

## RISK ASSESSMENT AND RISK MANAGEMENT PLAN

Risk Description	Risk Assessment	Mitigation Measures or Risk Management Plan
<b>Governance</b>		
Financial management	Low	<p>A financial management assessment was carried out, which indicates that BSRDCL has an accounting system that allows for the proper recording of project financial transactions in accordance with the international principles generally accepted in India, and has sufficient financial management capacity to administer the project.</p> <p>The agreed fund-flow arrangements for the project will require BSRDCL to maintain separate project records and accounts to identify the financing resources received and expenditures made for the project, ensuring an adequate audit trail; and will cause the annual financial statements to be audited by an auditor acceptable to ADB and in accordance with auditing standards acceptable to ADB.</p>
Procurement	Low	<p>The recently enacted Bihar Finance (Amendment) Rules, 2005 strengthen responsibility and accountability to bring efficiency, economy, and transparency in matters relating to public procurement, and to ensure fair and equitable treatment of bidders and the promotion of competition in public procurement. Civil works will be procured in line with the relevant ADB guidelines, with prior review by ADB at key steps in the procurement process.</p>
<b>Other risks</b>		
Project startup is delayed and disbursement is slow	Low	<p>The advanced procurement action was expedited in accordance with ADB requirements under retroactive financing. An EPC contract for the bridge and approach road network was signed on 10 February 2016, and the PMAE consultant contract was signed on 8 April 2016.</p>
Implementation capacity is not adequate	Low	<p>BSRDCL is a wholly owned company of the Government of Bihar, established to develop, execute, manage, and maintain all types of roads, highways, and bridges. It is experienced in implementing other ADB-financed projects in Bihar. BSRDCL has an 11-member board of directors and is headed by a managing director, with around 108 staff members. BSRDCL's managing director at present is the principal secretary of the Road Construction Department.</p> <p>The PMAE team will to support BSRDCL by providing overall project management assistance and monitoring the implementation of safeguards, including the EMP and other measures related to environmental protection.</p>
Bridge maintenance is not sustainable, and future capacity for bridge operation and management is weak	Low	<p>The EPC contract includes five years of post-completion performance-based bridge maintenance services to be financed by the Government of Bihar.</p> <p>The TA will strengthen the institutional capacity of the Government of Bihar and BSRDCL to effectively manage and maintain major bridges in Bihar and develop sustainable operation and maintenance plans for bridges in Bihar.</p>

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<b>Other risks from DMF (outside the project's control)</b>		
Improvements to complementary national and state highways are delayed	Low	The length of national highways in Bihar has increased steadily, and widening to four lanes is being undertaken under the National Highway Development Project (Phase 3). The Government of Bihar is taking up the construction of state roads and bridges on a large scale, in keeping with its resolution of connecting the state capital of Patna with the remotest area for a maximum travel time of 6 hours.
Unpredicted river flow and soil conditions delay construction	Low	The feasibility studies included hydraulic design parameters of the river at the proposed bridge site, such as design discharge, flood slopes, highest flood level, low water level, based on historical hydrological data collected by the Central Water Commission and supplemented with information available in the past reports and literature.  The feasibility studies included field investigations and laboratory testing to obtain a sample geotechnical profile at project site.
Major turnover of key BSRDCL staff during TA implementation	Low	Historically, turnover of key BSRDCL staff has been low.
<b>Overall</b>	<b>Low</b>	

ADB = Asian Development Bank, BSRDCL = Bihar State Road Development Corporation Limited, EMP = environmental management plan, PMAE = project management and authority engineering, TA = technical assistance.  
Source: Asian Development Bank.