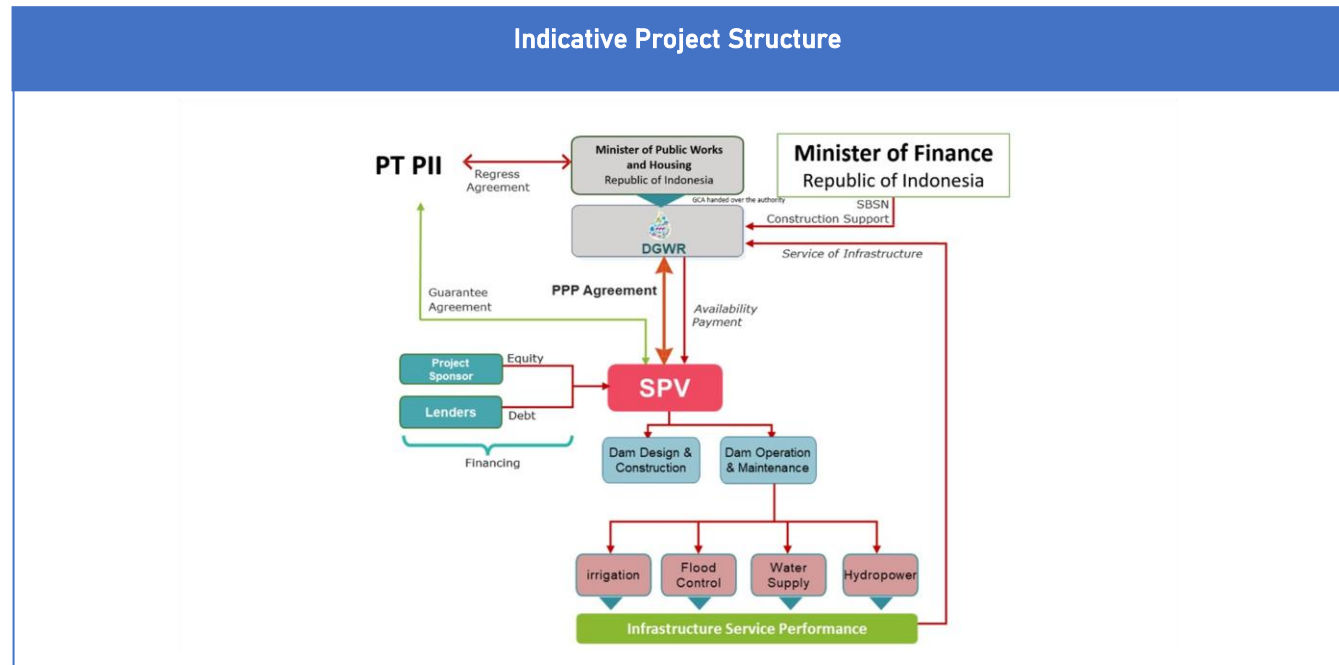
INFRASTRUCTURE PROJECTS PLAN IN INDONESIA

2022

Development of Merangin Dam

Location : Jambi

Sector : Water Resources and Irrigation	Sub-Sector : Dam
	<p>Description: The Merangin Dam project is built as a multifunction dam that will accommodate irrigation for 12.000 ha, flood control of about 583.5 m³ /sec in the densely populated lower part of the Merangin basin, the raw water supply of about 2 m³ /s, and might also be electricity needs up to 90-107.5 MW.</p> <p>Estimated Project Cost: USD 262.98 Million</p> <p>Financial Feasibility: IRR : 10% NPV : USD 12.79 Million</p> <p>Estimated Cooperation Period: 20 years (including 5 years of construction-impounding and 15 years of service period)</p>
<p>Government Contracting Agency: Minister of Public Works and Housing</p> <p>Type of PPP: Solicited</p> <p>Return of Investment: Availability Payment</p>	



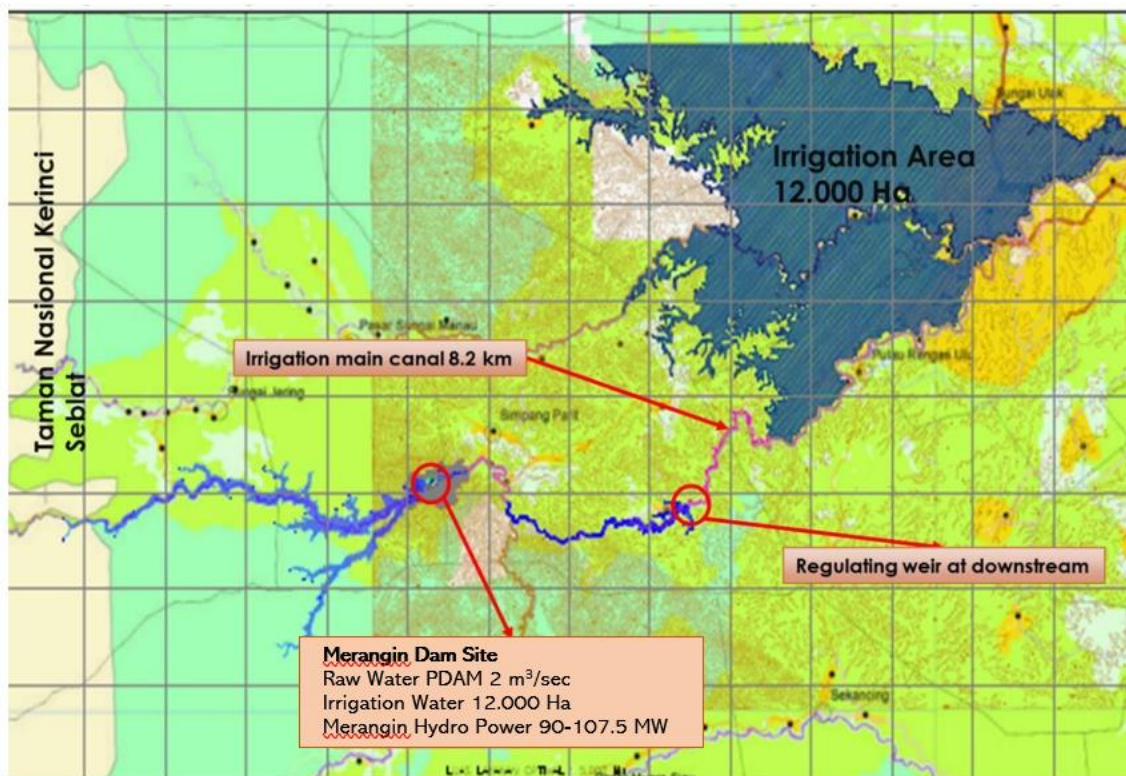
Project Digest

Project Title	Construction of Merangin Dam
Government Contracting Agency	Minister of Public Works and Housing
Implementing Agency	Directorate General of Water Resources (DJSDA)
Preparation Agency	Directorate General of Public Works and Housing Infrastructure Financing (DJPI) and PT Sarana Multi Infrastruktur (PDF assignment by the Ministry of Finance)
Project Cost	USD 262.98 Million
Estimated Concession Period	20 years
Location	Renah Pembarap District, Merangin Regency, Jambi Province

1. Project Picture (Map and/or Illustration of Project)



Picture 1 – Layout of Merangin Dam



Picture 2 – Map of Merangin Dam

2. The Opportunity

2.1. Project Background

The potential for surface water flow owned by Merangin Regency is relatively abundant. This condition is reflected by most of the rivers in the Batanghari watershed, throughout the year, never experiencing drought, so the potential for surface water is enormous. In addition, the water conditions of the Batang Merangin river and surface water in several sub-districts have a lot of overland flow, so flooding and inundation are often found in several districts. One of the rivers that contribute significantly is the Batang Merangin-Tembesi River. Therefore, there is potential to be utilized for providing irrigation water, raw water for drinking water, generating electricity and other uses such as flood control.

The proposed Merangin multipurpose dam is considered to meet the high demand of new agriculture irrigation, to address the impacts of climate change on the reliability of water supply as well as to mitigate flood risks, agriculture, and energy generation as well as renewable energy needs in a green and sustainable manner.

The Merangin Dam provision aims to support Visium PUPR 2030, which increases the resistance of national water with a capacity of 120 m³/capita/year and in accordance with the 2020-2024 National Medium-Term Development Plan regarding the Development of 18 Multipurpose Dams as Major Project.

2.2. Project Description

The Merangin Dam PPP Project is the first multi-purpose dam PPP project in Indonesia. The Merangin Dam Project is located in Simpang Parit Village, Renah Pembarap District, with coordinates 2° 9'52.82" South Latitude and 102°1'20.40" East Longitude.

The USD 262,98 million program involves a PPP scheme with a DBFOMT modality that includes financing, designing and building, operating and maintaining a multi-purpose dam to provide water for an irrigation scheme covering about 12,000 hectares in Merangin Regency, control floods of approximately 583.5 m³/s in the Merangin basin, impound water for a 90 – 107.5 MW hydropower. Other program components include local water supply until 2 m³/s and tourism. The Government will provide land acquisition of ± 853.22 ha.

The option in this project development is to build a dam, and the payment mechanism through Availability Payment covers the private's investment, risks and returns.

2.3. Project Objectives

The objectives of this project are to foster the socio-economic development in the Merangin Regency and Jambi Province through raw water supply to increase the piping network of drinking water in accordance with the 2020-2024 National Medium-Term Development Plan regarding the Major Project is access of piped drinking water (10 million house connection), water supply for irrigation to development agriculture, to reduce floods and its risks in the downstream area of Jambi Province. Furthermore, the proposed Merangin Multipurpose Dam could produce hydropower. The proposed Merangin Multipurpose Dam is in line with the energy transition plan, which is currently being pushed to reduce dependence on the use of fossil energy and replace it with renewable energy generation, with a target of 23% renewable energy by year 2025 from the achievement of the renewable energy mix of 14.02% currently.

3. Business Entity's Scope of Work

The modality of PPP Merangin Multipurpose Dam scheme is "Design-Build-Finance-Operate – Maintain and Transfer" (D-B-F-O-M-T).

4. Technical Specification

Basic Design features of the Merangin Multipurpose Dam is the following.

Length of crest dam	335 m	Effective inundation area	686.76 ha
Width of crest dam	12 m	Effective inundation volume	100.17 million m ³
Height of main dam	94 m	Minimum inundation volume	75.0 million m ³
Peak Elevation dam	+229m	QPMF Elevation	EI+225.9 m
Spillway Elevation	+220 m	Flood Control (QPMF)	583.5 m ³ /s
Irrigation discharge allocation	25.75 m ³ /s	Type of Dam	Earthfill with clay core

5. Environmental Impact Assessment (EIA/AMDAL) Findings

According to the Regulation of Minister of Environment and Forestry No. 38/2019, the proposed PPP Merangin Multipurpose Dam Project requires to have an Environmental Impact Assessment (EIA / "AMDAL") type A. EIA scope includes is not limited to the following: (i) identification of potential mitigation measures and discussion of these with BWS Sumatera VI and others, to analyze practicality and likely cost; (ii) Finalization of recommended mitigation measures required during design, construction and operation of the project; (iii) Development of cost estimates of the mitigation measures; (iv) Preparation of a project-specific Environment Management Plan/ Mitigation Management Action Plan.

The government has conducted the drafting process of the EIA Study by the year 2020. The progress of EIA is waiting for the suitability of Space Utilization Activities (*Kesesuaian Kegiatan Pemanfaatan Ruang/KKPR*) for certification of EIA document.

6. Land Acquisition and Resettlement Action Plan

The government has conducted the LARAP Study on an area of ±853.22 ha by the year 2020, consisting of (i) a Social Economic survey; (ii) a census of the population to be affected by the project and preparation of desegregated data; (iii) identification of socio-economic impacts of the project to the stakeholders; (iv) carrying out of an aerial survey of the project area and cadastral survey of the land parcels to be affected and accompanying list of the registered land owners; and (v) determination of the land to be acquired and the tentative compensation values for both land, permanent, semi-permanent and temporary structures and both cash/subsistence crops. The government (MPWH) is drafting Land Acquisition Planning Documents for submission of location determination to the Governor of Jambi. Land Acquisition will be carried out in 2023.

7. Project Cost Structure

Estimated Project Cost		USD 262.98 Million
Indicative Debt to Equity Ratio		
- Debt Level		70%
- Equity Level		30%
IRR		10%
NPV		USD 12.6 Million

8. Government Support and Guarantee

The Government Guarantee for this project will be in the form of guarantee from PT PII.

9. Contact Information

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