

## RISK ASSESSMENT AND RISK MANAGEMENT PLAN

Risk Description	Rating	Mitigation Measures	Responsibility
<b>Source Sustainability</b>			
Extreme climate events beyond projections disrupt availability of water supply and infrastructure built	Moderate	The project incorporates adequate climate resilience measures through the DWQAPs and climate risk and vulnerability assessment.  Risk screening will be done for all subprojects and the design will ensure that raw water is extracted only from sustainable sources according to climate projections.	PHED, PMU
Raw water quality deteriorates because of pollution	Moderate	The district-level DWQAP is prepared for all project districts. The DWQAP assesses source sustainability and water quality comprehensively for each district. Raw water will be abstracted only from sustainable sources identified.	PHED
<b>Technical Design and Procurement</b>			
Schemes may not be maintained by the <i>gram panchayats</i> <sup>a</sup>	Moderate	The project incorporates smart water management for the bulk water supply system and water distribution system at <i>gram panchayat</i> levels and will assist the PHED and the <i>gram panchayats</i> to install and build their skills and capacities to use and maintain the overall water supply scheme, ensure efficient operations, monitor water quality, increase system efficiency, and reduce NRW.  District metering approach used by the project for NRW control will reduce water wastage and community awareness campaigns will encourage water conservation.	PHED and <i>gram panchayats</i>
PHED's standard procurement practices differ from ADB's, and PHED staff are not fully conversant with the ADB procedures	Moderate	Two grant-funded procurement consultants have been assisting the PHED's PMU and PIUs in improving knowledge and awareness of ADB procurement procedures during the early project preparation and design stages. Once the loan-funded consultants—PMC and DSISCs—are mobilized, they will support the PMU and PIUs in procurement and capacity building. The PHED agreed to retain trained staff on the project.	PMU, PMC, DSISCs
Time-consuming internal procurement processes within PHED may cause delays	Moderate	The PHED has established a dedicated PMU and PIUs for the project and has agreed to maintain efficient and effective internal review and approval procedures. The PMC and DSISCs will set, facilitate, and build capacity for an expeditious and efficient procurement process.	PHED, PMU, PIUs, PMC
<b>Project Implementation</b>			
Lack of qualified contractors, and challenges in availability of sites may cause	Moderate	The PHED, supported by ADB, will provide training to PMU and PIU staff on project management and safeguards.  Appropriate packaging with large contracts has been carried out under the project to attract	PMU, PIUs, PMC, DSISCs

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delays in project implementation		competent bidders. The PHED will ensure land is available for the works in time.	
Poor coordination with other agencies	Moderate	The PHED will ensure that all permissions and approvals for road, railway, and river crossings are obtained in time in coordination with concerned agencies, and it will conduct frequent meetings and planning sessions with stakeholders	PMU, PMC, PIUs, DSISCs
Frequent turnover of consultants and project staff affect quality	Low	The PHED has prepared a human resources plan to attract and retain competent staff and consultants. The PHED will monitor its strict implementation.	PHED
Extreme climate events adversely affect project's progress and sustainability	Moderate	A detailed climate risk and vulnerability assessment was carried out, and resilience and mitigation measures have been incorporated in the project design	PMU, PIUs, PMC, DSISCs
<b>Project Operation</b>			
Unforeseen circumstances, such as flooding, affect the ability of project <i>gram panchayats</i> and the government to allocate resources to ensure water service delivery and sustainability. <i>Gram panchayats</i> do not have the capacity to operate and maintain the water distribution systems	Moderate	<p>The Government of West Bengal issued an order to <i>gram panchayats</i> to implement AMSD, to ensure the resources, including user charge and staff, are allocated by both the <i>gram panchayats</i> and the state departments. The AMSDF defines the exact roles and responsibilities of all stakeholders. The Government of West Bengal has also agreed to provide transfers in case user charges are not implemented or full O&amp;M cost are not recovered.</p> <p>Based on capacity assessment, the PHED retains responsibility for bulk supply, and only the responsibility for management of the distribution system and minor repairs is given to the <i>gram panchayats</i>. Further, an initial operations period of 2 years is allowed in all distribution network packages, with contractors responsible for training the <i>gram panchayat</i> staff prior to handing over the water distribution systems. The AMSDF also mandates that <i>gram panchayats</i> engage and maintain the required resources to operate the water distribution systems.</p> <p>Intensive capacity building has been included in the project through additional support from the JFPR and attached technical assistance.</p>	<p>Government of West Bengal and <i>gram panchayats</i></p> <p>PHED and <i>gram panchayats</i></p> <p>PMU, PIUs, PMC, DSISCs, and project nongovernment organizations</p>
Competing priorities of the Government of West Bengal and <i>gram panchayats</i> may affect timely project completion and capacity building			

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<b>Financial Management</b>			
Lack of an approved water user charge structure in the state may constrain sustainability	Moderate	<i>Gram panchayats</i> will implement the water user charge structure and carry out regular user charge revisions in accordance with the issued AMSDF. The Government of West Bengal has agreed to provide transfers in case user charges are not implemented or full O&M cost are not recovered	Project <i>gram panchayats</i>
Inadequate financial and accounting staff , limited experience of staff on externally funded projects in PHED, and need to strengthen internal audit in PHED may result in weak financial management of the project	Low	The PHED will strengthen (i) the accounts and finance sections of its PMU and PIUs by engaging qualified staff for the timely preparation of financial reports; and (ii) the internal audit process by appointing qualified staff or outsourcing to experienced audit firms	PHED
<b>Overall</b>	<b>Moderate</b>		

ADB = Asian Development Bank, AMSDF = asset management and service delivery framework, DSISC = design, supervision, and institutional support consultant, DWQAP = drinking water quality action plan, JFPR = Japan Fund for Poverty Reduction, NRW = nonrevenue water, PHED = Public Health Engineering Department, PIU = program implementation unit, PMC = project management consultant, PMU = program management unit.

<sup>a</sup> *Gram panchayats* are governing bodies working at the village level.

Source: Asian Development Bank.