

## Project Summary Information (PSI)

Project No: 000054

Project Name	West Bengal Major Irrigation and Flood Management Project
Country	Republic of India
Sector	Water/Irrigation and Flood Protection
Project No	000054
Borrower	Republic of India
Implementation Agencies	Irrigation and Waterways Department (IWD), Government of West Bengal (GoWB)
Environmental and Social Category	Category A
Date of PSI prepared or updated	December 6, 2017
Estimated Date of Board Consideration	September 2018
Concept Decision	Approved on December 4, 2017

### I. Introduction

India is a fast-growing and large developing economy, averaging around 7% growth per year in the past few years. Its Gross Domestic Product (GDP) was US\$2.2 trillion in 2016, with a per capita GDP of around US\$1,709. In purchasing power parity (PPP) terms, India was the world's third largest economy in 2016 (at US\$8.7 trillion), behind China and the USA, with a per capita PPP GDP of US\$6,572. Looking ahead, the International Monetary Fund (IMF) also expects India's growth momentum to remain fairly robust through the medium term.

To support its ambitious development goals, India needs more secure water supplies for improved agriculture, energy, and industry productivity. At present, the country is experiencing water stress, with increasing demands for water that are expected to exceed all available water sources by 2050. Further, climate change is expected to exacerbate water shortages as rainfall becomes more erratic and unpredictable.

Agriculture, which accounts for 14% of India's GDP, is also India's largest water user, accounting for an estimated 90% of all water use. The agriculture sector employs almost 50% of the country's labor force. However, over the last 25 years, it has not achieved envisaged growth targets. Water is becoming a critical constraint to improving agricultural development and associated poverty reduction in rural areas.

West Bengal is one of the largest states in India. It comprises about 3% of India's land mass and 8% of the population, with a population density of about 900 per km<sup>2</sup>. The majority of its population live in rural areas, most of whom are dependent on agriculture. Agriculture makes up almost 20% of the economy and accounts for almost half the employment in the State. However, investment in irrigation infrastructure has not kept pace with demand in recent years. This has affected agricultural productivity and also led to other issues, such as over extraction of groundwater. Besides its need for better irrigation, the State, which is located in the cyclone zone, also needs to improve the resiliency of its infrastructure in regard to heavy rains.

The Damodar Valley Command Area (DVCA) irrigation network was developed more than six decades ago, and much of the associated infrastructure has degraded through prolonged use and limited ongoing maintenance. The DVCA canals currently irrigate around 332,000 ha in the Kharif season (late July-late October), out of a design command area of 393,800 ha, with limited scope for irrigation during the Rabi season (late December-early February) irrigation (nominally defined as 20,000 ha) and Boro season (late January-late April) irrigation (typically 25,000 to 30,000 ha). Meanwhile, annual monsoon season (June to October) often leads to serious flooding in the Lower Damodar sub-basin. This causes significant economic damage and social distress. On average, about 33,500 ha of cropped land and 460,000 people are affected each year.

The proposed West Bengal Major Irrigation and Flood Management Project (the Project), to be co-financed with the World Bank, is designed to address the above-mentioned problems through investment in a series of mitigation activities.

The World Bank will be the lead co-financier of the Project and will take a leading role in procurement, disbursements, ensuring environmental and social compliance, and monitoring and reporting for the Project.

## **II. Project Objectives and Expected Results**

The objective of the Project is to optimize the conjunctive use of surface and ground water for agriculture and reduce flooding in the Project area. The expected results of the Project are to improve irrigation in order to benefit agriculture in the DVCA, and to reduce annual flooding in the Lower Damodar sub-basin area.

## **III. Project Description**

The Project tentatively consists of the following four components:

- **Component 1: Irrigation Modernization**

This component aims to reduce operational water losses across the system and allow the available water to service a greater combined area across all crop seasons. The investment would include: (i) improving water conveyance and allocation and increasing storage potential; and (ii) strengthening institutions that are responsible for irrigation management.

- **Component 2: Water Resources Management.**

This component mainly aims to alleviate annualized flooding in the Lower Damodar sub-basin area. The investment would mitigate flooding hotspots by carrying out channel desilting works, flow regulation structure modification and embankment reconstruction at key locations. In close collaboration with the World Bank-funded Dam Rehabilitation and Improvement Project, the investment would also include measures to strengthen forecasting and analysis capability to improve dam operation and water storage management in upstream reservoirs. Opportunities will also be explored for ways to capture and direct wet season water in order to recharge groundwater.

- **Component 3: Command Area Development**

This component would complement the irrigation system improvement under Component 1, with the aim of improving water delivery and allocation below the outlet level (effectively at tertiary command level). The investment would include infrastructure development, capacity strengthening and institutional reforms for improving irrigation at tertiary command level.

- **Component 4: Project Management and Institutional Development**

This component would support strengthening of the capacity for project management of both the IWD and the Project Management Unit (PMU), including, inter alia, procurement, financial management, and monitoring and evaluation.

### **Environmental and Social**

The World Bank’s Environmental and Social Safeguard Policies (Safeguard Policies) will be applied since (i) they are consistent with the Bank’s Articles of Agreement and materially consistent with the provisions of the Bank’s Environmental and Social Policy and relevant Environmental and Social Standards; and (ii) the monitoring procedures that the World Bank has in place to ascertain compliance with its Safeguard Policies are appropriate for the Project. Under the World Bank’s Safeguard Policies, the Project has been assigned Category A.

The environmental and social risks and impacts related to the Project have been identified in a joint AIIB-World Bank mission. As required for a Category A project, an Environmental and Social Impact Assessment (ESIA) is being conducted for the Project, which will be complemented by an Environmental and Social Management Framework (ESMF), Resettlement Planning Framework (RPF) and Indigenous Peoples Planning Framework (IPPF). These documents will be subject to consultation and disclosure as part of the Project preparation process. A Grievance Redress Mechanism (GRM) will also be developed for the Project.

#### **IV. Estimated Project Cost and Financing Source (US\$ million)**

The Project cost is estimated to be US\$413 million. The financing sources are as follows (in US\$ million):

<b>Loans/Credits/Others</b>	<b>Amount</b>
World Bank	145
AIIB	145
GoWB	123
<b>Total</b>	<b>413</b>

#### **V. Implementation**

The Project will be implemented by the IWD and managed by the PMU established within the IWD.

Procurement will be conducted in accordance with the World Bank's Procurement Regulations for Investment Project Financing (IPF) Borrowers of July 2016.

Expected Project implementation period (Start Date and End Date): September 2018 – September 2025.

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