



Periodic Financing Request Report

Project Number: 41603-024
MFF Number: 0067-IND
December 2017

India: Bihar Urban Development Investment Program (Tranche 2)

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CURRENCY EQUIVALENTS

(as of 1 November 2017)

Currency unit	–	Indian rupee (₹)
\$1.00	=	₹64.68
₹1.00	=	\$0.015459

ABBREVIATIONS

ADB	–	Asian Development Bank
BUIDCo	–	Bihar Urban Infrastructure Development Corporation
DBO	–	design–build–operate
EMP	–	environmental management plan
FFA	–	framework financing agreement
GAP	–	gender action plan
IEE	–	initial environmental examination
IPPF	–	indigenous peoples planning framework
MFF	–	multitranche financing facility
O&M	–	operation and maintenance
PAM	–	project administration manual
PIU	–	program implementation unit
PMU	–	program management unit
SPS	–	Safeguard Policy Statement
ULB	–	urban local body
VGDS	–	Vikramshila Gangetic Dolphin Sanctuary

WEIGHTS AND MEASURES

km	–	kilometer
ML	–	million liter
MLD	–	million liters per day

NOTES

- (i) The fiscal year (FY) of the Government of India and its agencies end on 31 March. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY 2017 ends on 31 March 2017
- (ii) In this report, "\$" refers to US dollars.

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TRANCHE AT A GLANCE

1. Basic Data		Project Number: 41603-024	
Project Name	Bihar Urban Development Investment Program - Tranche 2	Department /Division	SARD/SAUW
Country	India	Executing Agency	Urban Development and Housing Department, Government of Bihar
Borrower	Government of India		
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Water and other urban infrastructure and services	Urban policy, institutional and capacity development		6.00
	Urban water supply		78.00
		Total	84.00
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Adaptation (\$ million)	8.00
		Climate Change impact on the Project	Medium
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Institutional development	Effective gender mainstreaming (EGM)	✓
Knowledge solutions (KNS)	Knowledge sharing activities		
Private sector development (PSD)	Public sector goods and services essential for private sector development		
5. Poverty and SDG Targeting	Location Impact		
Geographic Targeting	No	Rural	Low
Household Targeting	No	Urban	High
SDG Targeting	Yes		
SDG Goals	SDG6		
6. Risk Categorization:	Low		
7. Safeguard Categorization	Environment: B Involuntary Resettlement: B Indigenous Peoples: C		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		84.00	
Sovereign MFF-Tranche (Regular Loan): Ordinary capital resources		84.00	
Cofinancing		0.00	
None		0.00	
Counterpart		36.00	
Government		36.00	
Total		120.00	

I. BACKGROUND

1. The Asian Development Bank (ADB) approved the multitranche financing facility (MFF) for the Bihar Urban Development Investment Program¹ for an aggregate amount not exceeding \$200 million on 1 March 2012.² The investment program supports the Government of India's strategy to provide sustainable urban infrastructure and services leading to better quality of life for people in four towns in Bihar: Bhagalpur, Darbhanga, Gaya, and Muzaffarpur. The investment program will improve and expand the water and sewerage infrastructure in the four towns, and help urban local bodies (ULBs) of the four towns—the infrastructure owners—to ensure discipline and structures for operations that result in sustainable operation and maintenance (O&M).

2. The first tranche for \$65 million was approved on 13 April 2012 and became effective on 6 June 2013 under the investment program. Under the Project 1, there is only one civil works contract: the Bhagalpur Water Supply Project design–build–operate (DBO) contract; \$8 million was subsequently cancelled from this project in December 2014, mainly because of reduced cost of the DBO contract. The original loan closing date for the project was 30 June 2017 and this has been extended to 31 December 2021, which coincides with the end of the MFF availability period.

3. The executing agency, the Urban Development and Housing Department, on behalf of the implementing agency, the Bihar Urban Infrastructure Development Corporation (BUIDCo), submitted the periodic financing request for the proposed second tranche on 10 July 2017, through the Department of Economic Affairs of the Ministry of Finance. The Project 2 will include physical investments in water supply improvements in Bhagalpur and Gaya, and nonphysical investments to continue supporting project implementation and reforms in these two towns. Bhagalpur and Gaya are the two major towns with the highest economic growth potential in Bihar, after the state capital, Patna. Despite being the economic centers of Bihar, the two towns have been unable to achieve the national urban service goals or match many of the national averages for urban service delivery performance in India. Their inability to sustain water supply and sewerage services is the result of inadequate scale and condition of infrastructure, mainly attributed to inadequate investments and neglect of O&M.

II. ASSESSMENT OF IMPLEMENTATION

4. **Implementation progress.** The Project 1 involved physical investments in water supply improvements in Bhagalpur through three contracts—one large DBO contract and two consulting services contracts. Mobilization of the two consulting services contracts was accomplished in 2013. The DBO contract was awarded in July 2014 and the contract is expected to be closed in October 2022. The DBO contractor took over operations of Bhagalpur's water supply services from 1 July 2015 and submitted the service improvement plan in September 2015. Construction started in February 2016. The initial delay in project implementation was a result of various factors, which took time and effort to resolve.³ On nonphysical components, the state government of Bihar has approved a volumetric tariff structure for water supply as a step toward implementing a user charges policy. User charges will be implemented in Bhagalpur with the assistance of the DBO contractor. A 5-year water supply operations model will be developed by the state government of

¹ The design and monitoring framework for the Project 2 is in Appendix 1.

² ADB. 2012. *Bihar Urban Development Investment Program*. Manila.

³ The reasons include unfamiliarity of the executing and implementing agency with ADB's procedures, time required to mobilize the full team at the project management unit (PMU) and project implementation unit (PIU), and introduction of the DBO contracting modality.

Bihar. The Project 1 is rated *on-track*. Under the project, while the single DBO contract has been awarded in July 2017, cumulative disbursement was \$11.52 million (21%) as of 30 August 2017.⁴

5. **Compliance with loan and project agreements, and framework financing agreement undertakings.** For the Project 1, out of 32 total covenants in the loan and project agreements, two have been complied with, 27 are being complied with, and three are not yet due. Out of the 36 undertakings in the framework financing agreement (FFA), three have been complied with, 28 are being complied with, four have been partially complied with, and one is not yet due. The four covenants that have been partially complied with relate to staffing and adequate equipment provision. The government is taking steps to ensure full compliance by 30 December 2017.⁵ A detailed compliance review of the covenants and undertakings is in Appendix 16.

6. **Lessons learned.** Implementation of the project was slow during the first 3 years because of (i) low project readiness arising from delays in completion of detailed design, tendering, and obtaining required clearances; (ii) lack of project implementation experience and inadequate staffing and capacity in the program management unit (PMU) or program implementation units (PIUs); and (iii) constrained fund flows arising from delays in reimbursement of funds from finance departments. These issues have been addressed in the Project 2 by (i) increasing project readiness by advancing the completion of the detailed designs, obtaining requisite clearances, and undertaking bidding to the advance stage that contracts are ready to award; (ii) ensuring that both the PMU and PIUs are adequately staffed; (iii) ensuring adequate cash flow to the PIUs through advances from the state government of Bihar; and (iv) including loan covenants for timely budgeting and reimbursement of fund flows from the state government of Bihar to the PIUs.

7. **Environment.** The Project 1 is classified category B for environment. Due diligence included a mix of site visits, desk reviews of monitoring reports, and discussions with stakeholders. Initial environmental examinations (IEEs) and environmental management plans (EMPs) were reviewed and approved by ADB, included in bids and contracts, and disclosed on the ADB website, and relevant information was shared locally. The IEE for Bhagalpur's water supply is being updated based on detailed design and will be submitted to ADB for review and disclosure. Grievance redress mechanisms have been established. The PMU and Bhagalpur PIU safeguard officers are in place and are being assisted by environment experts from consultant teams. All government approval certificates were obtained. Semiannual environmental monitoring reports are being submitted and publicly disclosed regularly. Implementation of environmental safeguards has been observed to be less than adequate, and needs to be strengthened. Issues identified during due diligence were related to weak implementation of routine construction impact and safety mitigation measures. Key areas for improvement include (i) strengthening occupational health and safety measures, particularly on personal protective equipment, provision of first aid, adequate toilet and bathing facilities for laborers, safety of movement on the construction sites, and maintenance of accident logs; (ii) improving material storage and handling, such as covering stockpiles and safe disposal of construction wastes; and (iii) posting contact numbers on boards.

8. **Social.** The Project 1 is classified category B for involuntary resettlement impacts and category C for indigenous peoples. Due diligence on social safeguards compliance was conducted through site visits; desk reviews of monitoring reports; and discussions with affected people, BUIDCo, and consultants. Limited social safeguard issues were identified in the project, such as (i) temporary resettlement impacts during the laying of 460 kilometers (km) of water supply pipeline, (ii) permanent relocation impact on one vulnerable household, and (iii) loss of structure on three

⁴ In a DBO contract, the first year is spent designing, and this is followed by the construction phase. Disbursements have increased since the construction phase started.

⁵ All staff for the Project 1 have been recruited. A few noncritical positions for the Project 2 are under recruitment.

households. Mitigation measures in all such cases are being made as per the approved resettlement plan. The following measures were used to avoid income loss and disruption: avoidance of footpaths for pipe excavation, laying of pipes in the black-topped portion of congested roads, night work in congested areas, provision of planks for pedestrian access, and assistance to mobile vendors to shift to nearby locations. Semiannual social safeguards monitoring reports were submitted and disclosed. Grievance redress mechanisms were established, and no complaints have been received. No issue on indigenous peoples has been reported under the Project 1. Key areas recommended for improvement include (i) timely updating of the resettlement plan after completion of detailed design and submission to ADB for no-objection; (ii) timely recruitment of dedicated safeguard officers in BUIDCo, preferably supported by qualified safeguard specialists as loan consultants; (iii) timely submission of semiannual safeguard monitoring reports for disclosure; (iv) meaningful consultation with project-affected people and communities; and (v) dissemination of project grievance redress mechanisms and procedures to all affected people and communities. Continuous monitoring by BUIDCo on social safeguards compliance during civil works is required. The environment and social management coordinator in the PMU, supported by the design supervision consultant, will train the PMU and PIU safeguards staff, design engineers, as well as the contractors to support the implementation of these recommendations.

9. **Gender.** The Project 1 is categorized effective gender mainstreaming and has a gender action plan (GAP) which includes 11 activities under three outputs. The PMU has initiated regular reporting on GAP progress of the project. However, the progress on activities is slow and some activities are yet to be taken up. An orientation-cum-training program for all project staff was conducted on 7-8 February 2017 to orient staff on gender provisions in the project GAP. In addition, a 2-day support session was provided to staff responsible for GAP implementation at the PMU, and to the design supervision consultant. To streamline GAP implementation, ADB provided support to BUIDCo in preparing a GAP implementation schedule detailing quarterly activities and responsible persons and agencies. In addition, during the review mission in August 2016, key gender mainstreaming indicators were suggested by ADB mission to be included in the project performance monitoring system. The PMU submitted the last GAP update along with the project fourth quarterly report for 2016.

III. PERIODIC FINANCING REQUEST

A. Impact and Outcome

10. The impact will be increased access to better quality and sustainable urban infrastructure and services, especially by vulnerable households in Bhagalpur and Gaya, aligned with the Government of India's Three Year Action Agenda.⁶ The outcome will be improved access to quality and sustainable urban water supply in Bhagalpur and Gaya.

B. Outputs

11. The Project 2 will have three outputs.

12. **Output 1: Water supply infrastructure constructed and rehabilitated.** In Gaya, the Project 2 will support two civil works subprojects to increase water supply capacity and improve the distribution network through (i) construction of 24 tube wells to augment the water source by 58 million liters per day (MLD); (ii) rehabilitation of 29 tube wells with a combined capacity of 68 MLD; (iii) construction of a water distribution system including transmission mains (33.55 km) and

⁶ Government of India, National Institution for Transforming India. 2017. *India Three Year Action Agenda (2017–18 to 2019–20)*. New Delhi. <http://www.niti.gov.in/writereaddata/files/coop/ActionPlan.pdf>

distribution network (447.8 km); (iv) provision of 75,000 household connections, 15% of which are for vulnerable households ; (v) construction of 200 public stand posts; (vi) construction of 11 storage reservoirs totaling 26,530 m³ capacity; (vii) construction of 32 monitoring stations; (viii) construction of six customer service centers; (ix) construction of 11 pump houses; and (x) installation of 92 electromagnetic flow meters. In Bhagalpur, the Project 2 will support bulk water supply that will support the ongoing distribution networks being implemented under the Project 1.⁷ The investments will include (i) construction of one new 140 MLD river water intake; (ii) one jack well and three pump houses; (iii) installation of six raw water pumps and 13 clear water pumps; (iv) construction of 2.55 km of raw water transmission mains and 28.70 km of clear water transmission mains; (v) construction of a 90.0 MLD water treatment plant; (vi) construction of a 9,100 m³ clear water reservoir; and (vii) installation of a supervisory control and data acquisition system.

13. **Output 2: Staffing and skills for water supply operations improved.** The various activities that will be supported by Project 2 under this output will include (i) training of 400 ULB staff in the management and O&M of urban infrastructure including water supply systems, (ii) training of 400 ULB staff on key gender mainstreaming issues and the empowered role of women in water supply management, and (iii) training of 40 ULB staff to program and operate the supervisory control and data acquisition system.

14. **Output 3: Systems for water supply service delivery management improved.** A consultancy firm will be engaged to support ULBs improve technical and financial management of the water supply operations. The activities for both Bhagalpur and Gaya include (i) introducing and implementing a new accounting system; (ii) introducing user charges for water supply, incorporating special concessionary arrangements for vulnerable households and; (iii) releasing water operations financial statements every year from 2019 onwards; and (iv) conducting public consultation and awareness campaigns to disseminate project information, especially on stand posts and mobile toilet and bathing units (30% women's participation). In Gaya, this will include (i) engaging build–operate contractors for 4.5 years for O&M of the rehabilitated water supply system to national service standards; (ii) preparing O&M manuals for the Gaya water supply system by the contractors; (iii) developing georeferenced cadastral maps with thematic layers on a geographic information system domain;⁸ (iv) developing an integrated water supply and sanitation asset and consumer database;⁹ (v) developing a water supply and sanitation utility management system;¹⁰ and (vi) supervisory control and data acquisition with programmable logic controllers.

C. Investment and Financing Plans

15. The tranche is expected to cost \$120 million (Table 1).¹¹

⁷ The Project 1 includes rehabilitation of the existing water treatment facilities as well as construction of overhead tanks and distribution networks and bulk water metering and house connections.

⁸ Through digital and visual analysis of aerial photography and satellite data, georeferenced cadastral maps will be generated with the following thematic layers: land use and land cover, land form, transport network, surface water bodies, urban micro watershed, agglomerated settlement areas, and important landmarks.

⁹ Through an asset condition survey, asset attributes—including age, material, asset condition, and other relevant technical specifications—will be assigned to the system and mapped as a thematic layer on the geospatial domain.

¹⁰ The system is an internet-based software application to assist in making informed decisions on future water supply and sanitation planning, maintenance, and management activities across the town.

¹¹ The cost estimates have been prepared by ADB consultants and staff, based on information provided by BUIDCo, in particular the detailed project report and the draft procurement plan.

Table 1: Tranche Investment Plan
(\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Water supply infrastructure constructed and rehabilitated	86.2
2. Staffing and skills for water supply operations improved	5.8
3. Systems for water supply service delivery management improved	6.0
Subtotal (A)	98.0
B. Contingencies^c	16.6
C. Financing Charges During Implementation^d	5.4
Total (A+B+C)	120.0

^a Includes taxes and duties of \$6.9 million to be financed from government sources by cash contribution.

^b In early 2017 prices. An exchange rate of ₹66 = \$1 has been applied.

^c Physical contingencies are computed at 10.0% for civil works, equipment, and project management. Price contingencies are computed at 1.4%–1.5% on foreign exchange costs and 5.5%–5.8% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^d Includes interest and commitment charges. Interest during construction for the Asian Development Bank (ADB) loan has been computed at the 5-year forward London interbank offered rate (LIBOR) of 2.24% plus a spread of 0.50% as of 14 March 2017. Commitment charges for the ADB loan are 0.15% per year to be charged on the undisbursed loan amount, and a 0.10% maturity premium.

Source: Asian Development Bank estimates.

16. The Government of India submitted a periodic financing request on 10 July 2017 requesting a loan of \$84 million from ADB's ordinary capital resources to help finance the Project 2. The loan will have a 25-year term, including a grace period of 5 years;¹² an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; a commitment charge of 0.15% per year; and such other terms and conditions set forth in the loan and project agreements.¹³ The loan from ADB will finance (i) civil works and equipment for water supply infrastructure in Bhagalpur and Gaya; (ii) consulting services and capacity building; and (iii) project administration costs. The government will provide \$36 million equivalent to cover resettlement costs, part of civil works, taxes and duties, interest during construction, and contingencies. The government will assume the foreign exchange risk. The government has provided ADB with reasons for its decision to borrow under ADB's LIBOR-based lending facility based on the terms and conditions mentioned above, and has given an undertaking that the choices were its own independent decision. The government will finance contingencies as indicated in the detailed cost estimates included in the project administration manual (PAM) (Appendix 4). The financing plan is in Table 2.

Table 2: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank	84.0	70.0
Government	36.0	30.0
Total	120.0	100.0

Source: Asian Development Bank estimates.

17. Climate adaptation is estimated to cost \$8 million, and ADB will finance 100% of adaptation costs.

D. Implementation Arrangements

18. The implementation arrangements are summarized in Table 3 and described in detail in the PAM. The procurement plan for the Project 2 is included in the PAM.

¹² The straight line method of repayment will be followed.

¹³ The average maturity is 15.25 years and the maturity premium payable to ADB is 0.1% per annum.

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	30 October 2017 ^a to 30 September 2021		
Estimated completion date	The project completion date is 30 September 2021 (31 December 2021 is loan closing date)		
Management			
(i) Oversight body	Steering committee, state government of Bihar Development commissioner (chair) Principal secretary, finance; principal secretary, planning and development; principal secretary, urban development and housing (members)		
(ii) Executing agency	State government acting through its Urban Development and Housing Department		
(iii) Key implementing agencies	BUIDCo, PMU, and PIUs		
(iv) Implementation unit	BUIDCo		
Procurement	ICB	1 contract	\$49.1 million
	NCB (works)	2 contracts	\$42.6 million
	Shopping (goods)	2 contracts	\$0.3 million
Consulting services	QCBS	264 person-months	\$4.0 million
	Individual consultants	54 person-months	\$0.5 million
Retroactive financing and advance contracting	Retroactive financing and advance contracting will be used for goods, civil works, and consulting services being financed. Retroactive financing will be provided to finance eligible expenditures incurred for procurement of goods, services, and civil works, and project administration prior to loan effectiveness date but not earlier than 12 months before the loan signing date, and not exceeding 20% of the loan amount.		
Disbursement	The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2017, as amended from time to time), and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank, BUIDCo = Bihar Urban Infrastructure Development Corporation, ICB = international competitive bidding, NCB = national competitive bidding, PIU = project implementation unit, PMU = project management unit, QCBS = quality- and cost-based selection.

^a Tendering of contract packages under advance action started in May 2016.

Source: Asian Development Bank.

E. Project Readiness

19. Project readiness is advanced. In Gaya, the detailed project reports for two subprojects have been approved and bid documents prepared, 70% of civil works contracts have been tendered, all environmental clearances have been obtained, and contracts are ready to be awarded once the project is approved. One civil works contract for Bhagalpur is likely to be tendered in December 2018.

F. Advance Contracting and Retroactive Financing

20. ADB previously approved advance contracting for subprojects under the investment program. Upon the Government of India's request, the executing agency is proceeding with advance actions to procure civil works under the Project 2. The executing agency has been advised that ADB's approval of advance contracting and retroactive financing does not constitute a commitment to finance the loan.

IV. DUE DILIGENCE

A. Technical

21. All subprojects proposed under the Project 2 are in accordance with the subproject selection criteria of the FFA (Schedule 4). Water supply subprojects will result in a citywide coverage with 24-hour uninterrupted supply of treated water of 135 liters per capita per day in both Bhagalpur and Gaya. All detailed project reports were reviewed and approved by the executing agency to ensure compliance with the government's urban policies and technical standards. Technologies selected are appropriate, assessed using life cycle cost analysis,¹⁴ and compatible with local conditions.

B. Economic and Financial

22. **Economic analysis.** The economic rationale for the government's intervention is sound, as the second tranche of the investment program aims to provide better and more sustainable basic urban services in the project ULBs of Bhagalpur and Gaya. By 2021 or the project completion year, 1.1 million people in the two project ULBs will benefit from increased coverage of treated water supply. The economic internal rate of return was estimated at 17.4%, indicating sufficient economic return compared to the economic opportunity cost of capital of 9.0%. The results of the sensitivity analysis are also satisfactory against all downside risks: (i) a capital cost overrun of 20%, (ii) an O&M cost overrun of 20%, (iii) a decline in estimated benefits of 20%, and (iv) a 1-year delay in operations.

23. **Financial analysis.** The financial internal rate of return for the Project 2, calculated on the basis of income from the proposed water tariffs, is negative since the proposed tariffs are expected to only partially recover O&M costs. A cash flow analysis of the project ULBs, including revenues from property tax and institutionalized transfers from the state government, is more relevant and confirms that the ULBs have the financial capacity to sustain infrastructure and deliver the services upon introduction of a volumetric tariff from fiscal year 2022.¹⁵ The project ULBs' financial projections demonstrate that the revenue account will remain in surplus as long as there is (i) rationalization of tariffs, in the absence of which there is risk to sustainability; (ii) improved collection efficiency; and (iii) continued government support.

C. Governance

24. Project-specific governance risks were identified through updated financial management assessments of the state government of Bihar. These draw lessons learned from implementation of the Project 1, and from financial management assessment carried out during preparation of the investment program. Three key weaknesses were identified during the assessment: (i) delays in fund release by the state government to the project, (ii) manual financial accounting by BUIDCo, and (iii) delays by ULBs in completing audits and resolving audit queries. Despite these and initial delays, implementation of the Project 1 is satisfactory, primarily because of a dedicated and strong BUIDCo. Though the overall premitigation financial management risk was assessed as moderate, the financial management arrangements for the Project 2 are acceptable because of mitigating measures and an experienced executing agency, and the fact that implementing structures are

¹⁴ Life cycle cost analysis of the subprojects had assessed and ensured that the systems selected were the least-cost options for the entire design, construction, and operational life of the subproject.

¹⁵ Both the ULBs have withdrawn the 2% water tax in anticipation of the introduction of the water user charges as notified by the Urban Development and Housing Department in 2013. ULBs have committed and signed an agreement with the state government of Bihar to implement the water user charges to recover O&M costs as approved by the respective municipal councils.

already in place. Specific undertakings to address financial management risks for the overall investment program, already included in the FFA, remain relevant for the Project 2 and generally are on track and in progress. The investment program also includes measures to strengthen institutional and financial structures of the ULBs, and these measures are on track. The Project 2 also includes consultancy services for institutional development and capacity building of the project ULBs.

25. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the Government of India and the state government of Bihar. The specific policy requirements and supplementary measures are described in the PAM (Appendix 4).

D. Poverty, Social, and Gender Dimensions

26. The project is classified effective gender mainstreaming for gender. It will be socially inclusive and gender focused (Appendix 14). Key initiatives for social inclusiveness include subsidized water supply connections for the poor, disadvantaged, and vulnerable households. The GAP, included in the PAM, focuses on positive impacts and outcomes for women and provides specific targets for consultations with women, training of low-income groups (including women) in plumbing, and employment opportunities for women in project-related construction work and O&M of facilities. The GAP will also result in health benefits and time savings to women as water fetchers and caregivers, arising out of increased access to water supply systems, improved living conditions, and long-term institutional capacity to promote inclusive development in Bhagalpur and Gaya. Sex-disaggregated information will be obtained as part of monitoring and evaluation activities to enable tracking of gender impacts envisaged under the project. Gender-focused activities in the Project 2 complement ongoing activities under the Project 1. Towards the end of the project, the impact of the new water supply services on women in terms of time savings and health benefits will be assessed by way of qualitative interviews with selected female beneficiaries in both the project towns.

E. Safeguards

27. **Environment.** The project is classified category B for environment. None of the sites proposed for the project in Gaya are located within or adjacent to eco-sensitive areas. The most environmentally sensitive component of the project is a water intake in Bhagalpur, which is located in the middle of the 50-km Vikramshila Gangetic Dolphin Sanctuary (VGDS). The current design of the water intake, involving construction of a jack well on the riverbank, is deemed to cause the least impact as it is outside the eco-sensitive zone of the VGDS and will be located in an already developed area. However, as the Ganges River has high siltation and turbidity, periodic dredging in the intake area during the operation phase will be undertaken to maintain the depth and ensure water flow from the river to the jack well. Physical disturbance will be limited to an area of 1,040 square meters (40 meters from the bank), which is equivalent to 0.0014% of the VGDS, and a maximum of 10 intermittent days in a year. Hydrological studies conducted during the project preparatory stage concluded withdrawal of 140 MLD has insignificant impact on the river. ADB requested BUIDCo to collaborate with the Wildlife Institute of India to see if testing or use of noise-reducing devices could be integrated as a mitigation measure into the subproject¹⁶ and to ensure no works will be conducted during daytime and periods of dolphins' biologically important behaviors (breeding, feeding, and resting). The National Board for Wildlife in the Ministry of Environment, Forest and Climate Change issued the no-objection clearance for diverting water from the river in

¹⁶ The Wildlife Institute of India is currently testing devices specifically for the Ganges River Dolphin. <https://futureoceans.com/pinger-trials-to-protect-endangered-ganges-river-dolphin/>

December 2013 and the Supreme Court of India granted permission for the project in early 2014.¹⁷ The no-objection clearance for dredging activities was issued by the principal chief conservator of forests (wildlife) and the chief wildlife warden of the Bihar State Wildlife Board on 6 March 2017, and conditions specified in the clearance were incorporated in the EMP. International nongovernment organizations, such as the World Wide Fund office in India and the International Union for Conservation of Nature office in India, and dolphin experts were consulted during the preparation of the IEE.

28. The three IEEs with EMPs were prepared for all subprojects in accordance with ADB's Safeguard Policy Statement (SPS), 2009. The environmental assessment and review framework made during MFF preparation in 2012 was updated to reflect requirements of the SPS. Any impact due to construction and operation will be site specific, of short duration, not significant, and can be avoided and/or mitigated through measures identified in the EMPs. The IEEs were disclosed in a language and form understandable by stakeholders and affected people. The IEEs will form part of the bidding and contract documents, and will be monitored during implementation. The project will also support the VGDS Dolphin Action Plan, 2010–2020.¹⁸ The project will support the conservation of dolphins and the aquatic biodiversity of the VGDS by (i) including in the project cost the periodic studies on monitoring hydrology and water quality over an appropriate zone covering downstream and upstream areas surrounding the project site; (ii) in consultation with Bhagalpur regional chief conservator of forests, developing a comprehensive scheme to foster proactive participation of fishing communities for dolphin conservation over a stretch of 10 km (5 km upstream and 5 downstream) of the project site; and (iii) providing budget to cover expenses for implementation of the EMP until project completion. The EMP implementation reporting to ADB will be done on a semiannual basis. Climate risk rating is *medium*, and adaptation measures such as flood defense will be incorporated to address identified climate risks such as flood and landslide.

29. **Social.** The Project 2 is assessed category B for involuntary resettlement impacts. No involuntary land acquisition is anticipated as all sites and alignments belong to the government. The key involuntary resettlement impacts are (i) physical and economic displacement for nine businesses (with nine owners), who are squatters on government land; (ii) physical displacement for eight squatter households with 44 family members; (iii) permanent, partial (>10%) income loss to four affected persons, who are encroachers and sharecroppers; and (iv) loss of 28 major structures (houses and shops), including nine businesses and eight houses requiring relocation as mentioned above, and impacts to 11 temporary structures—10 residential and one commercial—having 11 owners, who are anticipated to face temporary impacts not involving relocation. All affected persons are nontitled. Temporary income loss to 480 persons during pipe laying activity is anticipated. The resettlement framework and indigenous peoples planning framework (IPPF) are updated for the Project 2. Two resettlement plans and one due diligence report are prepared in accordance with the SPS and government laws. The project is classified category C for indigenous peoples impacts and no indigenous peoples plan is prepared. In the event that any indigenous people's issues are identified during implementation, mitigation actions will be prepared in accordance with the SPS and the IPPF. Any unanticipated impacts of the project will be documented and mitigated based on the agreed resettlement framework, the SPS on involuntary resettlement, and the IPPF. All safeguard documents have been disclosed and affected people and communities are aware of the resettlement plan and entitlement matrix. The progress of

¹⁷ As part of the Ministry of Environment, Forest and Climate Change no-objection clearance, several conditions were considered in finalizing the design of the intake, including the need to mitigate vibration and noise, sensitize fisherman, and develop a long-term monitoring program. The design engineers considered a new design to avoid vibration and noise impacts to Gangetic dolphins and changed the location of intake from the river (within the core VGDS area) to the bank of the river. However, with the new design, periodic river dredging will be required to bring water to the intake.

¹⁸ For detailed safeguard arrangements see the PAM (Appendix 4).

resettlement plan finalization, implementation, and confirmation of due diligence report findings will be reported in a semiannual social safeguards monitoring report.

F. Risks and Mitigating Measures

30. Major risks and mitigating measures are summarized in Table 4.¹⁹ Integrated benefits and impacts from the Project 2 are expected to outweigh the costs.

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Delinquent payment of user charges result in low tariff collection	The management consultants under the project will help the state government design for user charges. This will separate user charge setting from political influence. Coupled with awareness-raising programs, such arrangement will give adequate incentive to ULBs to undertake necessary reforms.
High turnover of trained key staff	The executing agency will select candidates for the training program from O&M staff in the municipal civil service cadre. The amendment of the Bihar Municipal Act will create a municipal civil service cadre, allowing municipal civil servants to remain in the Bihar ULBs.
ULBs cannot pay DBO contractors for O&M after ADB loans close	The investment program will help ULBs design affordable tariffs for O&M cost recovery and establish dedicated accounts for O&M under the investment program. Once ULBs adopt a tariff, revenue will be constant.

ADB = Asian Development Bank, DBO = design–build–operate, O&M = operation and maintenance, ULB = urban local body,

Source: Asian Development Bank.

G. Risk Categorization

31. The risk categorization of the requested project is *low* on the basis that (i) the loan amount is less than \$200 million, (ii) there is a sound record of ADB's previous experience in the sector in Bihar, (iii) there is reasonable capacity in the executing agency, and (iv) the environmental and social safeguards are categorized B.²⁰

V. ASSURANCES AND CONDITIONS

32. The Government of India and UDHD have assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents.

33. The Government of India and UDHD have agreed with ADB on certain covenants for the project, which are set forth in the loan and project agreements.

VI. RECOMMENDATION

34. On the basis of the approval of ADB's Board of Directors for the provision of loans under the multitranche financing facility in an aggregate principal amount not exceeding \$200,000,000 to India for the Bihar Urban Development Investment Program, it is recommended that the President approve the proposed tranche as described in para. 16 and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements for the proposed tranche.

¹⁹ Revised risk assessment and risk management plan is in Appendix 15.

²⁰ ADB. 2010. Processing Sovereign and Sovereign-Guaranteed Loan Proposals. *Operations Manual*, OM D11. Manila.