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R2017-0080/1

March 24, 2017

Closing Date: Wednesday, April 12, 2017 at 6:00 p.m.

FROM: Vice President and Corporate Secretary

India - Madhya Pradesh Urban Development Project

Project Appraisal Document

Attached is the Project Appraisal Document regarding a proposed loan to India for a Madhya Pradesh Urban Development Project (R2017-0080), which is being processed on an absence-of-objection basis.

Distribution:
Executive Directors and Alternates
President
Bank Group Senior Management
Vice Presidents, Bank, IFC and MIGA
Directors and Department Heads, Bank, IFC and MIGA

Document of
The World Bank

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Report No: PAD1529

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US$116.2 MILLION

TO THE

REPUBLIC OF INDIA

FOR A

MADHYA PRADESH URBAN DEVELOPMENT PROJECT

March 21, 2017

Social, Urban, Rural, and Resilience Global Practice
South Asia Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective November 06, 2016)

Currency Unit	=	Indian Rupee (INR)
INR 1	=	US$0.0149
US$1	=	INR 66.75

FISCAL YEAR
April 1 – March 31

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
BCR	Benefit-Cost Ratio
BISCO	Bhopal Indore Super Corridor
BLAC	Board Level Audit Committee
CAG	Comptroller and Auditor General
CFC	Central Finance Commission
CPHEEO	Central Public Health and Environmental Engineering Organization
DC	Direct Contracting
DFID	U.K. Department for International Development
DGS&D	Directorate General of Supplies and Disposal
EEC	Empowered and Executive Committee
ESMF	Environmental and Social Management Framework
DPR	Detailed Project Report
DSCR	Debt Service Coverage Ratio
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
E-in-C	Engineer-in-Chief
ESA	Environmental and Social Assessment
ESMP	Environmental and Social Management Plan
FA	Framework Agreement
GoI	Government of India
GoMP	Government of Madhya Pradesh
GRC	Grievance Redress Committee
GRS	Grievance Redress Service
HPEC	High Powered Expert Committee
ICB	International Competitive Bidding
IEC	Information, Education, and Communication
IPF	Investment Project Financing
IPMF	Indigenous Peoples Management Framework
IUFR	Interim Unaudited Financial Report
LA	Land Acquisition
LCS	Low-cost Sanitary

LIB	Limited International Bidding
KfW	*Kreditanstalt für Wiederaufbau*
MIS	Management Information System
MoUD	Ministry of Urban Development
MP	Madhya Pradesh
MPUDC	Madhya Pradesh Urban Development Co Ltd.
MPUDP	Madhya Pradesh Urban Development Project
MPUIF	Madhya Pradesh Urban Infrastructure Fund
MRC	Municipal Reforms Cell
MTR	Midterm Review
NCB	National Competitive Bidding
NIGUM	National Institute for Governance and Urban Management
NPV	Net Present Value
OM	Operations Manual
O&M	Operations and Maintenance
PCF	Project Conception Format
PDO	Project Development Objective
PHED	Public Health Engineering Department
PIT	Project Implementation Team
PIU	Project Implementation Unit
PLA	Personal Ledger Account
PMC	Project Management Consultancy
PMU	Project Management Unit
PPP	Public-Private Partnership
PWD	Public Works Department
R&R	Resettlement and Rehabilitation
RAP	Resettlement Action Plan
RSC	Reform Support Consultancy
SAPCC	State Action Plan on Climate Change
SC	Scheduled Castes
SCM	Smart Cities Mission
SIA	Social Impact Assessment
SPV	Special Purpose Vehicle
SCF	Standard Conversion Factor
SERF	Shadow Exchange Rate Factor
SLNA	State Level Nodal Agency
SWRF	Shadow Wage Rate Factor
ST	Scheduled Tribes
SV	Switching Value
TE	Total Expenditure
TPIA	Tripartite Implementation Agreement
TR	Total Revenue
UADD	Urban Administration and Development Directorate
UDHD	Urban Development and Housing Department
ULB	Urban Local Body
USMIS	Urban Sector Management Information System

VAT	Value-Added Tax
WACC	Weighted Average Cost of Capital
WSP	Water and Sanitation Program
WSS	Water Supply and Sanitation
WTP	Willingness to Pay

Regional Vice President:	Annette Dixon
Country Director:	Junaid Kamal Ahmad
Senior Global Practice Director:	Ede Jorge Ijjasz-Vasquez
Practice Manager:	Catalina Marulanda
Task Team Leader:	Uri Raich / Abhijit Sankar Ray

INDIA

Madhya Pradesh Urban Development Project

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PAD DATA SHEET

India

Madhya Pradesh Urban Development Project (P155303)

PROJECT APPRAISAL DOCUMENT

SOUTH ASIA

0000009353

Report No.: PAD1529

Basic Information		
Project ID P155303	EA Category A - Full Assessment	Team Leader(s) Uri Raich/Abhijit Sankar Ray
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ] Financial Intermediaries [ ] Series of Projects [ ]	
Project Implementation Start Date 22-May-2017	Project Implementation End Date 31-Dec-2022	
Expected Effectiveness Date 03-Jul-2017	Expected Closing Date 31-Dec-2022	
Joint IFC No		

Practice Manager/Manager	Senior Global Practice Director	Country Director	Regional Vice President
Catalina Marulanda	Ede Jorge Ijjasz-Vasquez	Junaid Kamal Ahmad	Annette Dixon

Borrower: Government of India			
Responsible Agency: Urban Development and Housing Department, Govt. of Madhya Pradesh			
Contact:	Vivek Aggarwal	Title:	Commissioner
Telephone No.:	07552552356	Email:	commuadmp@mpurban.gov.in

Project Financing Data(in USD Million)					
[X] Loan	[ ] IDA Grant	[ ] Guarantee			
[ ] Credit	[ ] Grant	[ ] Other			
Total Project Cost:	166.00		Total Bank Financing:	116.20	
Financing Gap:	0.00				

Financing Source	Amount
Borrower	49.80
International Bank for Reconstruction and Development	116.20
Total	166.00

Expected Disbursements (in USD Million)

Fiscal Year	2017	2018	2019	2020	2021	2022	2023
Annual	0.00	10.00	34.00	29.00	26.00	14.00	3.20
Cumulative	0.00	10.00	44.00	73.00	99.00	113.00	116.20

Institutional Data

Practice Area (Lead)

Social, Urban, Rural and Resilience Global Practice

Contributing Practice Areas

Governance, Water

Proposed Development Objective(s)

The project development objective (PDO) is to enhance the capacity of MPUDC to improve coverage of key urban services and increase the revenue of participating urban local bodies.

Components

Component Name	Cost (USD Millions)
1. Institutional Development	26.50
2. Urban Investments	139.20
Front end fee	0.30

Systematic Operations Risk- Rating Tool (SORT)

Risk Category	Rating
1. Political and Governance	Low
2. Macroeconomic	Low
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	High
8. Stakeholders	Moderate
9. Other	
OVERALL	Substantial

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ] No [X]
Does the project require any waivers of Bank policies?	Yes [ ] No [X]
Have these been approved by Bank management?	Yes [ ] No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ] No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X] No [ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	**X**	
Natural Habitats OP/BP 4.04	**X**	
Forests OP/BP 4.36		**X**
Pest Management OP 4.09		**X**
Physical Cultural Resources OP/BP 4.11	**X**	
Indigenous Peoples OP/BP 4.10	**X**	
Involuntary Resettlement OP/BP 4.12	**X**	
Safety of Dams OP/BP 4.37		**X**
Projects on International Waterways OP/BP 7.50		**X**
Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**
Water Supply and Sanitation Connection and Fee Policy	**X**		CONTINUOUS

Description of Covenant

Madhya Pradesh will issue and maintain a satisfactory and acceptable government order/approved Policy on water and sanitation connection policy and fees throughout Project implementation

Conditions

Source Of Fund	**Name**	**Type**

Description of Condition

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Uri Raich	Team Leader (ADM Responsible)	Senior Urban Specialist		GSU12
Abhijit Sankar Ray	Team Leader	Senior Urban Development Specialist		GSU12
Sangeeta Patel	Procurement Specialist (ADM Responsible)	Procurement Analyst		GGO06
Papia Bhatachaarji	Financial Management Specialist	Senior Financial Management Specialist		GGO24
Harinath Sesha Appalarajugari	Safeguards Specialist	Senior Environmental Specialist		GEN06
Jyoti Sriram	Team Member	Senior Program Assistant		SACIN
Michelle Lisa Chen	Team Member	Program Assistant		GSU12
Poonam Ahluwalia Khanijo	Team Member	Senior Municipal Engineer		GSU12
Sangeeta Kumari	Safeguards Specialist	Senior Social Development Specialist		GSU06
Tarun Shankar	Team Member	Investment Officer		CNGS5
Victor Ordonez	Team Member	Senior Finance Officer		WFALA
Vikram Raghavan	Counsel	Lead Counsel		LEGOP

Extended Team

Name	Title	Office Phone	Location
Ramanujam Rajagopalan	Consultant, Institutional Development		Mumbai
Shyamal Sarkar	Municipal Engineering		New Delhi
Suneetha Kacker	Consultant Water		

Locations

Country	First Administrative	Location	Planned	Actual	Comments

	Division				
India	Madhya Pradesh	Madhya Pradesh		**X**	
Consultants (Will be disclosed in the Monthly Operational Summary)					
Consultants Required?	Consultants will be required				

I. STRATEGIC CONTEXT

A. Country Context

1. India's rapid economic growth is being accompanied by an unprecedented urban and spatial transformation. While the current level of urbanization in the country is around 31 percent (377 million persons) according to the 2011 census, it is projected to increase to 50 percent or more over the next 20 years. For the first time since independence, India has seen a greater absolute increase in urban population versus rural and the number of towns in India has increased from 5,161 in 2001 to 7,935 in 2011, with about 53 cities having over 1 million population. This massive urban transformation defines one of India's fundamental development challenges going forward, namely to accommodate an additional 10 million urban dwellers per year and provide them with adequate housing and urban services such as water supply, sewerage, drainage, solid waste management, and urban transportation in an environmentally sustainable way. Accommodating the needs of this growing urban population is therefore a strategic development challenge that has to be faced primarily by the state governments, because urban development is entirely a 'state' subject under the Indian Constitution.

2. The scale of the urban challenges brings into context the massive investment needs outlined by various finance commissions[1] and expert bodies, as well as policies to facilitate the financing of urban infrastructure and services in a sustainable, equitable, and accountable way. The High-Powered Expert Committee (HPEC)[2] estimates an investment need of around US$600 billion over the next 20 years (2012–2031). This is in addition to substantial resources required for operations and maintenance (O&M) of urban services. Policy makers at the national level are also increasingly seized of urbanization-related challenges and hence the emphasis placed on the recent launch in June 2015 of three high-level missions: Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Smart Cities Mission (SCM),[3] and Housing for All.

B. Sectoral and Institutional Context

3. Madhya Pradesh (MP) is geographically the second largest, fifth populous, and eighth most urbanized state in India. MP's income per capita is INR 54,030 per year, well below the national mean of INR 74,380 per year. MP has more than one-third of its population living below the poverty line. Despite the fact that cities in MP contribute 55 percent of the state's gross domestic product, there are also high levels of urban poverty (21 percent) and slum population (28 percent). MP recorded a higher rate of growth for its urban compared to its rural population

[1] Central Finance Commissions (CFCs) recommend measures and methods on how revenues may be distributed between the center and states. Till date, 14 CFCs have tabled their reports.

[2] An HPEC, set up by the Ministry of Urban Development, Government of India (GoI), estimated an investment gap of about US$600 billion for urban infrastructure services (water supply, sewerage and sanitation, solid waste management, and urban transport and roads) up to 2031.

[3] The GoI launched three centrally sponsored schemes in June 2015 to revitalize urbanization across the country. AMRUT (US$7.5 billion outlay) targets the top 500 cities/towns in India focusing on upgrading urban infrastructure. The SCM (US$7 billion outlay) targets 100 competitively selected cities aiming to promote smart infrastructure and governance innovations toward driving economic growth and improving quality of life. The Housing for All Mission (US$30 billion) aims at providing housing to all urban dwellers through four approaches: in situ slum rehabilitation, credit-linked subsidies, affordable housing in partnership, and subsidy for beneficiary-led house improvements.

in the last decade; its urbanization rate is however still below the national average, but it is projected to catch up in the next 15 years.

4. At present, MP's total urban population is 20.1 million (28 percent of total population) concentrated in 378 urban centers. Rapid urbanization in MP has seen sprouting of new urban settlements across the state, more often close to existing cities. The last decade (2001–2011) saw a 20 percent increase in the number of urban centers, including a 50 percent increase in census towns, compared to a 6 percent increase in the previous decade (1991–2001). The last decade also saw more than a 25 percent increase in population of the four largest urban agglomerations including Bhopal and Indore.

5. There is a relatively low level of access to basic services, resulting from underinvestment on essential services (water, sewerage, street lighting, refuse disposal, lighting, and so on) in the order of US$6 per person per year, in contrast to the US$18 per person per year spent nationally. Three in ten poor people in urban MP have no access to piped water; and over half have no sanitation. Even the four largest cities have a relatively low level of access to basic services: (a) household access to piped water supply ranges between 48 percent and 80 percent, (b) per capita water supply ranges between 35 lpcd and 150 lpcd, (c) metering of water connection ranges from nil to 40 percent, (d) hours of water supply range between 1.5 hours and 4 hours, (e) access to underground sewerage ranges up to 40 percent, and (f) door-to-door solid waste collection ranges between 25 percent and 90 percent, while secondary waste collection ranges between 85 percent and 90 percent; and only 60 percent to 80 percent of rainwater runoff is effectively drained overall. Weak project management in urban local bodies (ULBs) remains a challenge for developing good-quality urban infrastructure projects and ensuring effective project implementation and sustainability.

6. **MP's urban agenda.** In the last few years the Government of Madhya Pradesh (GoMP) has started to focus on urbanization. In 2009, the GoMP initiated the preparation of participatory city development plans in 106 towns. This exercise intended to (a) help meet the gap in urban services in keeping with the fast-paced urban growth; (b) deepen urban public financial management (FM) reforms to enable ULBs generate the required financial resources by improving efficiency and effectively tapping into the economic growth occurring in cities; (c) improve urban governance and capacity of cities to take on the challenges in keeping with the Constitution (74th Amendment) Act and ensure accountability to city residents; (d) address the issue of slums in cities and meet the gap in urban housing, especially low income housing; and (e) ensure that cities continue to play an important role in fostering economic growth.

7. Given the weak capacity in ULBs to structure transactions and interact with financial markets and the poor creditworthiness of ULBs, the GoMP is keen to explore avenues that can facilitate ULBs to access new sources of capital from financial markets. With this in mind, the GoMP has initiated the credit rating of all major ULBs, has set up city-level special purpose vehicles (SPVs) that can structure and implement investments under the SCM, and is envisaging the setting up of a facility that can provide credit enhancements for ULB borrowing.

8. The GoMP has also undertaken an ambitious reform program under the aegis of the Urban Development and Housing Department (UDHD). Some key reform actions successfully adopted in the state include (a) the enactment of the Madhya Pradesh Public Services Guarantee

Act to ensure the timely delivery of essential municipal services from a single window; (b) establishment of citizen facilitation centers; (c) introduction of common tendering and integrated computerized standard schedule of rates; (d) design of a municipal e-governance system for all ULBs in the state (e-Nagar Palika); (e) adoption of five municipal cadres; (f) development of automated building plan permission systems; (g) setting up of a state-wide urban management information system; and (h) operationalization of the Madhya Pradesh Urban Infrastructure Fund (MPUIF).

9. In 2013–2014, MP was the only state in India which fully met all reform-linked performance grant requirements of the 13th CFC, while in 2012–2013 the Ministry of Urban Development (MoUD) awarded MP as the best performing state for pro-poor urban reforms under the Jawaharlal Nehru National Urban Renewal Mission. Considering the high importance of AMRUT in reforms, the GoMP will continue to focus on its reform agenda, in at least the 34 cities selected by AMRUT. Given MP's efforts on information technology, service provision, and reforms over the last few years, the state will also benefit from the SCM. In the first round, seven MP cities were nominated for Smart City support; in the final round, three MP cities were selected for immediate support—the highest number of cities in any state in India that were selected. An intervention focusing on strengthening state institutions to deliver basic services (water, sewerage, and public transport) in urban areas and supporting the reforms agenda is likely to tie-in well with the two proposed national schemes.

10. **The Bhopal Indore Super Corridor (BISCO).** Bhopal and Indore, being the two largest cities and economic production centers of MP, have attracted special attention from the GoMP as nodes for economic development. The two cities are spaced about 200 km from each other and are well connected by an expressway with multiple economic activities already established along the corridor. Five towns along the expressway are already experiencing pressures of rapid urbanization, which is leading to haphazard and environmentally costly development. The GoMP is keen to undertake a balanced regional planning and development approach to ensure positive economic and environmental impacts of the urbanization along the corridor. With this in mind, the GoMP is keen to develop the BISCO region as a network of urban nodes that grow as self-sufficient development hubs with a focus on creating employment opportunities and providing world class infrastructure and social amenities. The GoMP estimates that the 160-km long region, with an existing population of around 3 million, is likely to become home to 0.7 million new residents and 2.4 million new jobs over the next decade, and is keen to develop a regional urban and economic development plan and related investment proposals for the proposed BISCO region.

11. **Climate change risk.** MP is considered to be vulnerable to climate change. MP is highly susceptible to variations in distribution and patterns of rainfall, which, in turn, affects access to drinking water currently sourced largely (almost 95 percent) from underground sources. The most recurrent and disruptive natural events are of hydro meteorological nature, namely drought, floods, and hailstorms. The 2014 MP State Action Plan on Climate Change (SAPCC) calls for a conscious effort in the water sector to review technical aspects of storage and distribution systems, as well as for conservation of groundwater. The SAPCC also lays out the climate vulnerabilities that the state faces, including on public health primarily through likely increase in incidences of malaria, dengue, and so on in urban areas due to unhealthy sanitation conditions and accumulated sewage water. Water pollution is another critical concern identified in the MP

SAPCC, and treatment of municipal wastewater is a stated priority. Given these, the GoMP is pushing to provide universal access to potable piped water supply and creating environment-friendly cities through scientific wastewater management in all urban areas. This project addresses some of the climate vulnerabilities laid down by the SAPCC through its infrastructure investments that focus on provision of improved water supply and improved sanitation in urban areas.

12. **Role of other donors in the urban sector.** MP has had a long-standing relationship with the Asian Development Bank (ADB) and U.K. Department for International Development (DFID). DFID's first engagement (2005–2012) focused on urban policy and institutional reforms, capacity strengthening of ULBs, and slum upgrading in the 14 largest cities. In its ongoing engagement (2013–2016), DFID helped the UDHD operationalize the MPUIF and set up a 100 percent government-owned Madhya Pradesh Urban Development Co. Limited (MPUDC) to act as a nodal executing agency. The ADB structured a US$200 million line of credit (2003–2013) targeted at the four biggest cities focusing on improving city-wide water supply, sewerage, and drainage improvements; it also structured a US$71 million supplementary loan (2008–2014). The ADB is currently in the process of preparing a US$820 million multi-tranche investment project which will focus on improving city-wide water supply in the 177 smallest towns/cities in the state that will be implemented through the MPUDC. In addition, *Kreditanstalt fur Wiederaufbau* (KfW) is structuring a €50 million line of credit to the UDHD targeting improved city-wide sewerage and sanitation systems in six towns/cities that will also be implemented through the MPUDC. The GoMP opted to reach out to the World Bank to help them with institutional development and entrenching of the MPUDC, based on the World Bank's previous successful engagement on similar state municipal financial agencies in Tamil Nadu and Karnataka, as well as its international experience of developing and strengthening similar institutions globally.

13. **Involvement of the World Bank in MP.** The World Bank has not had a lending operation in the urban sector in MP in the last three decades. However, it has engaged with the state on other sectors recently, including irrigation (MP Water Sector Restructuring Project), rural development (MP District Poverty Initiative Project-II), governance (Citizen Access to Responsive Services Project), and education (Higher Education Quality Improvement Project). In the water sector, the Water and Sanitation Program (WSP) has supported the UDHD in the operationalization of performance monitoring of basic services; has undertaken a review of information systems in Indore, Dewas, and Pithampur; and is implementing information and communications technology-based citizen feedback processes in Jabalpur and Bhopal. On sanitation, the WSP has supported the development of a city sanitation plan for Hoshangabad; assisted in developing a septage strategy and a feasibility study for a cluster of towns; and has supported the sanitation vision of the state. Based on the World Bank's previous successful engagement with similar state municipal finance agencies in Tamil Nadu and Karnataka, as well as its international experience in developing and strengthening similar institutions, the GoMP has now sought World Bank support for the institutional development of the MPUDC to support improvements in key urban services in ULBs.

C. Higher Level Objectives to which the Project Contributes

14. The Madhya Pradesh Urban Development Project (MPUDP) will contribute to India's vision for development, outlined in the country's twelfth plan (2012–2017), by mobilizing financial resources for urban infrastructure investments and by strengthening the financial and administrative capacity of ULBs to plan, finance, and deliver services in a financially sustainable manner. It will also directly contribute to the implementation of the recently launched AMRUT and SCM which are the main schemes of the GoI to unlock the economic potential of cities in India. MP has been classified as a low-income state; in addition to having high incidence of urban poverty (21 percent), urban MP also has one of the highest concentrations of urban poor among all states in India, as well as high proportions of urban scheduled castes (SC) (15.3 percent) and scheduled tribes (ST) (5.2 percent) compared to other poorer states in India. Given these, the MPUDP is expected to contribute to the two key objectives of the 2013–2017 Country Partnership Strategy for India (Report No. 76176-IN): supporting the urban transformation and the engagement with low-income states to reduce poverty and share prosperity. The focus of the project on basic municipal services (water supply, sanitation, solid waste management, roads, and so on) will directly benefit women, especially in small and medium towns where services are not available on a regular basis.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

15. The Project Development Objective (PDO) is to enhance the capacity of the MPUDC to improve coverage of key urban services and increase the revenue of participating urban local bodies.

B. Project Beneficiaries

16. The potential number of beneficiaries is expected to be 0.85 million urban residents of participating ULBs (of which at least 45 percent will be women) through access to improved urban services across a range of urban sectors including water, wastewater, sewerage, solid waste management, and so on. In addition, the MPUDC and the participating ULBs will benefit from the strengthening of the MPUDC's capacity to serve as the nodal urban infrastructure implementation agency in the state and by supporting ULBs to strengthen their revenue base and FM systems.

C. PDO Level Results Indicators

17. Achievement of the PDO will be measured by the following indicators, each of which seeks to measure a specific part of the PDO:

- Number of projects completed by the MPUDC (to measure its institutional and financial capacity)

- Number of participating ULBs reporting average annual growth rate in own-source revenue of at least 10 percent per year since the base year (to measure the results of revenue enhancement reforms)

- Number of people in urban areas provided with access to improved water sources under the project (core sector indicator, to measure increase in coverage of key urban services)

- Number of people in urban areas provided with access to improved sanitation under the project (core sector indicator, to measure increase in coverage of key urban services)

III. PROJECT DESCRIPTION

A. Project Components

18. The proposed MPUDP will have two components: (1) Institutional Development; and (2) Urban Investments. These components are summarized below, and annex 2 contains a detailed project description.

Component 1: Institutional Development (Cost: US$26.5 million, World Bank Loan: US$ 18.5 million)

19. This component will have two subcomponents, which are discussed below.

Subcomponent 1.1: Policy Reforms (Cost: US$13.5 million, World Bank Loan: US$9.4 million)

20. This subcomponent will strengthen the Municipal Reforms Cell (MRC) to support urban policy reforms linked to the implementation and sustainability of municipal investments.

21. Support will encompass both policy reform initiatives within the MRC at the state level and dedicated capacity building at the regional and ULB levels. Six areas of urban policy reform will be covered: (a) property tax, (b) user charges, (c) advertisement tax, (d) accounting, (e) budgeting, and (f) credit improvement. Support will be extended to 51 ULBs in reform areas (a) to (d), including all 34 ULBs qualifying for support under AMRUT and 23 ULBs who have submitted requests to the state government for project investment support under the MPUDP (6 ULBs are common to both lists). Support on area (e) will be extended to 5 ULBs and support on area (f) will be extended to 2 to 3 ULBs from within the list of the abovementioned 51 ULBs.[4]

Subcomponent 1.2: Institutional Strengthening of MPUDC (Cost: US$13 million, World Bank Loan: US$9.1 million)

22. This subcomponent will provide technical and project management assistance to the MPUDC to strengthen its institutional capacity; build management capacity for project implementation; and develop a regional, urban, and economic development plan, and related investment proposals for the BISCO region.

[4] The Urban Administration and Development Directorate (UADD) has initiated reforms in both areas. Depending on the status of these reforms' rollout at start-of-implementation of the project, the UADD will identify specific ULBs to receive support under the project.

Component 2: Urban Investments (Cost: US$139.2 million, World Bank Loan: US$97.4 million).

23. This component will finance subprojects in participating ULBs covering a range of urban services.

24. Urban services, include water supply, sewerage and septage management, drainage, and solid waste management. Only those ULBs qualifying on minimum fiduciary criteria will be eligible for submitting investment proposals. Selection of subprojects will be based on demand from ULBs and will be assessed in accordance to technical, financial, social, and environmental screening criteria laid down in the Operations Manual (OM). Twenty-three ULBs have so far indicated interest in accessing investments through the proposed project, as listed in annex 2. Three subprojects (provision of improved water supply in Burhanpur and Khargone and provision of improved sewerage in Chhindwara) have been appraised and will account for about 30 percent of the overall MPUDP costs. The GoMP will provide up to 82.5 percent of the subproject cost as a grant to the ULB, while the balance will be ULB contribution.

25. **Climate change co-benefits.** It is estimated that US$36.5 million or 31.4 percent of the loan will result in climate change co-benefits. These directly relate to benefits accrued under Component 2 through water supply and sewerage subproject investments.

B. Project Financing

26. **Lending instrument.** The lending instrument chosen for World Bank support is Investment Project Financing (IPF). IPF is considered the most appropriate instrument because (a) the project is the first World Bank engagement with MP in the urban sector and (b) the project will support institutional capacity building with a long-term perspective to create a solid institutional framework for the delivery of improved urban services through technical assistance (TA) and specific investments. The project will run for a period of six years.

C. Project Cost and Financing

27. The table below summarizes project costs and World Bank financing by component. Of the total project financing requirements of US$166 million, the IBRD loan will finance US$116.2 million.

Table 1: Project Cost and Financing

Project Components	Project Cost	World Bank Financing (IBRD)	
	US$, millions	US$, millions	% of Total
1. Institutional Development	26.5	18.5	15.92
2. Urban Investments	139.2	97.4	83.83
Total Project Costs	165.7	115.9	99.75
Front-end Fee	0.3	0.3	0.25
Total Financing Required	**166.0**	**116.2**	**100.00**

D. Lessons Learned and Reflected in the Project Design

28. A number of key lessons gained from the World Bank's urban engagement in India (that is, Tamil Nadu and Karnataka) and other countries (that is, Philippines and Brazil) have been

incorporated in the design of the MPUDP: (a) 'municipal fund' through a state-level urban development agency is an effective mechanism for reaching out to ULBs and scaling up urban reforms and innovation; (b) readiness for 'framework' projects should be improved by appraising subprojects equivalent to 30 percent of project costs and having bid documents award-ready at Board approval, which also helps minimize time and cost overruns, as 'site readiness' is assured; (c) a bottom-up demand-driven project structure yields positive results in terms of enhanced project ownership by ULBs; (d) focus of revenue generation interventions needs to go beyond property tax; and (e) works implementation needs to be linked to accompanying institutional and financial reform activities to optimize benefits from both. The BISCO regional development preparation subcomponent benefited from other World Bank projects, for example, the non-lending TA for the Uttar Pradesh corridor study.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

29. The MPUDC will have the primary responsibility for project implementation and ensuring that the PDO is achieved. It will be directly responsible for the implementation of the urban investments component (Component 2) and the institutional strengthening of the MPUDC subcomponent (Subcomponent 1.2), including all procurement, FM, and safeguard activities. It will set up a dedicated technical unit under the Projects and Engineering Division to oversee the BISCO regional development preparation activity. The MRC, already constituted within the UADD, will be responsible for the implementation of the policy reforms subcomponent (Subcomponent 1.1). In addition, to these two implementing agencies at the state level, ULBs will be involved in the implementation of subprojects. A Tripartite Implementation Agreement (TPIA) will be signed by the MPUDC, UDHD, and the ULBs. The TPIA will establish the roles and responsibilities of each of these agencies for the implementation of urban investments.

30. The MPUDC will serve as the Project Management Unit (PMU) with overall responsibility for project management and execution. The PMU will assume direct responsibility for day-to-day project management, coordination, and implementation. It will take the lead role in planning, coordination, and monitoring of project performance in line with the project implementation schedule and the approved OM. The PMU will also facilitate day-to-day decisions for implementing the project components and will be responsible for inter-institutional coordination. The PMU will prepare annual work programs, budgets, and Procurement Plans; disburse funds; review fund execution and accountability; and oversee quarterly review meetings, as well as contract and supervise project staff and consultancy assignments, prepare reports and other documents, and provide quality control. The PMU will be headed by a Project Director assigned from the state government, who will report to the UADD Commissioner/Principal Secretary. The PMU will be staffed by the following key positions: (a) Deputy Project Director, (b) Financial Specialist, (c) Procurement Specialist, (d) Environmental Safeguards Specialist, (e) Social Safeguards Specialist, (f) Monitoring and Evaluation Specialist, (g) Municipal Engineer, and (h) support staff. The PMU will also be supported by 13 regional Project Implementation Units (PIUs) which will bear the main responsibility of implementation supervision at the ground level.

B. Results Monitoring and Evaluation

31. The primary source of information for results indicators will be the participating ULBs. The main agency responsible for monitoring and evaluation will be the MPUDC, supported by the MRC for Subcomponent 1.1. The MPUDC will send quarterly progress and financial execution reports to the World Bank. In addition, independent assessments will be carried out by consultants at key milestones (such as midterm and project closing). Annex 1 presents the results framework and monitoring for the MPUDP.

C. Sustainability

32. Both the GoI and GoMP have demonstrated strong commitment to urban sector reforms and support the World Bank's engagement in the sector in MP. Subprojects supported by MPUDP will be based on demand from ULBs and will be appraised by the MPUDC, ensuring overall financial and environmental sustainability of the interventions and their 'right-sizing'. In addition, the project provides TA and capacity-building support to the MPUDC and ULBs to prepare, implement, supervise, operate, and maintain subprojects.

33. The project supports organizational development of the MPUDC largely through on-the-job TA. The TA will also support the full operationalization of the MPUDC, including setting up of business processes and related systems, according to its OM. The GoMP is also structuring its Smart Cities and AMRUT projects under the aegis of the MPUDC, indicating a high level of ownership. These measures are likely to ensure viability of the MPUDC and transform the entity into the nodal urban infrastructure implementation agency for MP.

34. Sustainability of the institutional development component will be ensured because all project-targeted reforms are synchronized with AMRUT reforms and the rollout of wider urban sector reforms formally signed off by MP. Some of the 'next generation' reforms proposed, including improved municipal budgeting and increasing creditworthiness of ULBs, have the potential to be rolled out state-wide based on experience garnered under the project.

35. Environmental sustainability will be significantly enhanced by the strong focus on urban environment improvements under the urban investments component, which is targeting improved water supply and sanitation (WSS) provision, with commitment of close to 26 percent of the component focused on building climate resilience and the adaptation capacities of the beneficiary population.

36. Reforms to strengthen the revenue base of ULBs are expected to contribute to the sustainability of subproject investments. Operational expenses for the first five years will be covered as part of the contract, which is also expected to increase sustainability. The project targets specific ULB-level reforms in user charges aimed at strengthening billing and collection efficiency, expanding the user base, and tariff rationalization. In addition, the project focuses on intense citizen engagement at the ULB level to raise awareness on the importance of residents taking connections to new/improved municipal services being made available to them. The MPUDC will work with the respective ULBs and selected civil society organizations to ensure active citizen engagement and participation.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

37. The overall implementation risk of the project is assessed as Substantial, with the following risk categories rated Substantial: technical design of the project, institutional capacity for implementation and sustainability, and fiduciary. Environmental and social risk is rated High. These risks and the corresponding mitigation measures are discussed below:

- **Technical design of the project.** Two specific risks are associated with the technical design of the project: (a) institutional activities to improve own-source revenue generation may encounter political economy issues; and (b) build-operate contracts that will be used present an innovation from previous contractual arrangements in the state, and the MPUDC may require time and expertise to manage them properly. These risks have been mitigated by a number of activities during project preparation, which will be continued during project implementation. These include training on revenue generation and O&M; and continuous review of contractual arrangements and sharing of best practice on design, build, operate, and transfer contracts.

- **Institutional capacity for implementation and sustainability.** The MPUDC is a nascent institution, which is also expected to concurrently implement three ambitious projects (funded by the World Bank, ADB, and KfW) during its initial years of operation. There is a risk for weak implementation, but this risk is being addressed by creating an appropriate structure, including more than 50 staff and 13 regional PIUs covering the entire state, as well as by establishing standard operational procedures. In addition, a full-fledged project management consultancy (PMC) will be provided under the project to support both the institutional strengthening of the MPUDC as well as overall project implementation.

- **Fiduciary.** Neither the MPUDC nor the UDHD have ever worked with the World Bank and there are risks of noncompliance with World Bank procurement policies and inadequate financial controls. Fiduciary risks will be mitigated through the MPUDC OM which has been cleared by the World Bank, provision of a PMC for the duration of the project, and the centralization of procurement and FM functions at the MPUDC.

- **Environmental and social.** Environmental and social risks are considered High as this is a Category A project and both the MPUDC and UDHD are unfamiliar with the World Bank's safeguards requirements. These risks are being mitigated by Environmental and Social Assessments (ESAs) for more than 30 percent of project investments as well as by an Environmental and Social Management Framework (ESMF) for the remaining unidentified investments. In addition, the PMC will provide safeguards management capacity support at state, regional, and ULB levels. Training and capacity-building activities will also be carried out through Subcomponent 1.2 of the project.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

38. The OM requires the MPUDC to screen all subproject requests from ULBs for initial economic, financial, technical, and institutional assessments, and to obtain World Bank clearance, before they are considered for funding under the MPUDP. An economic and financial analysis has been carried out for the eight subprojects under consideration, including the three appraised subprojects.

39. **Economic analysis.** An economic analysis of the pre-identified investments was conducted to ensure efficiency and effectiveness of activities proposed under the urban investment subcomponent. These subprojects—three water supply and five sewerage—will generate economic, environmental, and social benefits for project beneficiaries, including increased revenue from water and sewerage connections, energy cost savings due to the shift in the source from ground water to surface water, increase in property values, reduced nonrevenue water, and reduction in coping costs (for example, savings in water collection times). Health benefits are also expected from reduction in waterborne diseases due to improved water, sanitation, and other municipal services. A cost-benefit analysis was carried out to obtain the economic internal rate of return (EIRR), economic net present value, and benefit-cost ratio (BCR) for the proposed investments. The EIRR ranged from 9.4 percent to 16.2 percent for water supply investments, and from 11.1 percent to 32.6 percent for the sewerage subprojects. (See annex 5 for details.)

40. **Poverty and shared growth.** Lack of infrastructure affects the poor and other vulnerable groups disproportionately. In the absence of safe water and proper sanitation, the poor and other vulnerable groups are at a greater risk of exposure to various diseases and face high health costs and coping costs. Because about 20 percent of the population in the project towns is below poverty line, the project is expected to have considerable benefits for the poor. In terms of the distribution of project effects and poverty reduction impact, the analysis showed a poverty impact ratio in the range of 25 percent to 57 percent for water supply subprojects and in the range of 24 percent to 26 percent for sewerage subprojects; poor beneficiaries are expected to benefit more than non-poor beneficiaries.

41. **Financial analysis.** A financial sustainability and viability analysis of the pre-identified subprojects was performed to assess their ability to meet the ULBs' share of capital costs as well as O&M costs from revenue streams. The financial analysis was benchmarked against an operating ratio of more than 1 and an average debt service coverage ratio (DSCR) of more than 1.25. All pre-identified subproject ULBs were found to meet these benchmarks. The present level of water supply and sewerage tariffs is sufficient to recover O&M costs in five of the eight subprojects; tariff revisions are required to fully recover O&M costs in the other three. ULBs can cover deficits from their subprojects from general finances. Based on this analysis, the project will focus on (a) rationalization of water supply and sewerage tariffs and (b) citizen outreach to ensure adequate connections to the new services. The UADD is preparing a draft Madhya Pradesh State Urban Drinking Water and Waste Water Management Policy (2017) which addresses connection policies, introduction of sewerage tariffs, and tariff rationalization. A

Government Order Number UADD/2574/2017 dated March 09, 2017 has been issued by UADD on these subjects, and will remain in force till the Policy is notified.

42. **Increase in ULB own-source revenues.** Substantial financial benefits are expected from the policy and reforms component (but have not been included in the financial analysis). Component 1 aims to increase own-source revenues in the form of property tax improvements, rationalization of user charges, and strengthening of other nontax revenue sources that have so far not been tapped optimally. Property tax efficiency improvements in other ULBs of the state (similar to those proposed under the project) have led to the identification of 40 percent under-assessed and 37 percent unassessed properties. Over the last three years, these ULBs have reported a 56 percent increase in property tax collection alone, indicating that higher financial returns are feasible from the project reforms component.

B. Technical

43. Urban services investments in participating ULBs (including water supply, sewerage, septage management, and drainage) will be based on demand. Twenty-three ULBs have submitted requests to the state government for investment support under the MPUDP. Eight subprojects have been pre-identified for initial consideration; of these, three have been appraised and will account for more than 30 percent of overall MPUDP costs.

44. The pre-identified WSS subprojects have been designed in accordance with the current Indian standards and manuals issued by the Central Public Health and Environmental Engineering Organization (CPHEEO), MoUD and guidelines issued by the MoUD; they also comply with Central and State Pollution Control Board norms. These standards and guidelines will apply to WSS investments that may be identified subsequently for MPUDP support. European or American standards will be adopted, particularly for advanced technologies, wherever Indian standards are not available.

45. The planning of the WSS services is to be closely matched with the current and planned (where available) land uses in the service areas and designed for a 30-year horizon according to CPHEEO Manuals. The subproject design targets improvement of water supply services with an average of 135 lpcd at the customer end through the provision of continuous supply at a minimum terminal pressure of 12m (in case the design population of the town is more than 100,000) or 7m (in case design population is less than 100,000) during peak supply period; achievement of metered supply to all customers with connections provided up to the property boundary; and a gradual transition to volumetric tariff.

46. The project is therefore shifting the focus from infrastructure to sustainable services. Universal coverage at uniform standards, in accordance with the MoUD's Service Level Benchmarks, is a key underlying principle, implying inclusive access to services for urban poor households comprising around 30 percent of the population in subproject cities. Financial sustainability of water supply operations, to free up city budgetary resources for alternate uses, is a second key principle. The WSS subprojects target cost recovery at the end of the five-year operations period. Elements of supportive policy and reform initiatives are being designed to complement the investments in urban services.

47. In the case of sanitation services, the project only supports ULBs or part thereof, which already have 135 lpcd water supply or will commission a water supply system to provide water at 135 lpcd before the proposed sewerage system is completed. The denser parts of ULBs will be covered by conventional sewerage or solids free sewers, while the other areas will be provided septage management services. Septage management services may be supported even where water supply rate is below 135 lpcd, if the density of septic tanks is high (more than 80 percent). An extensive communication and awareness program will be carried out during the construction of the sewerage system to enlist the maximum number of households to connect to the improved services provided. Connections up to the property boundary will be built concurrently with the laterals.

48. Private operators will be contracted for design review/design-build and for the management of services for five years for water supply systems and for ten years for sewerage and sewage treatment systems. A part of the operator's fee is performance-linked, to ensure that the project's service delivery objectives are achieved. The construction of WSS infrastructure will be governed by a quality management protocol that will be designed and managed by the PMCs and will be reviewed/assessed/verified by an Independent Verification Team. Supervisory Control and Data Acquisition (SCADA) will be used to monitor performance of treatment processes and for flow and pressure control to achieve equitable distribution of water. System meters will be installed for active leakage control and waste prevention in water supply system. Independent engineers will review operator's performance.

C. Financial Management

49. The MPUDC will handle the FM functions of the project comprising budgeting, fund management, accounting, financial reporting, and management of financial controls and audits. The main risk identified is that the MPUDC is a newly formed entity with little experience of project implementation. Being a new entity, the FM systems and controls are being established. The mitigation measures considered are (a) an experienced staff of the State Finance Department being deputed as the Financial Controller heading the finance functions of the MPUDC and steps being initiated to hire middle- and lower-level staff with adequate experience from the market; and (b) a Financial Manual laying down the FM systems and procedures to be followed by the entity being drafted as an annex to the OM. A system of periodic internal audit and an annual external audit is built into the project design to strengthen internal controls and monitoring of the project. Considering the mitigation measures, the FM system of the project will be adequate to account for and report the sources and uses of project funds and meet the World Bank fiduciary standards. The agreed FM arrangements are provided in the 'Financial Management, Disbursements and Procurement' section of annex 3.

D. Procurement

50. Procurement of goods, non-consulting services and works will follow the 'Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers' of 2011, updated July 2014. Similarly, consultants will be selected and employed according to the 'Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers' of 2011, and updated in July 2014. The MPUDP is using an e-procurement system

for all its procurements above the estimated value of INR 100,000 as required by the state government circulars. The same is approved by the World Bank and will be used for World Bank-financed projects.

51. The main procurement agency for the project will be the PMU. The procurement capacity and risk assessment noted that PMU procurement staff has no experience in handling procurement functions in accordance with World Bank policies and procedures. Agreed mitigation measures are recruitment of skilled procurement staff; monitoring procurement performance through the Procurement Plan and quarterly reports; training and ongoing support from the World Bank; prior and post reviews by the World Bank; and strengthening of the complaint management process.

52. The draft Procurement Plan for the first 18 months of project implementation has been prepared, including contracts to be procured under advance contracting and retroactive financing.

E. Social (including Safeguards and Gender)

53. The proposed project will have positive social impacts as a result of improved water supply, sanitation, safe disposal of rain water, and related infrastructure improvements in cities, including slums and other vulnerable areas. There will be a mechanism to monitor and evaluate target improvements in the participating subprojects among women and girls. However, there may be some adverse social impacts, including land acquisition and displacement of people, especially non-title holders, and use of private land. As a result, the project triggers the World Bank's Operational Policy 4.12 (Involuntary Resettlement). An ESMF has been prepared to guide subprojects preparation, approval, and implementation. Based on the severity of impacts, the ESMF categorizes the subprojects into categories A, B, and C. All subprojects will be subject to social screening, ESA and preparation of Resettlement Action Plans (RAPs), if required. All RAPs will be shared with the World Bank for review and clearance; the ESMF includes a resettlement policy framework. The entitlement matrix, included in the ESMF, provides compensation for different impact categories in accordance with the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation, and Resettlement Act 2013. The ESMF is in compliance with World Bank requirements.

54. The tribal population in MP urban areas is 14.5 percent (Census 2011) and is scattered all over the state. Some of the participating ULBs fall in the Schedule V[5] areas such as Khargone, Burhanpur, and Seondha. OP 4.10 (Indigenous Peoples) is therefore triggered. An Indigenous Peoples Management Framework (IPMF) has been prepared as part of the ESMF to effectively promote IP participation throughout the project cycle. Specific objectives of the IPMF include ensuring that (a) works are culturally appropriate; (b) benefits of the project are not limited to the elite elements of the community; (c) the consultation processes are sensitive to the local cultural context; and (d) appropriate information and diversity training strategies are established in all stages of the project.

55. **Appraised subprojects**. ESAs have been prepared for the three appraised subprojects: Khargone Water Supply, Burhanpur Water Supply, and Chhindwara Sewerage. All three fall in

[5] To ensure that the interests of the ST are protected, the Indian Constitution has listed some select tribes under its Schedule V and VI.

Category C and do not require land acquisition or involuntary resettlement. Temporary disruption to business activities will be addressed through the Social Management Plan, which is a part of the ESA. The ESA for five additional pre-identified subprojects is at an advanced stage. All participating subprojects under the project will be subject to social screening, an ESA, and preparation of the RAP, if required. The ESAs reveal that tribal people in these urban areas do not exhibit typical characteristics such as living as a group, speaking a separate language from the dominant population, or having separate institutions in close attachment to the forest. As such a separate Indigenous Peoples Plan has not been prepared for these subprojects.

56. **Gender.** Mainstreaming gender equity and empowerment is a focus area of the project. In the proposed subprojects, activities related to livelihood restoration for project-affected persons will address women's needs. A Gender Development Framework has been designed as part of the ESMF, which will help analyze gender issues during the preparation of subprojects and design interventions. A quick analysis was conducted based on consultations during subproject preparation to identify issues specific to women in the subproject area. At the subproject level, gender disaggregated data will be collected during the baseline household survey and analyzed for issues related to gender disparity, needs, constraints, and priorities, as well as an understanding of gender-based risks, benefits, and opportunities. Based on those findings, specific interventions will be designed; if required, a gender action plan will be prepared. The results framework includes gender-disaggregated indicators on improved water and sanitation connections and participation in project implementation consultation activities. Specific provisions to facilitate access to improved water and sewerage connections to all including women and other vulnerable groups is a part of the Government Order on water supply and waste water connections prepared for the project.

57. **Citizens' engagement.** The project includes information, education, and communication (IEC) activities throughout the project cycle to ensure engagement with all beneficiaries during subproject implementation. The primary object of the IEC will be to mobilize households to take connections from the water supply or sewerage systems set up under the project. The PMC will extend support to all ULBs accessing project financing on IEC components in liaison with the Community Development Officer of the ULB. Progress on IEC activities will be tracked through the results framework. The project includes provision for feedback and grievance redress mechanisms. At the subproject level, support will be provided to the ULBs for setting up consumer grievance redress systems wherever they are nonexistent. The project will enable online and integrated monitoring of all complaints registered through customer service centers, call centers, and web-based systems, which will be disclosed as part of the e-Nagar Palika initiative of the GoMP.

F. Environment (including Safeguards)

58. Project activities are expected to improve environmental conditions. However, significant environmental impacts are also anticipated because of the location of some of the subprojects: (a) in environmentally sensitive locations, for example, River Tapti in Burhanpur, River Chambal in Morena; (b) near natural habitats, such as the Crocodile Sanctuary in Morena; and (c) near important cultural properties in Burhanpur, Maheshwar, Mandsaur, and various other towns. In addition, environmental and construction safety issues are expected during the construction phase of subprojects.

59. Considering the above, the project triggers three environment safeguard polices.

- **OP 4.01 - Environmental Assessment**, because there could be significant negative impacts if the subprojects are not designed and implemented with consideration to the sensitive environmental features such as rivers, the Crocodile Sanctuary in Morena, and cultural properties in the participating ULBs.

- **OP 4.04 - Natural Habitats**, because the intake structure proposed for the water supply project in Morena, is located in the Crocodile Sanctuary in Chambal River and will require management measures. The ESA will analyze alternatives to avoid impacts on the sanctuary and will recommend an appropriate natural habitat management plan and an Environment Management Plan (EMP).

- **OP 4.11 - Physical Cultural Resources**, because some subprojects are in cities with historic and cultural monuments. An analysis impact on these structures will be done together with suitable cultural properties management plans (as needed) and incorporate 'chance find provisions' in the EMP.

60. To address the above issues and safeguard policy requirements, the ESMF (a) identifies key environmental issues expected in the project; (b) provides a framework for subproject screening and categorization based on potential environmental risks; (c) specifies processes for conducting ESA of subprojects; and (d) presents institutional and monitoring arrangements to ensure effective ESMF implementation. The MPUDC will be responsible for ESMF implementation and for monitoring implementation of the EMPs. The MPUDC will review the safeguard management plans of each subproject based on the ESMF. Safeguard documents of all subprojects categorized Category E_a (equivalent to World Bank 'Category A') will be shared with the World Bank for review and approval.

61. **Appraised subprojects.** The three subprojects (see above under social) have been screened and categorized as Category E_a and ESAs have been prepared. The assessments identify (a) water quality impacts on River Tapti and cultural properties in Burhanpur; (b) waste quality impacts on River Kunda in Khargone; and (c) impacts due to wastewater treatment and disposal in Chhindwara. In addition, the ESAs also identify issues of construction safety and site management in all three towns. Specific management and mitigation plans have been developed to manage the identified impacts and the EMPs are being integrated in the respective bid documents to ensure implementation by the operator.

62. The draft ESMF and all the three appraised subproject draft ESAs were disclosed locally on July 18, 2016, and at the World Bank's InfoShop on July 19, 2016. The final ESMF and three subproject ESAs have been re-disclosed locally on October 19, 2016, and at the World Bank's InfoShop on October 21, 2016.

G. Other Safeguards Policies Triggered

63. No other safeguard policies are triggered for the Project.

H. World Bank Grievance Redress

64. Communities and individuals who believe that they are adversely affected by a World Bank supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

Annex 1: Results Framework and Monitoring

India: Madhya Pradesh Urban Development Project (P155303)	
Project Development Objectives	
PDO Statement:	
To enhance the capacity of the MPUDC to improve coverage of key urban services* and increase the revenue of participating urban local bodies	
These results are at	Project Level
Project Development Objective Indicators	

Indicator Name	Baseline	Cumulative Target Value							
		YR1	YR2	YR3	YR4	YR5	YR6	End Target	Baseline Requirements
Number of projects completed by the MPUDC (Number)	0	18	41	51	57	60	—	60	None
Number of participating ULBs reporting average annual growth rate in own-source revenue of at least 10% per year since the base year	0	0	0	5	10	25	51	51	Number of ULBs reporting average annual growth rate of at least 10% in own-source revenues in the last 5 years (2013–2017)
Number of people in urban areas provided with access to improved water sources under the project (Number) - (Core)	0	0	0	0	80,000	170,000	280,000	280,000	(a) Access to improved water in target 8–10 ULBs (b) Access to improved sanitation in target 8–10 ULBs
Number of people in urban areas provided with access to improved sanitation under the project (Number) - (Core)	0	0	0	0	50,000	180,000	340,000	340,000	

Component/Intermediate Results Indicators

Indicator Name	Baseline	Cumulative Target Value							
		YR1	YR2	YR3	YR4	YR5	YR6	Estimated Final Target	Baseline Requirements
1.1 Volume of subproject financing approved by the MPUDC (Amount in US$, millions)	0	36	76	106	132	—	—	132	—
1.2 Number of participating ULBs implementing agreed revenue mobilization reforms	0	0	4	8	13	13	13	13	None
1.3 Number of participating ULBs preparing a zero base budget following the state budgeting manual	0	0	0	2	3	5	5	5	None
1.4 Number of staff trained directly under MPUDP in revenue improvement, accounting and budgeting, environmental and social safeguards, procurement, and financial management	0	50	100	150	200	250	300	300	None
1.5. BISCO region development preparation completed	n.a.	—	Interim technical designs of priority nodes submitted	DPR preparation initiated	Procurements initiated	—	—	—	None
2.1. Number of improved water supply connections provided through the project disaggregated by gender and caste	0	0	0	0	15,700	33,400	55,000	55,000	None
2.2. Number of improved sanitation connections** provided through the project disaggregated by gender and caste	0	0	0	0	10,000	36,000	68,000	68,000	None
2.3. Participants in consultation activities during project implementation (number) (Number) - (Core)	0	0	10,000	45,000	80,000	100,000	0	100,000	None

Participants in consultation activities during project implementation - female (Number - Subtype: Breakdown) - (Core)	0	0	4,500	20,250	36,000	45,000	0	45,000	None

Note: DPR = Detailed Project Report;

**In case, subprojects in areas other than WSS sectors are identified, intermediate level indicators to capture these outputs would be introduced.

Indicator Description

Project Development Objective Indicators

Indicator Name	Description	Frequency	Data Source/Methodology	Responsibility for Data Collection
Number of projects completed by the MPUDC	'Projects' include all subprojects that are implemented through the MPUDC as it has been designated the nodal agency for all externally aided projects (World Bank, ADB, and KfW as of December 2016). 'Completed' will be measured as full project preparation, including procurement of the operators/contractors, and not by its physical implementation that may go beyond the life of the project.	Semiannual	MPUDC	MPUDC
Number of participating ULBs reporting average annual growth rate in own-source revenue of at least 10% per year since the base year (Year 0)	Participating ULBs are the 51 ULBs covered on Subcomponent 1.1: 34 AMRUT towns and 23 ULBs who have applied to access the MPUDP funds; six ULBs are common to both groups. Own-source revenues comprise: property tax, water tax, advertisement tax, and other nontax sources (such as water charges and so on). They exclude tax sharing or transfers from the Central and State Finance Commissions. Average annual growth rate for any year will be calculated as the compounded annual growth rate between the particular year and the year 2016–2017. For example, for the year 2019–2020, the average annual growth rate will be the compounded annual growth rate between 2019–2020 and 2016–2017. To illustrate, in the table below, the respective ULB will qualify as having met the target in the years 1, 2, and 6, because its average annual growth rate since year 0 is at least 10%. In the years 3, 4, and 5, the ULB will not qualify as having met the target because the average annual growth rate falls below 10%.	Annual	Urban Sector Management Information System/ULB reporting	MPUDC

Year	0	1	2	3	4	5	6

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<tr><td>Own-source Revenue</td><td>100</td><td>117</td><td>121</td><td>132</td><td>146</td><td>160</td><td>178</td></tr>
<tr><td>Growth over previous year</td><td>n.a.</td><td>17.0%</td><td>3.4%</td><td>9.1%</td><td>10.6%</td><td>9.6%</td><td>11.3%</td></tr>
<tr><td>Average annual growth rate</td><td>n.a.</td><td>17.0%</td><td>10.0%</td><td>9.7%</td><td>9.9%</td><td>9.9%</td><td>10.1%</td></tr>
<tr><td>Met target?</td><td>n.a.</td><td>Yes</td><td>Yes</td><td>No</td><td>No</td><td>No</td><td>Yes</td></tr>
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<td>Number of people in urban areas provided with access to improved water sources under the project</td>
<td>Target ULBs are those ULBs which access investments under MPUDP.

‘Improved water’ sources include piped household connections (house or yard connections); public standpipes, boreholes, protected dug wells, protected springs, and rainwater collection. ‘Improved Water’ sources do not include, among others, water provided through tanker truck, or vendor, unprotected well, unprotected spring, surface water (river, pond, dam, lake, stream, and irrigation channel), or bottled water.

‘People’ are direct beneficiaries who are urban residents/businesses within ULBs participating in the project who directly derive benefits (for example, families that have a new piped water connection).</td>
<td>Semiannual</td>
<td>Project management information system (MIS)

Service Level Benchmarks

AMRUT reporting (Service Level Improvement Plan updates)</td>
<td>MPUDC

ULB under coordination of the MPUDC

State Level Nodal Agency for AMRUT</td>
</tr>
<tr>
<td>Number of people in urban areas provided with access to improved sanitation under the project</td>
<td>Target ULBs are those ULBs which access investments under the MPUDP.

‘Improved sanitation’ facilities include flush/pour flush (to piped sewer system, septic tank, and pit latrine), ventilated improved pit latrine, pit latrine with slab, and composting toilet.

‘People’ are direct beneficiaries who are urban residents/businesses within ULBs participating in the project who directly derive benefits for example, families that have a new piped water connection.</td>
<td>Semiannual</td>
<td>Project MIS

Service Level Benchmarks

AMRUT reporting (Service Level Improvement Plan updates)</td>
<td>MPUDC

ULB under coordination of the MPUDC

State Level Nodal Agency for AMRUT</td>
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Intermediate Results Indicators

Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
1.1. Volume of subproject financing approved by the MPUDC	Volume refers to subproject financing approvals by the MPUDC at the end of each financial year. 'Subproject' refers to subprojects financed by the MPUDP.	Annual	MPUDC budget and accounts	MPUDC
1.2. Number of participating ULBs implementing agreed revenue mobilization reforms.	Participating ULBs are those accessing MPUDF funds. Implementing agreed revenue mobilization reforms will mean the following: • ULBs implementing their own specific proposals for user charges applying the principles of the state-level user charge policy • ULBs implementing their own specific proposal for advertisement tax/fee	Annual	USMIS ULB reporting	MPUDC (MRC included) ULB under coordination of the MPUDC
1.3. Number of participating ULBs preparing a zero base budget following the state budgeting manual	Participating ULBs are those that receive direct support for budgeting reforms under Component 1 and that prepare a zero base budget.	Annual	ULB reporting	MPUDC (MRC included) ULB under coordination of the MPUDC
1.4. Number of staff trained directly under the MPUDP in revenue improvement, accounting and budgeting, environmental and social safeguards, procurement, and financial management	'Staff' refers to both state and/or ULB-level staff who receive training funded by the MPUDP.	Semiannual	MPUDP reporting	MPUDC
1.5. BISCO region development preparation completed	• BISCO region refers to the region connecting Bhopal and Indore along the existing expressway, and includes Ujjain. • The targets for this indicator will be reviewed at the midterm review (MTR).	Annual	MPUDP reporting	MPUDC
2.1. Number of improved water supply connections	• 'Improved water' sources include piped connections taken under the MPUDP.	Semiannual	MPUDP reporting	MPUDC

Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
provided through the project disaggregated by gender and caste	• 'Connections' refer to households who have obtained a connection inside their property. • Disaggregated by gender means number of connections taken in the name of women. • Disaggregated by caste means number of connections to SC/ST households.			
2.2. Number of improved sanitation connections provided through the project disaggregated by gender and caste	• 'Improved sanitation' facilities include facilities which are new and/or upgraded to flush/pour flush linked to piped sewer system and/or small bore sewer system constructed under the MPUDP. • 'Connections' refer to households who have obtained a connection inside their property. • Disaggregated by gender means number of connections taken in the name of women. • Disaggregated by caste means number of connections to SC/ST households.	Semiannual	MPUDP reporting	MPUDC
2.3. Participants in consultation activities during project implementation Sub-indicator: Participants in consultation activities during project implementation – female	• This indicator measures the level of community engagement in project implementation. • 'Participants' are residents who participate in IEC activities organized by ULBs and/or operators and will directly benefit from access to improved water supply and/or improved sanitation under MPUDP subprojects. • IEC activities refer to individual household level engagement, community-level engagements or engagements in business, education institutions, and so on, undertaken toward making beneficiaries aware of subprojects being implemented in their locality through the MPUDP, as well as mobilizing/motivating them to take connections to improved services made available through these subprojects. • 'Participants in consultation activities during project implementation – female' means number of women participating directly in above consultation activities.	Annual	MPUDP reporting	MPUDC

Annex 2: Detailed Project Description

India: Madhya Pradesh Urban Development Project (P155303)

1. The decentralization framework in the urban sector in MP is based under the aegis of the Madhya Pradesh Municipalities Act 1961 and the Madhya Pradesh Municipal Corporations Act 1956. These acts incorporate the provisions of the Constitution (74th Amendment) Act, 1992 which makes ULBs the third as well as an independent tier of the Government. Both acts also incorporate the mandatory provision of the 12th Schedule that calls for stronger fiscal devolution and functional decentralization to urban local governments. Both acts provide for the setting up of a Mayor-in-Council; urban residents elect both council members (councilors) and the Mayor directly. There are three types of ULBs in MP: municipal corporations (usually for ULBs with populations of 100,000 and above); municipalities (towns with population below 100,000, but demonstrating inherently urban characteristics); and nagar panchayats (areas demonstrating characteristics of transforming from rural to urban). The administrative heads of ULBs—Municipal Commissioners and Chief Municipal Officers—manage the routine operations of ULBs. ULBs in the state are responsible for providing basic services, such as water, sanitation, waste management, firefighting, roads and gardens, as well as collection of local fees and taxes, preparing and passing of budget documents, and spatial planning.

2. Before the 74th Amendment was enacted, the state played a strong role in urban administration. After the amendment, ULBs have struggled to meet the capacity requirements to comply with the duties and functions devolved to them. Most ULBs lack even the basic technical expertise to prepare and implement city-wide infrastructure improvement projects, and most medium and small ULBs have substantial vacancies in their key technical positions for a number of reasons. These factors have made it difficult for most ULBs to provide the necessary levels of infrastructure that can sustain economic growth. Keeping this constraint in view, the GoMP has set up the MPUDC to serve as the nodal implementing agency for city-wide infrastructure improvement projects.

3. The proposed MPUDP will have two components: (a) institutional development; and (b) urban investments. Table 2.1 summarizes project cost by component/subcomponent and World Bank financing for each.

Table 2.1. Costs by Component/Subcomponent

	Component	Cost	World Bank Financing	
		US$, millions	US$, millions	% of Total
1.	**Institutional Development**	**26.5**	**18.5**	**15.92**
1.1	Policy Reforms	13.5	9.4	8.09
1.2	Institutional Strengthening of the MPUDC	13	9.1	7.83
2	**Urban Investments**	**139.2**	**97.4**	**83.83**
	Total	165.7	115.9	99.75
	Front-end Fee	0.3	0.3	0.25
	Total Project Cost	**166**	**116.2**	**100.00**

Component 1: Institutional Development (Cost: US$26.5 million, World Bank Loan: US$18.6 million)

4. The main objective of this component is to support the MPUDC, the MRC, and the participating ULBs to build their capacities to improve coverage of urban services in the state. This component will have two subcomponents: policy reforms and project management.

Subcomponent 1.1: Policy Reforms (Cost: US$13.5 million, World Bank Loan: US$9.4 million)

5. This subcomponent will support six areas of urban policy reforms linked to the implementation and sustainability of municipal investments: (a) property tax, (b) user charges, (c) advertisement tax, (d) accounting, (e) budgeting, and (f) credit improvement. Overall support for review and quality assurance will be extended to a set 51 ULBs in reform areas (a) to (d), including all 34 ULBs qualifying for support under AMRUT and therefore requiring to meet the reform criteria, as well as 23 ULBs who have submitted requests to the state government for project investment support under the MPUDP (6 ULBs are common to both lists). The list of 51 ULBs along with the areas of reforms targeted are in appendix 1. Support in area (e) will target 5 ULBs and area (f) will target 2 to 3 ULBs. Support in the six areas of policy reforms will also be provided at the state level. Additional support will be provided to around 10–12 ULBs that implement investments under the MPUDP. Details of the scope of engagement on the various reforms is indicated below:

(a) **Property tax.** Project activities will focus on improvements in tax collection efficiency. The MPUDP will assist the MRC in reviewing legal and policy constraints to optimize property tax revenue in ULBs and formulate a state-level property tax policy. The MPUDP will provide review and quality assurance support to the 51 ULBs to develop geographic information system-based cadastral maps and upgrading of ULB property tax registers. In addition, support to review, monitor, and provide quality assurance in collection of arrears, billing, outreach activities, dispute resolution and so on, will also be provided to these ULBs. Additional support will be provided to 10 project ULBs to develop an updated property tax register.

(b) **User charges.** The project will support the UADD in (i) developing a state-level policy for user charges and (ii) monitoring user charge improvements in ULBs. It will review and provide quality assurance support to the 51 ULBs in their efforts to improve demand, billing, and collection efficiency, among others, including through the use of information technology. The project will also support 10 MPUDP ULBs to design a city-specific user charge proposal, introduce systems to improve user charge collections, and administer the user charge system.

(c) **Advertisement tax.** The project will support the UADD to review and monitor improvements in advertisement tax as a priority. Support from the MPUDP will be in the form of policy and regulatory strengthening, for example, preparation of advertising regulations, steps for clearing litigation, IT-enabled platform(s) to allow better tracking, guidance on location and standardization of advertisement hoardings. In addition to strategic and regulatory support to the UADD, this will

provide quality assurance support to 51 ULBs in their efforts to implement the state strategy and directives and improve management and administration.

(d) **Accounting.** Priority will be given to the migration to double entry accrual accounting. The UADD is rolling out reforms to ensure that all ULBs migrate from single entry cash-based accounting to double entry accrual systems as part of its e-Nagar Palika initiative. Given the lack of internal capacity, ULBs have hired individual consultants or chartered accounting firms to help them prepare the opening balance sheet and then migrate to double entry accrual systems. The e-Nagar Palika vendor is also providing additional support to ULBs for migration and data entry. Support from MPUDP will include (i) preparation and update of the state municipal accounting manual; (ii) review and resolution of accounting-related issues in carrying out accounting under the new e-Nagar Palika platform; and (iii) review of the quality of financial statements prepared by ULBs.

(e) **Budgeting.** The UADD is keen to introduce municipal budgeting reforms so that ULBs are able to plan and execute their functions more efficiently. It is proposed to revamp the budgeting process in 8–10 MPUDP ULBs to enable them to clearly forecast their increased financial obligations to manage investments and O&M. Additional assistance will be provided to these ULBs to revamp their existing budgeting processes; forecast medium terms costs, revenues, and investments; prepare a zero base budget; support budgetary control and review; and prepare the succeeding year budget based on learning. It is also proposed to prepare a state municipal budgeting manual to provide guidance to all ULBs.

(f) **Credit improvements.** As part of AMRUT reforms, the UADD has initiated the process of undertaking a credit rating exercise for its 32 eligible ULBs. The UADD is considering the preparation of credit improvement plans for these ULBs so that in 3–4 years these ULBs can strengthen their systems and target an improved credit rating. It is proposed to select 8–10 ULBs for MPUDP support in preparing credit improvement plans, including revenue improvement and FM. ULBs will also receive additional support in implementing their credit improvement plans. The criteria for selection of these ULBs will be determined in consultation with the UADD.

6. Overall support for the review and quality assurance of policy reforms will be provided through PIU teams at both the state and regional levels. Additional support will be offered by teams working at the ULB level. Support for policy reforms will be facilitated by a Reform Support TA consultancy to be implemented over the first four years of project implementation. This TA will support the implementation of policy reforms at the state level, monitoring and quality assurance support through regional project implementation units, and additional support to ULBs.

7. Capacity building in the areas of revenue improvement and FM will be provided: this will include training, best practice visits, and sector studies. The UADD has identified the National Institute for Governance and Urban Management (NIGUM), Bhopal, a society instituted by the GoMP, as the nodal agency for capacity building. The MPUDP will collaborate with NIGUM for

capacity building of ULBs, drawing on inputs from reform implementation as well as inputs available from other states.

8. Capacity-building activities will focus on developing capacities of the three key stakeholders of the project:

(a) The MPUDC, to strengthen its overall systems and operational procedures in line with the MPUDC OM, strengthen capacity for the development and implementation of urban infrastructure projects, create capacity to manage the MPUIF as a nodal financial intermediary, and access credit enhancement avenues.

(b) The MRC, to structure and implement reforms identified under Subcomponent 1.1, including through training, as well as for contract management of the e-Nagar Palika system.

(c) ULBs, to support them in engaging with citizens for achieving positive outcomes on project implementation through structured IEC activities. In addition, capacity building of concerned ULB engineering and finance staff will be supported to undertake proper O&M of assets created under the project, including improving capacities for contractor/operator management. This support will only be extended to ULBs accessing the MPUDP; approximately 8–10 ULBs are expected to benefit. Capacity building in revenue improvement and FM will be provided to the larger set of 51 ULBs.

Subcomponent 1.2: Institutional Strengthening of MPUDC (Cost: US$13 million, World Bank Loan: US$9.1 million)

9. This subcomponent will provide technical and project management assistance to the MPUDC in three primary areas: (a) strengthening the institutional capacity of the MPUDC to function as the nodal urban infrastructure implementation agency in MP; (b) building project management capacities within the MPUDC to support effective implementation of the MPUDP, including coverage of project management supervision and operating costs; and (c) TA to the MPUDP to develop a regional urban and economic development plan and related investment proposals for the BISCO region. A PMC funded by the project's support to the MPUDC in overall project management, as well as implementation of the project management and subproject investment subcomponents. The PMC will also support regional PIUs and ULBs during the implementation of works. The PMC will consist of 10 technical and fiduciary experts at the PMU level and 12 at the PIU level for the entire project implementation period of 6 years. The BISCO region development activity will include TA to prepare technical designs and urban infrastructure investment proposals for priority growth nodes identified in the region, as well as review the efficacy of existing urban and regional planning regulations, approaches, and controls for promoting such development.

Component 2: Urban Investments (Cost: US$139.2 million, World Bank Loan: US$97.4 million)

10. This component aims to improve service provision in target towns and cities with an emphasis on ensuring that ULBs can sustain the infrastructure in the long run. All municipal

services qualify for financing under this component. However, given the GoMP's Vision 2018 which envisages access to piped water supply and sanitation for all urban citizens, the focus is likely to be on water supply and sewerage projects.

11. The selection of subprojects will be primarily based on demand from ULBs, with emphasis on financial sustainability and improvement in the urban environment. ULBs will be required to complete the MPUDC's Project Conception Format (PCF). The PCF will be accompanied by a ULB council letter indicating the ULBs' interest in working with the MPUDC to develop a subproject and its willingness to empower the MPUDC to develop and implement the subproject based on a TPIA.

12. The MPUDC will screen ULB applications based on technical, economic and financial, social, and environmental screening criteria laid down in its OM. For successful applications, the MPUDC will engage a consultant to prepare the DPR and support the selection of a contractor/operator. Alternatively, the ULB can prepare its own DPR using its own funding sources; in which case the MPUDC will support the ULB in procurement of the contractor/operator after it reviews and approves the DPR. According to state guidelines, all water supply, sewerage, and solid waste management subprojects will be developed on a modified design (detailed review by the operator), build, operate, and transfer basis. Only those DPRs that demonstrate the technical and financial feasibility of the subproject and adhere to all safeguard (social and environmental fiduciary) and fiduciary requirements will be proposed to the MPUDC Empowered and Executive Committee (EEC) for projects above INR 100 million (approximately US$1.5 million) and to the MPUDC Technical Clearance and Tender Committee for projects below INR 100 million for financial assistance. The MPUDC will initiate the selection of contractors/operators for approved subprojects and provide implementation and O&M monitoring support to ULBs. Financial assistance from the MPUDC will only cover up to 82.5 percent of the capital cost; the remaining 17.5 percent of capital cost will be a ULB contribution. O&M costs will also be under the responsibility of the ULB. The UADD will assess the capacity of each ULB to bear capital and O&M costs and will determine a schedule of payment, which will be included in the TPIA. The ULB's capital cost contribution and O&M costs will be transferred by the ULB to the MPUDC as it will serve as the nodal implementation agency for all subprojects. The 82.5 percent state share of capital costs will be transferred to the MPUDC from the UADD (indirectly through the ULB balance sheet), translating into the asset being reflected on the ULB balance sheet.

13. The MPUDC, the concerned ULB and UDHD will sign the TPIA before initiating the selection of the contractor/operator. The TPIA will lay down the roles and responsibilities of each of the three stakeholders, and will indicate the ULB's willingness to allow the MPUDC to implement the subproject on its behalf; highlight the structuring of the financing arrangement for the subproject; and outline the intercept mechanism in case the ULB defaults on payment of its capital cost contribution or its O&M contribution.

14. For each approved subproject, the MPUDC will set up a Project Implementation Team (PIT) comprising staff/experts from Bhopal, concerned PIUs located at the regional level, ULB engineers, and independent experts, if required. The PIT will monitor implementation progress and ensure that the contractor/operator meets the proposed time frame and quality of works. The PIT will also be responsible for working with the ULB and the contractor/operator in ensuring

that social/environmental safeguard requirements are adequately met. At the end of the operations period, the operator will hand over the assets to the MPUDC, which will in turn hand it over to the concerned ULB in a back-to-back operation.

15. Screening of PCFs submitted by ULBs will be guided by the following principles: (a) transformative change in service delivery, achieved through a city-wide approach to improving service provision, including rehabilitation of serviced areas and infrastructure provision in un-serviced areas; (b) improvement over existing efficiency parameters, meeting prescribed GoI norms in a phased manner; (c) dovetailing with ongoing infrastructure projects under various national and state programs; (d) financial viability of subproject, largely guided by cost recovery by the ULBs to meet their capital contribution and undertake O&M; (e) communications approach and mainstreaming of vulnerable sections, demonstrated through phased targeting (if phasing is indicated), interactions with the community to assess willingness to connect and pay for services, and willingness to charge (indicated through efforts to adopt the state's connection policy/rules); and (f) ULB ownership of the subproject, demonstrated through its offer to implement the required reforms to augment revenues and work with the MPUDC during DPR preparation, implementation, and O&M.

16. The ULBs accessing investment financing under the project will sign up to implement predetermined reforms related to O&M cost recovery as part of the TPIA. The extent of support to these reforms will be determined for each ULB on a subproject basis and will be implemented through the RSC.

17. Twenty-three ULBs have so far expressed interest in accessing investments through the proposed project (as listed in appendix 1 to this annex); the majority of these subprojects pertain to water supply and sewerage sectors. Of these applications, eight were prioritized based on factors such as availability of land, social and environmental safeguard considerations, and status of preparation of DPRs. Three of these subprojects (provision of improved water supply in Burhanpur and Khargone and provision of improved sewerage in Chhindwara) with an estimated cost of around US$60 million have been appraised and will account for about 30 percent of the overall MPUDP costs.

18. Both water supply and sewerage subprojects will provide access to the service up to the plot boundary; the owner will be required to pay for in-plot connectivity. For sewerage subprojects, given that most urban citizens are dependent on septic tanks, owners will be required to either break the septic tank or bypass the septic tank to connect to the sewer. Success of the subprojects will therefore depend substantially on the ability of the ULB to engage with residents and persuade them to connect to the new service. The UADD is preparing a draft Madhya Pradesh State Urban Drinking Water and Waste Water Management Policy (2017) which addresses connection policies, introduction of sewerage tariffs, and tariff rationalization. A Government Order Number UADD/2574/2017 dated March 09, 2017 has been issued by the UADD on these subjects, and will remain in force till the Policy is notified. The MPUDP, through the PMC, will extend support to all ULBs accessing MPUDP subproject financing on IEC activities to ensure that 85 percent to 90 percent of the connections can be achieved.

Climate Change Co-Benefits

19. **Climate risk.** MP is considered to be vulnerable with respect to climate change. MP is highly susceptible to variations in distribution and patterns of rainfall, which in turn affects access to drinking water currently sourced largely (almost 95 percent) from underground sources. The most recurrent and disruptive natural events are of hydro meteorological nature, namely drought, floods, and hailstorms. The 2014 MP SAPCC calls for a conscious effort in the water sector to review technical aspects of storage and distribution systems, as well as for conservation of groundwater. The SAPCC also lays out the climate vulnerabilities that the state faces, including on public health, primarily through likely increase in incidences of malaria, dengue, and so on in urban areas because of unhealthy sanitation conditions and accumulated sewage water. Water pollution is another critical concern identified in the MP SAPCC, and treatment of municipal wastewater is a stated priority. Given these, the GoMP is pushing to provide universal access to potable piped water supply and creating environment-friendly cities through scientific wastewater management all urban areas. This project addresses some of the climate vulnerabilities laid down by the SAPCC through its infrastructure investments that focus on provision of improved water supply and improved sanitation in urban areas.

20. **Overall co-benefits.** It is estimated that US$36.5 million, 31.4 percent of the loan, will result in climate change mitigation and adaptation co-benefits. These directly relate to benefits accrued under subcomponent 1.2 through the project management support and component 2 through water supply and sewerage project investments.

21. **Adaptation co-benefits.** The project is expected to result in adaptation co-benefits. At present, only 23.4 percent of MP's population has access to tap water. Nearly 75 percent households are managing their drinking water directly from underground sources, with the probability of inadequate O&M that causes frequent failures and contamination. This also contributes to depleting groundwater levels. Climate change impacts are likely to adversely affect this already substandard situation. Utility-managed piped and treated water supply systems typically have very high potential resilience and adaptive capacity, provided they are maintained well, which requires adequate human capital in the form of trained staff and O&M financing. This project will support piped water supply investments in Burhanpur, Khargone, and Sewda covering the entire city moving from largely groundwater-based systems to surface water-based systems, O&M support during project period, and capacity-building support to the ULB staff to strengthen skills and know-how of managing large piped water supply systems. The project investments are expected to help address the existing situation of water scarcity and build adaptive capacity. These translate to $47m of benefits accruing under Component 2 excluding the mitigation co-benefits, and $1.63m of co-benefits from pro-rating the share of the co-benefits to subcomponent 1.2 on project management and front-end fees. Combined, climate adaptation co-benefits from all interventions are expected to the tune of US$48.63 million (29.3 percent of total project cost,[6] US$33.81 million of IBRD financing or 29.3 percent of the loan).

[6] Calculated as the proportion of estimated cost of these subprojects to the overall project cost.

22. **Mitigation co-benefits.** Centralized water supply systems are expected to be significantly more energy efficient compared to several individual ground water systems but it is difficult to quantify the same. Therefore, mitigation co-benefits of this component are not considered. At present, around one-fifth of MP's population has access to piped sewer connections. The project supports financing of piped sewage infrastructure including sewage collection, treatment, and treatment of sludge for reuse as organic fertilizer. The project will facilitate generation of manure quality sludge for use by the agriculture sector. The increased input of carbon from organic soil amendments such as sewage sludge is considered an efficient measure for soil carbon sequestration. Recycling of sludge, instead of disposal in a landfill, is expected to save greenhouse gas emissions by reducing methane emissions from the landfill and replacing use of mineral fertilizers. Consequently, using sludge as manure is expected to reduce land requirement in landfills and agricultural greenhouse gas emissions, thereby helping to mitigate climate change. Based on these, US$3.43 million is assigned as mitigation co-benefits for treatment of wastewater according to Category 6.1 of MDB's Mitigation positive list, and US$0.1 million are assigned as mitigation co-benefits from prorating the share of the co-benefits to the project management subcomponent and front end fees. Overall US$3.53 million of the project will attribute to climate mitigation co-benefits (2.1 percent of total project;[7] US$2.47 million of IBRD financing or 2.1 percent of the loan).

Appendix 1: List of Urban Local Bodies covered under MPUDP

Table 2.2. List of ULBs with Subproject Applications being Appraised

Name of ULB/Subproject[a]	Sector	Population (Design Year)	Indicative Cost (INR, millions)	Indicative Cost (US$, millions)
Burhanpur	Water	385,507 (2047)	1,317.3	19.66
Khargone	Water	245,450 (2048)	1,033.4	15.42
Chhindwara	Sewerage	290,919 (2048)	1,720.4	25.68
Total			4,071.1	60.76

a. Amount to 30 percent of total investments

Table 2.3. List of ULBs who have Applied for MPUDP Investment Support

S.No	Name of ULB	Population
1.	Alot	24,115
2.	Amarkantak	8,416
3.	Bada Malhera	18,335
4.	Bhedaghat	6,657
5.	Budhni	16,808
6.	Burhanpur	210,886
7.	Chhindwara	190,008
8.	Chitrakoot	23,316
9.	Dharampuri	16,363
10.	Dindori	12,323
11.	Khargone	133,361
12.	Maheshwar	24,411
13.	Mandleshwar	12,343
14.	Mandsaur	141,468
15.	Morena	200,506
17.	Nasrullaganj	23,788

[7] Calculated as the proportion of estimated cost of these subprojects to the overall project cost.

S.No	Name of ULB	Population
18.	Nemawar	5,978
19.	Omkareshwar	10,063
20.	Patera	9,927
21.	Sahgunj	8,510
22.	Sewda	23,140
23.	Shahdole	86,681
24.	Shajapur	69,263

Table 2. 4. List of ULB Covered under the Policy Reforms Subcomponent

S.No.	Name of ULB	Qualifying Criteria
1.	A lot	MPUDP
2.	Amarkantak	MPUDP
3.	Badamalhera	MPUDP
4.	Betul	AMRUT
5.	Bhedaghat	MPUDP
6.	Bhind	AMRUT
7.	Bhopal	AMRUT
8.	Budhni	MPUDP
9.	Burhanpur	AMRUT, MPUDP
10.	Chhatarpur	AMRUT
11.	Chhindwara	AMRUT, MPUDP
12.	Chitrakoot	MPUDP
13.	Dabra	AMRUT
14.	Damoh	AMRUT
15.	Datia	AMRUT
16.	Dewas	AMRUT
17.	Dharampuri	MPUDP
18.	Dindori	MPUDP
19.	Guna	AMRUT
20.	Gwalior	AMRUT
21.	Hoshangabad	AMRUT
22.	Indore	AMRUT
23.	Jabalpur	AMRUT
24.	Khandwa	AMRUT
25.	Khargone	AMRUT, MPUDP
26.	Maheshwar	MPUDP
27.	Mandleshwar	MPUDP
28.	Mandsaur	AMRUT, MPUDP
29.	Morena	AMRUT, MPUDP
30.	Murwara (Katni)	AMRUT
31.	Nagda	AMRUT
32.	Nasrullaganj	MPUDP
33.	Neemuch	AMRUT
34.	Nemawar	MPUDP
35.	Omkareshwar	AMRUT, MPUDP
36.	Patera	MPUDP
37.	Pithampur	AMRUT
38.	Ratlam	AMRUT
39.	Rewa	AMRUT
40.	Sagar	AMRUT
41.	Sahgunj	MPUDP
42.	Satna	AMRUT

S.No.	Name of ULB	Qualifying Criteria
43.	Sehore	AMRUT
44.	Seoni	AMRUT
45.	Sewda	MPUDP
46.	Shahdole	MPUDP
47.	Shajapur	MPUDP
48.	Shivpuri	AMRUT
49.	Singrauli	AMRUT
50.	Ujjain	AMRUT
51.	Vidisha	AMRUT

Annex 3: Implementation Arrangements

INDIA: Madhya Pradesh Urban Development Project

Project Institutional and Implementation Arrangements

1. **Executing agencies.** The MPUDC will have overall responsibility for project coordination and implementation of the MPUDP. The MPUDC will act as the PMU. The PMU will be headed by a Project Director assigned from the state government, who will report to the UADD Commissioner/Principal Secretary. The PMU will be equipped with adequate technical and project management expertise in the form of PMCs. The MPUDC will be responsible for communications and coordination with the World Bank and for reporting. See appendix 1 to this annex for a detailed overview of the MPUDC. The PMU will be headed by a Project Director assigned from the state government, who will report to the UADD Commissioner/ Principal Secretary. The PMU will be staffed by the following key positions (a) Deputy Project Director, (b) Financial Specialist, (c) Procurement Specialist, (d) Environmental Safeguards Specialist, (e) Social Safeguards Specialist, (f) Monitoring and Evaluation Specialist, (g) Municipal Engineer, and (h) support staff. The PMU will also be supported by 13 regional PIUs who will bear the main responsibility of implementation supervision at the ground level.

2. The MPUDC has established 13 regional PIUs to provide direct, close, and continuous support to ULBs for the implementation of subprojects, as well as O&M where agreed with the ULB. The PIUs will undertake execution supervision, supervision of safeguard compliance, reporting, and other coordination activities. They will function as the extended arms of the Projects and Engineering Division of the MPUDC in the field and will work in close coordination with the concerned ULBs. PIUs in charge of supporting execution of the first three subprojects have been operationalized.

3. The project implementation by component and subcomponent is detailed in the following paragraphs.

4. **Subcomponent 1.1 on policy reforms** will be implemented by the MRC, already established in the UADD as the dedicated unit for supervising, coordinating, and monitoring the implementation of key urban governance and management reforms across 378 ULBs in the state. This subcomponent will be supported by a RSC), who will report to the Commissioner, UADD, who is the Head of the MRC. The RSC will be deployed at the state and regional levels: at the state level it will be hosted at the premises of the MRC; and at the regional level it will be located at the 13 divisional headquarters of the state and will work directly with the selected ULBs.

5. The procurement of any activities under this subcomponent will be undertaken by the MPUDC with technical inputs from the MRC. For all the procurements, bid evaluation committees with adequate representation from the MRC, UADD, and MPUDC will be constituted to undertake bid opening and evaluation. For the purpose of contract management of the services procured under this component, all the technical activities and deliverables will be monitored and approved by the Head of the MRC. Once technically approved, the MRC will advise the MPUDC staff to process the payments and complete the other contractual formalities.

For the purpose of project management and monitoring, the MRC will report its periodic progress on the project activities to the MPUDC, which is the designated PMU for the MPUDP.

6. **Subcomponent 1.2 on institutional strengthening of the MPUDC** will be implemented by the MPUDC under the leadership of the Engineer-in-Chief (E-in-C), MPUDC, as the Head of the Projects and Engineering Division, and under the leadership of the Additional Managing Director, MPUDC, for the BISCO region development activity; both will report directly to the Managing Director, MPUDC. The MPUDC will (a) prepare and implement annual work plans, Procurement Plans, and budgets for the project, (b) monitor project targets and take necessary remedial action, (c) undertake physical and FM reporting for both the GoMP and the World Bank, (d) verify and evaluate project performance against the results framework (e) manage project accounts and audit, and (f) manage consultancy contracts. This subcomponent will be supported by a PMC at both the state and regional levels. At the state level, the PMC will be hosted at the premises of the MPUDC for effective project management and hands on capacity building and knowledge sharing with the MPUDC. At the regional level, the PMC will be hosted at the regional PIU offices to be established by the MPUDC for providing direct and continuous support to the ULBs for projects and reforms implementation on the ground. The PMC will report directly to the E-in-C, MPUDC. The BISCO regional development preparation will also be implemented by the MPUDC through a dedicated Technical Unit set up under the Projects and Engineering Division.

7. **Component 2 on urban investments** will be implemented by the MPUDC in collaboration with the UADD and the ULBs. Together, they will identify subprojects, undertake DPR preparation ensuring compliance with the technical as well as safeguards and fiduciary requirements of the World Bank, undertake financial appraisal of the projects and finalize the project structure. The specific allocation of duties and responsibilities for the implementation of urban investments will be provided by the TPIA to be signed by the MPUDC, UDHD, and the ULBs

8. For every approved subproject, the MPUDC will set up a PIT comprising of its staff/experts from Bhopal, concerned PIUs located at the regional level, ULB engineers, and independent experts, if required. The PIT will monitor implementation progress and ensure that the contractor/operator meets the proposed time frame and quality of works. The PIT will also be responsible on working with the ULB and the contractor/operator in ensuring that the social/environment safeguard requirements are met.

Financial Management, Disbursements, and Procurement

Financial Management

9. **Budget.** The MPUDC will prepare the Annual Work and Financial Plan with necessary details for the infrastructure component, reforms/TA component, and BISCO region development subcomponent. Funding requirements for the project, including counterpart funds, will be budgeted within the demand for grants of the UADD, with separate budget lines for the MPUDP under the budget of the MPUDC.

10. **Flow of funds.** For the access to finance for urban investments subcomponent, project funds will be allotted as budgetary grants/loans by the MP UDHD to ULBs based on fund requirements for approved subprojects. The TPIA will specify the percentage of grant and loan components from the UDHD to ULB toward the capital cost of a subproject. Book entries will be made by ULBs to account for the loan/grant from the UDHD, but loan/grant funds will flow directly to the MPUDC. However, even then the funds will not flow physically to the ULBs, but will be reflected on their balance sheet. The MPUDC will open a separate bank account for each donor-funded project. Once the construction is completed, the asset created under the project will be handed over by the MPUDC to ULB. Funds for the institutional development component will also be allotted to the MPUDC as budgetary grants based on the Approved Annual Work and Financial Plan.

11. **Financial reporting.** The MPUDC will submit consolidated quarterly interim unaudited financial reports (IUFRs) based on which the World Bank will reimburse project expenditures to the GoI.

12. **External audit.** The MPUDC will appoint the external auditor for the company, based on the terms of reference agreed with the World Bank. The accounts should contain separate disclosures of funding received and component and subcomponent-wise expenditures incurred under the World Bank line of funding. The following audit reports will be submitted to the World Bank:

Table 3.1. Audit Reports Submitted to the World Bank

Implementing Agency	Audit of	Auditors	Due Date
MPUDC	Infrastructure component implemented by the MPUDC	Chartered Accountant Firm appointed based on advice of the Comptroller and Auditor General	December 31 each year

13. **Internal audit.** Internal audit will be under the direct control of the Board Level Audit Committee (BLAC). BLAC will engage a firm of chartered accountants for conducting the quarterly internal audit according to agreed terms of reference. BLAC will ensure that the observations of the Internal Auditor are acted upon and reported to management and the World Bank on time.

14. **Accounting**. The MPUDC will follow accounting standards in accordance with statutory guidelines applicable to companies in India under the Companies Act 2013. The MPUDC has an OM which mandates computerized double entry accrual accounting. The MPUDC will maintain separate books of accounts for this project.

15. **Disbursements**. The World Bank will disburse funds to the Designated Account of the borrower (GoI) on the basis of eligible project expenditures pre-financed by the GoMP through budgetary grants and reported by consolidated quarterly IUFRs submitted by the MPUDC in formats agreed with the World Bank. The GoI will pass on the funds to the GoMP based on standard arrangements between the GoI and the states. The applicable disbursement method will be Reimbursement. Funds will be disbursed by the World Bank according to table 3.2.

Table 3.2. Project Disbursement Categories

Sl. No	Category	Project Cost (US$, millions)	Amount of the Loan Allocated (US$, millions)	Percentage of Gross Reported Expenditures to be Financed (Inclusive of Taxes)
1.	Goods, works, consultants' services, training, and operating costs	165.7	115.9	70%
	Front-end Fee	0.3	0.3	
	Total Amount	**166**	**116.2**	

16. **Retroactive financing.** Expenditures paid with the World Bank's concurrence up to 12 months before the date of signing of the legal agreements, and done according to the World Bank's Procurement Guidelines will be eligible for retroactive financing of up to 20 percent or less of the World Bank loan amount.

Procurement

17. **Advance contracting.** MPUDC has initiated procurement of both works and services contracts as part of the preparation process. As of date (i) financial bids have been opened for two works contracts namely Burhanpur water supply project and Khargone water supply project, and for one services contract namely the Project Management Consultancy; and (ii) one services contract, namely the ESMF preparation has been awarded and is under implementation. All above procurements have been done following the agreed World Bank procurement guidelines.

18. **Procurement arrangements.** The MPUDP PIU will handle procurement. Bids will be invited by the Procurement Officer and the contract award will be approved by a high level committee chaired by the Commissioner.

19. **Procurement planning.** For each contract to be financed by the loan, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame will be reflected in the Procurement Plan to be agreed between the borrower and the World Bank. Because sub-loans to ULBs are demand driven, the value and number of packages cannot be specified in advance. The Procurement Plan will be updated annually (or at any other time as required) and will reflect changes, if any, to prior review thresholds as well as changes in thresholds for procurement methods.

20. **Procurement methods.** Table 3.3 indicates the various procurement methods for activities financed by the MPUDP. These, along with the agreed thresholds, are included in the Procurement Plan.

Table 3.3. Procurement Methods

Category	Method of Procurement	Threshold (US$ Equivalent)
Works	International Competitive Bidding (ICB)	>40,000,000
	National Competitive Bidding (NCB)	Up to 40,000,000 (with NCB conditions)
	Shopping	Up to 100,000
	Direct Contracting (DC)	According to paragraph 3.7 of Procurement Guidelines

Category	Method of Procurement	Threshold (US$ Equivalent)
	Public-Private Partnership (PPP) for Works	According to paragraph 3.14 of Procurement Guidelines
	Force Account	According to paragraph 3.9 of Procurement Guidelines
	Framework Agreement (FA)	According to paragraph 3.6 of Procurement Guidelines
Goods and non-consultant services	ICB	>3,000,000
	Limited International Bidding (LIB)	wherever agreed by the World Bank
	NCB	Up to 3,000,000 (with NCB conditions)
	Shopping	Up to 100,000
	DC	According to paragraph 3.7 of Procurement Guidelines
	PPP Services	According to paragraph 3.14 of Procurement Guidelines
	Force Account (only for Non Consultancy Services)	According to paragraph 3.9 of Procurement Guidelines
	FA*	According to paragraph 3.6 of Procurement Guidelines
	Procurement from United Nations Agencies	According to paragraph 3.10 of Procurement Guidelines
Consultants' Services	Selection Based on Consultants' Qualifications (CQS)/Least-Cost Selection	Up to 300,000
	Single-Source Selection (SSS)	According to paragraphs 3.9-3.11 of Consultant Guidelines
	Individuals	According to Section V of Consultant Guidelines
	Particular types of consultants	According to paragraphs 3.15-3.21 of Consultant Guidelines
	Quality- and Cost-Based Selection (QCBS)/ Quality-Based Selection (QBS)/ Selection under a Fixed Budget (FBS)	for all other cases
	(a) International short-list (b) Short-list may comprise national consultants only	>800,000 Up to 800,000

Note: * Directorate General of Supplies and Disposal (DGS&D) rate contracts may be used as FA provided:

- Use of DGS&D rate contracts as the FA must be reflected on the Procurement Plan agreed by the World Bank for particular goods.
- Before issuing the purchasing order, the implementing agency will carry out a price analysis on the specific good that is intended to be purchased. If after this due diligence the implementing agency concludes (and the World Bank agrees) that the DGS&D rate contracts are more advantageous, DGS&D rate contracts may be used as the FA.
- To meet the World Bank's requirements for right to audit and fraud and corruption, these clauses may be included in the purchase orders (if the purchasers are directly placing the purchase orders to DGS&D rate contract holders). On the other hand, if indent is placed through DGS&D, the purchaser has the option to sign a separate undertaking with DGS&D rate contract holder, where the World Bank's right to audit and F&C clauses could be mentioned.

21. NCB for procurement of goods and works will be conducted in accordance with paragraphs 3.3 and 3.4 of the Procurement Guidelines and the provisions in the loan agreement.

22. **Bank prior review.** The World Bank will prior review the following contracts:

(a) **Works.** First two contracts regardless of value and subsequently all contracts more than US$10 million equivalent.

(b) **Goods.** First two contracts regardless of value and subsequently all contracts more than US$1 million equivalent.

(c) **Services (other than consultancies) and IT systems.** First two contracts regardless of value and subsequently all contracts more than US$1 million equivalent.

(d) **Consultancy services.** First two contracts regardless of value and subsequently all contracts greater than US$500,000 equivalent for firms and greater than US$200,000 equivalent for individuals.

23. In addition, the justification for all contracts to be issued on the basis of LIB, single-source or direct contracting (except for contracts less than US$50,000 in value) will be subject to prior review.

24. **Use of government institutions and enterprises.** Government-owned enterprises or institutions in India may be hired for activities of a unique and exceptional nature, if their participation is considered critical to achievement of project objectives. In such cases, the conditions provided in clause 1.13 of the Consultant Guidelines will be satisfied.

25. **Risks.** Table 3.4 summarizes major procurement-related risks and the mitigation plan. The residual rating on procurement will be reviewed and updated periodically.

Table 3.4. Assessed Procurement Risks and Mitigation Measures

Risk Factor	Initial Risk	Mitigation Measure	Completion Date	Residual Risk
Limited capacity and inefficiencies resulting in delays in procurement.	High	• Use of skilled procurement staff for handling procurement of services. • Monitoring through Procurement Plan and quarterly reports.	Continuous from Year 1	Substantial
Noncompliance with agreed procurement arrangements.	High	• Training and guidance provided by the World Bank. • Prior and post reviews by the World Bank. • Strengthening the complaint management process.	Continuous from Year 1	Substantial

Environmental and Social (including safeguards)

26. **Safeguard risks.** The key environmental safeguard risks associated with the project include (a) non-implementation of agreed ESMF provisions by the MPUDC and the implementing agencies; (b) noncompliance with agreed EMPs under the respective subproject environmental assessments; (c) construction safety and site management issues during the implementation of subprojects; and (d) lack of environmental safeguard management capacity in the implementing agencies, including the MPUDC. To address these issues, the project incorporates (a) appointment of dedicated and qualified Environmental Specialists at the

MPUDC PMU, with additional support from the Environmental Specialist of the PMC; (b) designation of an Environmental Engineer at the PIUs to supervise the implementation of the EMPs; (c) incorporation of EMPs in bid documents and contracts; (d) training and capacity building for the MPUDC, operators, and ULB staff; and (e) regular supervision by the MPUDC safeguards team and quarterly reporting on the implementation of environmental safeguards in the project.

27. **ESMF.** A project-specific ESMF has been prepared for screening, reviewing, and implementing subprojects. This ESMF has provisions to address adverse environmental and social impacts and the selection of sites for new facilities to be proposed under various subprojects. It also includes a provision for an independent annual environment and social audit. All the costs related to land acquisition and resettlement and rehabilitation (R&R) assistance will be met out of counterpart funding. The project is likely to finance some investments which will involve land acquisition and involuntary displacement. The MPUDC will be responsible for ensuring compliance with the ESMF. The ESMF has proposed a role for ULBs to provide support in getting approvals and clearances from the Government on land acquisition (LA) and R&R matters from the district administration. ULBs will also have a role in facilitating consultations and management of disruption to roadside business activities and traffic. A project-level Grievance Redress Committee (GRC) will be established through a Government Order as a grievance redress mechanism for the project. In addition to the project-level GRC, a Chief Minister helpline is also available in the state. Redress of grievances relating to land acquisition will be as per the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.

28. The ESMF will be applicable to all subprojects and all TA studies financed under the loan. EIAs and SIAs and relevant mitigation plans prepared in accordance with the ESMF will be reviewed by the World Bank and approved by competent GoMP authorities. These documents will be disclosed by the MPUDC and other relevant agencies according to the OM. Where implementation of such plans is not funded out of the project costs, these will not be subject to World Bank's supervision.

29. **Subproject ESAs.** ESAs for the three subprojects that will be implemented in the first year of the project have been prepared. The ESAs identify impacts on River Tapti and Kunda in Burhanpur and Khargone, impacts on cultural properties in Burhanpur, and construction safety and site management issues for all three subprojects. Suitable mitigation and management plans have been prepared to address these impacts. No land acquisition or involuntary displacement has been identified so far. The ESAs have been disclosed in MP on July 18, 2016, and at the World Bank's InfoShop on July 19, 2016.

30. **Capacity assessment of the MPUDC.** The MPUDC is a nascent institution and has no experience of implementing World Bank-funded projects and is hence are not familiar with World Bank safeguard policies and procedures. Two Safeguard Specialists (environment and social) are part of the MPUDC PMU and are associated with the MPUDP since project preparation. To further strengthen their capacity, the PMC (to be hired under the project) will include qualified and experienced environmental and social specialists who will assist the PMU in ESMF implementation. In addition, an Environmental Officer will be designated at the PIUs to supervise implementation of subproject EMPs. The Community Development Officer at the

PIU level, supported by social experts from the PMC, will carry out day-to-day social safeguards management at the subproject level. Nongovernmental organizations will be engaged to implement the RAP. As part of the ESMF, regular training and orientation programs to enhance the safeguards capacity of the MPUDC, ULBs, and other implementing agencies will be implemented through the institutional development component of the project.

31. **Monitoring and evaluation.** Annual safeguard audits will be carried out to record achievements and lessons learned, and identify emerging issues and risks. Where RAPs need to be prepared, the project will provide a budget for implementing these. The budget for land and R&R, where required, will be provided by the GoMP as part of counterpart funding.

Appendix 1: MPUDC

32. The MPUDC was established as a 100 percent government-owned company under the Companies Act of 2013 by the UDHD, GoMP, as a state-level urban infrastructure development agency in April 2015. The MPUDC's mandate includes developing, financing, and implementing urban infrastructure development and municipal service delivery projects in the state. The MPUDC has also been designated by the GoMP as the nodal agency for project management and implementation of all the externally aided projects in the urban sector. The Board of Directors of the MPUDC includes the Chief Minister of the GoMP as the Chairman, the Urban Development Minister and the Chief Secretary, GoMP, as the Vice-Chairmen, the Principal Secretaries of the UDHD, Finance Department, Planning Department, Public Health Engineering Department (PHED), Public Works Department, and Water Resources Department, and the Managing Director, MPUDC, who is the Member-Secretary of the board. The board has the responsibility and the authority to take decisions on all operational matters relating to the business of the company including recruitment, staffing, approval and amendments of the OM, and so on.

33. The UDHD comprises various directorates and parastatal agencies. Of these, the UADD is the nodal directorate for all ULBs on urban infrastructure and administration activities. The Commissioner, UADD, has been designated as the ex officio Managing Director of the MPUDC, while the Additional Commissioner, UADD, has been designated as the ex officio Additional Managing Director of the MPUDC.

34. The MPUDC has two major divisions: (a) Finance and Accounts Division, and (b) Projects and Engineering Division. The MPUDC has recruited staff with expertise in municipal and civil engineering, environmental and social safeguards, procurement, finance, legal aspects, corporate affairs, and so on. For the purpose of project development and execution, the MPUDC has set up two committees: (a) EEC headed by the Chief Secretary and having Principal Secretaries of the Finance Department, UDHD, and PHED and with the authority to sanction projects of INR 100 million or more (approximately US$1.5 million or more); and (b) Technical Clearance and Tender Committee headed by the E-in-C, MPUDC, and including members from the Public Works Department, UADD, MPUDC, and the respective ULBs whose projects are being scrutinized with the authority to sanction projects below INR 10 crore.

Annex 4: Implementation Support Plan

INDIA: Madhya Pradesh Urban Development Project

Strategy and Approach for Implementation Support

1. The Implementation Support Plan will focus on addressing the key risks identified in the SORT analysis, namely: technical design of the project, institutional capacity for implementation and sustainability, fiduciary, and environment and social aspects. Regular channels of coordination and communication with the MPUDC and UADD to support overall implementation will be maintained at all times, with particular focus on the risk areas. The modalities of coordination include maintaining a regular dialogue with the project counterparts; undertaking periodic joint reviews with a focus on key issues at least twice per year; and conducting field visits to both the participating ULBs and regional PIUs.

Implementation Support Plan

2. The semiannual implementation support missions will be supplemented by additional missions at least during the first 12–18 months for project implementation. More frequency of implementation support missions will allow to familiarize the client with World Bank procedures and to timely troubleshoot any problems that may arise at the beginning of the project. In addition to formal missions, the World Bank will provide as needed, continuous implementation support from the Delhi office through short interim technical missions, phone, and VC consultations, and so on. The full World Bank team is based at the Delhi office, which will facilitate this type of permanent support.

3. **First 12 months.** The World Bank will provide intensive implementation support during the crucial first year of project implementation in the following areas to ensure a smooth start-up as follows:

- **Technical design of the project.** Activities associated with the mitigation of this risk include a close oversight of the operation of the MPUDC and its OM. Oversight will focus on both the screening of new subprojects as well as the implementation of the first 30 percent investments that will start implementation during the first year of the project. Other activities that will require special attention are the start-up of the RSCs and PMCs. In addition, DPRs for the subsequent round of investments under the urban investments component must begin preparation. Support will also be given to the MPUDC to help identify consultants who will support identification of growth nodes and potential investments in BISCO.

- **Institutional capacity for implementation and sustainability.** Risks associated to institutional capacity and sustainability will be mitigated through the timely mobilization of the PMC that will provide both project implementation support and on the ground capacity building to the MPUDC. Handholding support through the PMC will cover both technical (engineering) and fiduciary activities. Similarly, the capacity building and institutional sustainability of the participating ULBs will be enhanced through the prompt mobilization of the RSC that will roll out a number of

reforms. Support in this area will be critical at the later stages of implementation, once the reforms are rolled out and some of the works for the first investments are completed. For BISCO region development, support will be given to the MPUDC Technical Unit on BISCO through a consulting team who will prepare technical designs for identified priority growth nodes/regions as well as DPRs for urban infrastructure subprojects. The unit will also be supported by individual consultants for assessing efficacy of existing urban and regional planning regulations, approaches and controls for promoting such development and preparing amendments to such regulations, and identifying new approaches that foster balanced regional urbanization in the BISCO region.

- **Fiduciary aspects.** Since the current project is the first World Bank-financed urban operation in the state, dedicated assistance will be provided in procurement and FM systems, including both formal and informal trainings on the World Bank's fiduciary systems and procedures (for example, preparation and regular updating of Procurement Plans, FM Reports, and so on).

- **Environmental and social aspects.** Dedicated support will be provided for the familiarization and roll out of the MPUDP ESMF, the subproject ESIAs and where required, ESMPs. This will apply both to the first batch of initial investments, and to the screenings of new subprojects. Close monitoring will be provided to subprojects prone to social and environmental risks.

4. **12 months onwards.** After the initial 12 months of project implementation, support from the World Bank will continue throughout the duration of the project through the following implementation support activities:

- **Technical design of the project.** Most of the support provided during the outer years of implementation will entail working closely with the MPUDC to build a strong pipeline of subprojects and achieve early on a 100 percent commitment of investments. The screening and appraisal of project is expected to require special attention. Ensuring that the right types of contracts are established and are properly managed will also be closely monitored. Regular field visits will take place to monitor implementation on the ground (including the buy-in and ownership of the ULBs) of both the investments and the capacity-building and reform activities.

- **Institutional capacity for implementation and sustainability.** Support in this area through the RSC will be limited to the initial three and a half years of project implementation. During this time, dedicated members of the project team with an institutional and capacity-building background will help oversee this TA and ensure that it is meeting the client's demand. Although most of the reforms are expected to be completed by the fourth year of project implementation, the World Bank team will continue to be appropriately staffed to look into this area, if needed, until project closure. Throughout the whole implementation period, the World Bank will work closely with the PMC team both to ensure good project implementation support and that appropriate capacity is built at both the state, regional PIU, and ULB levels in terms of the sustainability of the investments. Support to the MPUDC

Technical Unit on BISCO will continue, particularly focusing on preparation and finalization of DPRs for urban infrastructure subprojects and identifying potential sources of financing for these subprojects.

- **Fiduciary aspects.** Regular monitoring and support activities will continue throughout the duration of the project in both procurement and FM. Specific activities include procurement prior and post reviews, preparation of timely and comprehensive financial reports (IUFRs, annual financial statements, annual audit reports, and so on). This support will be provided both during the implementation support mission as well as through permanent channels of communication between the teams. On-demand training as well as refresher courses on various fiduciary aspects (SEPA, Client Connection, and so on) are also envisioned.

- **Environmental and social aspects.** These aspects include to (a) review environmental and social safeguard documents (EMPs, RAPs) for subprojects under the urban investments component to confirm compliance with World Bank policies and the ESMF framework; (b) carry out field visits during missions to sensitive sites with significant safeguard risks; (c) review environment and social audit reports to address safeguard related risks; and (d) promptly follow up on satisfactory implementation of the project-level grievance redress system and on any complaints received under the corporate GRS.

- **MTR and project closure.** Around the third year of project implementation, guidance will be provided to the MPUDC to conduct the MTR of the project to make any corrections in the project design and agree with the GoMP on any changes required. Toward the end of the project, additional support will be provided to ensure proper project completion and documentation, including any final evaluations and account reconciliations.

5. **Skills needed.** The following skills are needed for providing the above support:

- Engineering skills to review and advice on designs, costing, and execution of urban services—mostly related to WSS projects

- Institutional development and capacity-building knowledge and expertise related to state and municipal urban institutions

- Municipal finance, including knowledge of own-source revenue generation and credit enhancement skills

- Environmental management knowledge and expertise

- Knowledge and expertise on social aspects, including R&R

- Procurement

- Financial management

Table 4.1. Estimated Effort and Budget for Implementation Support

Time	Focus	Skills Needed	Resource Estimate (US$)
First twelve months	• Project start up • Mobilization of teams from the RSC and PMCs • Begin implementation of 30% upfront investments • DPR preparation and appraisal of future investments • Preparation of terms of reference for BISCO activity • Communication campaigns at the ULB level for both reforms and investments • Implementation and refinement of ESMF • Setting up of PMUs and regional PIUs.	• Engineering/ technical • Institutional strengthening and capacity building • Municipal finance • Procurement, • FM • Environmental • Social	175,000
12 months onwards	• Periodic reviews encompassing both all technical and fiduciary elements • Specific handholding support (as needed) • Preparation for MTR and project closure	• Engineering/technical • Institutional strengthening and capacity building • Municipal finance • Procurement • FM • Environmental • Social • M&E Specialist	100,000 x 5 = 500,000
		Total	600,000

Table 4.2. Skills Mix Required

Skills Needed	Number of Staff Weeks (per year)	Number of Trips (per year)
TTL/co-TTL	15	6
Engineering/technical	12	4
Institutional development/capacity building	6	4
Municipal finance/credit enhancement	4	2
Procurement	4	3
Financial management	4	3
Environmental	4	4
Social	4	4
M&E	4	2

Annex 5: Economic and Financial Analysis

INDIA: Madhya Pradesh Urban Development Project

Economic Analysis

1. Economic analysis has been carried out for the eight identified subprojects in the ULBs of Burhanpur, Khargone, Chhindwara (comprising the appraised subprojects), as well as the ULBs of Sewda, Shajapur, Nasrullaganj, Mandsaur, and Maheshwar.

2. **Project beneficiaries.** Water supply subprojects proposed under the MPUDP aim to increase the coverage of piped water supply from 47 percent[8] to 95 percent, and to improve the average per capita supply from the existing 65 lpcd to 135 lpcd. The proposed sewerage intervention aims to connect about 95 percent of households. Of the 0.39 million estimated population (2011) in the three identified project towns for water supply, only 47 percent have access to piped water supply. On completion of the present project intervention (2020), access to piped water supply will improve to 0.43 million (95 percent). In addition, 0.49 million people in five project towns will have an improved sewerage system (table 5.1).

[8] Average for three project towns where water supply improvement is proposed.

Table 5. 1. Projected Project Beneficiaries

Subprojects	Beneficiaries				Connections (Nos.)		User Charge (INR per kl)		Average Water Supply (lpcd)	
	2016	Coverage (%)	2020	Coverage (%)	2016	2020	2016	2020	2016	2020
Water Supply										
Burhanpur	229,321	34	245,218	95	14,193	46,591	2.54	7.41	79	135
Sewda	24,661	46	25,944	95	1,688	3,927	1.77	5.90	90	135
Khargone	144,857	70	154,728	95	16,898	26,726	4.80	6.73	38	135
Total	398,839	47	425,889	95	136,064	177,968	-	-	65	135
Sewerage										
Shajapur	Nil	-	74,214	-	Nil	14,000	Nil	170	-	-
Nasrullaganj	Nil	-	24,800	-	Nil	4,850	Nil	150	-	-
Mandsaur	22,047	N.A	135,587	-	4,500	27,675	Nil	170	-	-
Maheshwar	Nil	-	24,441	-	Nil	4,938	Nil	170	-	-
Chhindwara	Nil	-	228,436	-	Nil	40,905	Nil	150	-	-
Total			**487,479**			**92,368**				

Note: (a) Current user charge (2016) represents the present ULB flat tariff rate; (b) proposed water tariff are the indicative flat tariff rates by DPR/design team; (c) per capita water supply (lpcd) is calculated as supply after loss divided by number of connected population through flow-measurement study in project towns.

3. **Affordability.** The existing water tariff for domestic household supply is a flat rate of INR 42 per month on average; meters are not used. Average household consumption is considered as 8.4 kl per month[9] with a supply price of INR 5 per kiloliter.[10] Designed monthly water supply to households after the project intervention will be 22.27 kl per month (135 lpcd consumption and 5.5 persons per household in project towns). With a possible full cost recovery-based monthly tariff of INR 150, the supply price will be at INR 6.7 per kiloliter. With the existing practice of 100 percent water tariff for sewerage, the monthly tariff commitment for water supply and sewerage will be INR 300. The proposed combined price for water supply and sewerage satisfies the affordability criteria of less than 5 percent of the household income, as shown in table 5.2.

Table 5.2. Affordability Analysis (INR)

Details	Slum Households	Non-slum Household
Annual household income [a b]	98,736	199,836
Proposed household annual water tariff	900	1,800
Proposed household annual sewer tariff	900	1,800
Total annual tariff for water and sewer	1,800	3,600
Percentage of annual tariff for water and sewer to annual household income	1.82%	1.80%

Note: a Socioeconomic Survey in Project Towns in Madhya Pradesh, 2015, ADB TA-8816 IND: Madhya Pradesh Urban Services Improvement Program, 2015–2016
b Union Minister of Housing and Urban Poverty Alleviation had approved the revised income criteria for urban poor having an annual household income of up to INR 100,000 on November 14, 2012.
Source: http://pib.nic.in/newsite/erelease.aspx?relid=89039

4. **Willingness to Pay (WTP).** The Baseline Survey carried out in MP under an ADB study[11] had indicated that though all are willing to avail the services, only 58 percent of the beneficiaries prefer to pay the monthly water tariff. However, about 26 percent of those sampled were found willing to pay up to INR 200 per month for better services. On average, WTP was worked out to INR 3.02 per kiloliter. This is to be underlined with the present monthly flat charge for domestic connection of INR 42.[12]

5. **Economic analysis of subprojects.** The following alternatives were considered for the economic analysis:

(a) **'Without Project'** assumes that the current situation in water supply and sewerage will continue, with no improvements

[9] Based on the ULB-wise existing water supply system collected from the UDHD, the average per capita consumption worked out to 56 lpcd.
[10] (a) 8.4 average water supply to households per month (kl); (b) 42 average monthly tariff (INR); (c) 5.0 cost of water sold (INR per kiloliter). *Source:* Data from UDHD, GoMP.
[11] ADB TA-8816 IND: Madhya Pradesh Urban Services Improvement Program, 2015–2016
[12] Presently ULBs have differential water tariff (flat rate) and the average for the project towns worked out to INR 42 per month.

(b) **'With Project'** takes account of the benefits of improved service delivery in water supply and sewerage

6. The analysis uses constant prices, with 2016 as the base year, and considers 29 years from the 'base year' (2016) including three years of construction (2017–2019) for the analysis. Table 5.3 indicates the general assumptions adopted for the economic analysis.

Table 5.3. General Assumptions Adopted

1	Economic cost	
	• Shadow wage rate factor (SWRF) for unskilled labor (table 5.5)	0.84
	• Shadow exchange rate factor (SERF) for traded components (foreign cost) (table 5.4)	1.03
	• Share of traded goods components in the project	
	(a) For civil works	1%
	(b) For equipment	10%
	• Conversion factor for remaining project cost components	1.00
2	Social discount rate	8%
3	Tax rates	
	• Works contract	5%
	• Value-added tax (VAT) for goods	12%
4	Average area of land acquisition for water supply/sewerage project (acre)	1

Source: Institute of Chartered Accountants of India, Compilation of Work Contract Provisions under VAT Laws of Different States, 2013. (This is for the works component.)

7. **Economic costs.** Economic costs of capital works and annual O&M are estimated from financial cost estimates on the following basis:

(a) In the absence of a detailed cost breakup, the available project cost is assumed to have included safeguards, physical contingency, and other overheads, but excluded price contingency.

(b) The project cost is divided into traded and non-traded components, with 1 percent of civil works costs and 10 percent of equipment costs assumed as traded components. The SERF estimated for India (1.03) and shown in table 5.4 is used to convert the traded components of project costs into economic costs.

(c) Remaining non-traded components are divided into (a) unskilled labor costs, (b) taxes and duties, and (c) other non-traded components. The estimated SWRF for MP, shown in table 5.5, is used to convert the unskilled labor component to economic costs. A standard conversion factor (SCF) of 1.0 is used for other non-traded project components. Taxes and duties have been removed. Combining economic cost components for traded and non-traded items, the total economic costs for subprojects have been estimated. The estimated economic costs for all subprojects are given in table 5.6.

(d) In the absence of details of land to be acquired, an average 1 acre of land to be acquired is assumed for both water supply and sewerage subprojects. For land cost incurred under the project, in line with the assumption that the acquired land parcels are either agricultural land or land with agricultural use potential, only the annual

agricultural revenue loss to the economy from the acquired land is considered in the analysis.

(e) Annual O&M costs, estimated by the technical team, has been adopted after converting to economic terms.

Table 5.4. Shadow Exchange Factor (SERF) (INR, billions)

Details	2013-14	2012-13	2011-12	2010-11	2009-10	2008-09	2007-08	2006-07	2005-06
Exports - GoI	18,942	16,353	14,660	11,429	8,455	8,408	6,559	5,718	4,564
Imports - GoI	27,142	26,732	23,455	16,835	13,637	13,744	10,123	8,405	6,604
Customs Duties - GoI	1,231	1,155	1,056	976	602	692	720	628	466
SCF	0.974	0.974	0.973	0.967	0.973	0.970	0.959	0.957	0.960
SERF	**1.03**	**1.03**	**1.03**	**1.03**	**1.03**	**1.03**	**1.04**	**1.04**	**1.04**

Source: Reserve Bank of India, Hand Book of Statistics on Indian Economy, 2013-2014.
Note: Calculation Method based on ERD Technical Note Series No. 11, February 2004, 'Shadow Exchange Rate for Project Economic Analysis', ADB.

Table 5.5. Shadow Wage Rate Factor (SWRF)

Unskilled labor cost (INR per day)[a] (L)	157.00
Minimum Wages in MP with effect from April 1, 2015 (INR per day)[b] (M)	187.00
SWRF (Y); Y = L/M	0.84

Note: a. http://nrega.nic.in/Netnrega/WriteReaddata/Circulars/Noti_Revised_mgnrega_wage_rates_01042014.pdf. Wages practiced is found more or less equal to the wage rates under NREGA program.
b. Minimum Wage in MP with effect from April 1, 2015, to September 30, 2015;
http://www.paycheck.in/main/salary/minimumwages/madhya-pradesh
Calculated using the 'Guidelines for the Economic Analysis of Projects, 1997, ADB

Table 5.6. Subproject Cost (INR, millions)

Name of ULB/subproject	Sector	Subproject Cost	Economic Cost
Sewda	Water	194.60	175.77
Burhanpur	Water	1,317.40	1,183.36
Khargone	Water	1,020.60	916.76
Subtotal		**2,532.60**	**2,275.90**
Shajapur	Sewerage	729.80	655.73
Nasrullaganj	Sewerage	480.60	431.82
Mandsaur	Sewerage	1,467.30	1,318.38
Maheshwar	Sewerage	419.80	377.19
Chhindwara	Sewerage	1,803.70	1,620.64
Subtotal		**4,901.20**	**4,403.76**
Total		**7,433.80**	**6,679.66**

Source: TA Consultant Estimate.

Valuing Economic Benefits

8. **Water supply system improvements.** The water supply component includes (a) augmentation of supply; (b) strengthening of the existing distribution network and construction of additional distribution network for uncovered areas; and (c) rehabilitation of existing water treatment plants and transmission mains. Benefits considered for the analysis include the following:

- Cost savings in water collection time; coping costs of water purchased through tankers and bottles; and savings in annual household water storage expenditure.
- Avoidance of loss of earnings during sick days.
- Energy cost savings due to shift in source from ground to surface water.

9. **Resource cost savings.** This includes improved service delivery in terms of coverage from 34 percent to 70 percent of households and increase in per capita water supply from the existing 38 lpcd to 90 lpcd on average to 135 lpcd on project completion, and has three major elements for benefit quantification:

- **Non-incremental water supply.** This includes increase in water sold from the public system, but resulting in no effect on the total consumption because the non-incremental water supply replaces water consumed from private vendors, shallow wells, and tanks/rivers. The benefit is evaluated by using the resource cost savings approach, that is, savings in cost of replaced water, which includes water collection time,[13] water storage cost,[14] and purchase of water from different sources.[15]
- **Incremental water supply.** This component has a positive effect on the total consumption due to the project. Benefits are evaluated by using the demand price or the WTP for additional consumption. Incremental water supply benefit is valued at the WTP price[16] based on a 2015 WTP survey.

[13] Time saved in collecting water has an economic value, in being applicable as income-earning opportunities, household maintenance functions, or increased leisure and reduced mental stress. As suggested in 'Hand Book for the Economic Analysis of Water Supply Projects', 1999, ADB, 50 percent of the market wage rate is for unskilled female labor. In the present case, INR 187 per day as unskilled labor wage rate, prevailing in MP, and an average 51.4 minutes of daily water collection time per household arrived from Baseline Survey (2015) together were adopted for time value calculations.

[14] The existing insufficient and irregular water supply from ULBs and the requirements of getting additional water from supplementary sources forces the households to invest in water storage facilities and the expense to maintain them. Based on the local enquiry in the project towns, a capital cost of INR 5,000 with 5-year life and INR 300 annual maintenance cost were used to estimate annual household storage cost per household for the analysis.

[15] Average cost of bottled water (INR 1.2 per liter), tanker water (INR 0.16 per liter), and dug well water (INR 0.01 per liter) and their percentages of use by the beneficiary population (3 percent, 5 percent and 12 percent respectively) along with their annual household water demand, annual savings in purchased water is estimated at INR 2,796 per household.

[16] Based on the Baseline Survey-based WTP data for similar towns in MP (2015), the WTP was estimated at INR 3.02 per kiloliter.

- **Nontechnical loss.** A portion of water produced is lost during distribution and does not generate revenue. A part of this nonrevenue water is however consumed by nonpaying beneficiaries. These nontechnical losses occur for both non-incremental and incremental water and are valued at the weighted average of the economic value of incremental and non-incremental water per cubic meter.

10. **Savings in earning loss during sick days.** Better quality of drinking water from the project avoids health expenditures and saves the economic value of sick days. Of the two, only savings in earnings loss during sick days is considered in the analysis. Reduction in health expenditures is considered as redistribution within the economy and so is not considered.

11. According to a research document[17] on the effect of water and sanitation interventions in reducing waterborne diseases, about 68 percent of health expenditure can be reduced by improved water and sanitation. Of this, 25 percent is assumed for water and the balance 43 percent for sanitation, including sewerage. Considering the average daily per capita income, the number of sick days, and the impact on household health (25 percent), savings in earnings loss due to water supply is estimated at INR 748 and INR 1,514 per year per household for slum and non-slum households, respectively. A suitable conversion factor is used to convert these financial benefits into economic terms.

12. **Savings in energy costs.** The major share of water supply (about 75 percent) in project towns is from bore wells, which require pumping from about 150 feet (45 m). The proposed shift to surface sources will result in the energy cost savings. These savings are estimated at INR 1 per kiloliter of water, based on inputs from the technical team and will be available for the entire operation period.

13. **Exclusions.** The following benefits of the water supply subprojects have not been quantified for lack of adequate data and complexities in their quantification:

- Public cost of treating waterborne diseases due to poor environmental sanitation
- Effects on businesses and industries, such as aquaculture and fisheries, and washing
- Effects on tourism and tourist-related businesses

14. **Sewerage improvements.** Economic benefits of sewerage considered in the present analysis include

[17] Waddington, Hugh, Birte Snilstveit, Howard White, and Lorna Fewtrell. 2009. *Water, Sanitation and Hygiene Interventions to Combat Childhood Diarrhea in Developing Countries.* Aberystwyth University. New Delhi, India: International Initiative for Impact Evaluation (3ie), p. 28.

(a) Cost savings in constructing and operating on-site disposal systems (construction and O&M costs of septic tanks[18]); and

(b) Reduction in earnings due to illness during sick days.

15. **On-site sewage disposal costs.** Between 13 percent and 64 percent of households in project towns have septic tanks, while another 12 percent to 38 percent households have low-cost sanitary (LCS) toilets for sewage disposal. Households receiving connections to the sewerage system with the project will otherwise need to dispose of sewage on-site, by installing septic tanks or LCS toilets such as twin pit pour flush latrines or dry pit latrines. The cost savings of not having to undertake on-site treatment is an economic benefit of the project. For these households, the capital costs and the future O&M costs of existing on-site disposal facilities, discounted at 8 percent for the analysis period of 25 years and annualized, is considered as project benefits (table 5.7). These cost savings are applied as benefits only to those households who presently use LCS toilets/septic tank. The costs of construction and future maintenance, discounted to the present value, are considered as one-time avoidance costs to households that do not presently have a disposal system.

Table 5.7. Expenditure on Disposing of Sewage On-site per Household

Sewage Category	Capital	O&M/Year	NPV of 25 Years O&M Cost[a]	Life Cycle Cost [b]	Annual Life Cycle Cost [c]
Septic tank	50,000	1,000	10,675	60,675	2,427
LCS toilets	15,000	450	4,804	19,804	792

Note: a. O&M cost assumed as INR 1,000 every fifth year for septic tank and 3 percent of capital cost per year for LCS toilets.

b. Net Present Value (NPV) of 25 years annual O&M cost discounted at 8 percent.

c. Life cycle cost includes initial construction cost and NPV of 25 years O&M cost.

16. **Savings in earnings loss during sick days.** Based on the methodology discussed above, the estimated annual health related savings are INR 1,462 and INR 2,812 per household in project towns for slum and non-slum households respectively.

17. **Exclusions.** The following benefits of sewerage and sanitation have not been quantified for want of adequate data and difficulties in quantification:

- Public cost of treating diseases due to poor environmental sanitation
- Private and public costs of mosquito control

[18] Presently only about 28 percent households have a septic tank and another 12 percent with LCS toilets. Balance 60 percent households do not have waste disposal facilities. This is the assumption based on the interaction with the project beneficiaries. On the availability of sewer systems, (a) 40 percent of the houses who already have the facilities need to maintain them; (b) there is no need to construct new septic tank/LCS toilets for the existing 60 percent houses who presently do not have these facilities as they could connect directly to the new sewer system; (c) incremental population-based new houses during the analysis period (2016–2044) also need not construct new septic tank/LCS toilets; and (d) considering the life of septic tank/LCS toilets as 15 years, they need to be reconstructed.

- Avoided costs of on-site sewage/wastewater disposal by commercial, industrial, and institutional premises
- Effects on businesses and industries, such as aquaculture and fisheries, and washing
- Effects on tourism and tourist-related businesses

Economic Cost-Benefit Analysis

18. The analysis period of the project is taken as 30 years with the base year as 2015, construction during 2017–2019, start of operations in 2020, and end of analysis period as 2044.

19. **Cost-benefit analysis.** The summary results of the economic evaluation (including sensitivity analysis) are shown in table 5.8 for water supply subprojects and table 5.9 for sewerage subprojects.

Table 5.8. Summary of Economic Analysis for Water Supply Subprojects

		Burhanpur	Sewda	Khargone
Base Case	**EIRR %**	**15.33**	**9.40**	**16.20**
	BCR	**2.48**	**1.30**	**2.53**
Capital (+20%)	EIRR %	12.93	7.54	13.71
	SV %	87	−20	147
	BCR	2.16	1.12	2.23
O&M (+20%)	EIRR %	14.86	8.89	15.62
	SV %	290	−106	320
	BCR	2.35	1.26	2.38
Revenue (-20%)	EIRR %	11.92	6.57	12.57
	SV %	40	−21	50
	BCR	1.98	1.04	2.03
One-year delay	EIRR %	15.25	9.24	16.12
	BCR	2.48	0.87	2.53

Source: World Bank estimates. SV = Switching Value.

Table 5.9. Summary of Economic Analysis for Sewerage Subprojects

		Shajapur	Nasrullaganj	Mandsaur	Maheshwar	Chhindwara
Base Case	EIRR %	22.93	10.76	24.81	11.13	32.61
	BCR	2.38	1.65	2.86	1.64	2.86
Capital (+20%)	EIRR %	17.30	8.11	19.64	8.20	24.81
	SV %	91.24	21.04	130.73	21.68	137.69
	BCR	2.08	1.44	2.50	1.43	2.50
O&M (+20%)	EIRR %	22.15	10.00	24.18	10.31	31.92

	SV %	303.51	70.00	434.86	72.11	458.01
	BCR	2.26	1.57	2.72	1.56	2.72
Revenue (−20%)	EIRR %	15.42	6.76	17.97	6.73	22.52
	SV %	41.23	13.93	50.13	14.29	51.42
	BCR	1.90	1.32	2.29	1.32	2.29
One-year delay	EIRR %	22.91	10.66	24.80	11.06	32.61
	BCR	2.38	1.65	2.86	1.64	2.86

Source: World Bank estimates

20. **Conclusion.** The proposed subprojects in MP are economically viable, with the calculated EIRR exceeding the social discount rate of capital. Sensitivity analysis has demonstrated their economic viability under adverse scenarios.

21. Economic feasibility varied considerably among the project towns due to factors such as town population, share, and composition of project beneficiaries, project investment, existing sector scenario, and related issues. Of these, per capita investment is the major cause for the variation in results (see table 5.10).

Table 5.10. Details of Per Capita Investments and Economic Analysis Results

Name of ULB/subproject	Sector	Population 2016	Project Cost (INR, million)	Per capita investment (INR)	EIRR %
Sewda	Water	24,704	194.6	7,877.20	9.40
Burhanpur	Water	229,321	1,317.4	5,744.79	15.33
Khargone	Water	144,857	1,020.6	7,045.55	16.20
Subtotal		**398,882**	**2,533**	**6,349.24**	
Shajapur	Sewerage	74,416	729.8	9,807.09	22.93
Nasrullaganj	Sewerage	25,885	480.6	18,567.01	10.76
Mandsaur	Sewerage	229,321	1,467.3	6,398.46	24.81
Maheshwar	Sewerage	25,913	419.8	16,200.12	11.13
Chhindwara	Sewerage	224,727	1,803.7	8,026.17	32.61
Sub total		**580,262**	**4,901**	**8,446.53**	
Total		**979,144**	**7,434**	**7,592.14**	

22. **The EIRRs are considered conservative estimates because**

(a) The WTP for additional water supplied is based on the existing low tariff levels and

(b) The economic benefits of reduced pollution, a cleaner city, improved tourism, and improved waterway environment have not been quantified

23. Distributional analysis shows that the poverty impact ratio (the proportion of subprojects' net benefits accruing to the poor) is in the range of 25 percent to 57 percent for water supply subprojects and in the range of 24 percent to 26 percent for sewerage subprojects. As the present below-poverty-line urban population is 21 percent in MP and around 20 percent in the project towns, this program benefits the poor.

Financial Analysis

24. Financial projections were prepared for all eight ULBs to assess their overall financial capacity to provide urban services.

25. **Overall financial sustainability of ULBs.** Based on the past five-year financial statements of ULBs, financial operating plans have been prepared, considering the impact of proposed project on capital costs, additional O&M costs, and debt service. The main ratios are (a) the operating ratio, which should be more than 1 and (b) the DSCR, which should be more than 1.25. All eight ULBs meet these criteria.

26. **Project viability.** In all these ULBs, the sewerage scheme is not available, hence there is no tariff system in practice for sewerage schemes in these ULBs. However, in all ULBs, the water supply systems are functional and the water supply tariff structure is in place. Thus, for the purpose of analysis, it is assumed that the sewer tariff is equal to the prevailing water tariff in the respective ULBs. In MP, the flat tariff system is followed for water supply services, in which each connection has to pay fixed monthly charges irrespective of the quantum of water consumed. With this tariff structure, project cash flows have been prepared, including the financial internal rate of return and FNPV. The analysis shows that under the current tariff structure, five of the eight identified subprojects (sewerage subprojects in Mandsaur, Shajapur, and Chhindwara, and water supply subprojects in Khargone and Burhanpur) can fully recover O&M expenditures. The other three subprojects require tariff revisions to meet O&M expenditures.

27. **Weighted average cost of capital (WACC).** The weighted average cost of capital is shown in table 5.11: WACC for subprojects proposed in AMRUT cities is 2.70 percent and it is 6.30 percent for non-AMRUT cities.

Table 5.11. Weighted Average Cost of Capital (%)

Item	AMRUT Cities			Non AMRUT Cities		
	Grant from GoI	GoMP Share	Loan to ULB	Grant from GoI	GoMP Share	Loan to ULB
Amount weighting	50.00	20.00	30.00	0.00	30.00	70.00
Nominal cost	0.00	0.00	9.00	0.00	0.00	9.00
Tax rate	0.00	0.00	0.00	0.00	0.00	0.00
Tax-adjustable nominal cost	0.00	0.00	9.00	0.00	0.00	9.00
Weighted component of WACC	0.00	0.00	2.70	0.00	0.00	6.30
WACC	**2.70**			**6.30**		

28. **Proposed user charges.** The prevailing user charges are considered as base case (table 5.12) for analysis. In addition, two other scenarios were examined: (a) 100 percent O&M cost recovery; and (b) full cost recovery. The break-even tariffs in these cases are shown in table 5.13.

Table 5.12. User Charges in Eight ULBs

Projects	Tariff (INR per Month)		Deposit (INR)	
	Domestic	Non Domestic	Domestic	Non Domestic
Nasrullaganji Sewerage Scheme	40	75	1,500	2,000
Mandsaur Sewerage Scheme	90	135	1,500	2,000
Maheshwar Sewerage Scheme	70	80	1,500	2,000
Shajapur Sewerage Scheme	100	250	1,500	2,000
Chhindwara Sewerage Scheme	100	200	1,500	2,000
Sewda Water Supply Scheme	30	60	1,500	2,000
Khargone Water Supply Scheme	100	400	1,500	2,000
Burhanpur Water Supply Scheme	50	75	1,500	2,000

Table 5.13. Break-even User Charges in Eight ULBs

Projects	Break-even tariff O&M Coverage (INR per Month)		Break-even tariff Full Cost Recovery (INR per Month)	
	Domestic	Non Domestic	Domestic	Non Domestic
Nasrullaganji Sewerage Scheme	182	341	855	1,603
Mandsaur Sewerage Scheme	90	135	409	614
Maheshwar Sewerage Scheme	168	192	813	929
Shajapur Sewerage Scheme	100	250	441	1,103
Chhindwara Sewerage Scheme	100	200	460	767
Sewda Water Supply Scheme	40	80	220	440
Khargone Water Supply Scheme	100	400	137	548
Burhanpur Water Supply Scheme	50	75	104	156

29. **Affordability analysis.** In general, expenses toward municipal services are considered affordable if they represent less than 5 percent of the total household income. Table 5.14 shows that all ULBs fall within the affordability threshold for O&M recovery. However, in the case of full cost recovery, only four ULBs (Mandsaur, Sewda, Khargone, and Burhanpur) are within the affordability limit. To achieve full cost recovery in the other four ULBs, either the tariff has to be increased or services need to be subsidized either from the general revenues of the ULB or by state transfers.

Table 5. 14. Combined Charge as Percentage of HH Income

Projects	Annual Household Income[a]	Proposed User Charges		Breakeven - O&M Recovery		Breakeven - Full Cost Recovery	
	INR/Household /Year	INR/Connection/Year	% of Household Income	INR/Connection/Year	% of Household Income	INR/Connection/Year	% of Household Income
Nasrullaganji Sewerage	199,836	960	0.48	4,368	2.19	20,520	10.27
Mandsaur Sewerage	199,836	2,160	1.08	2,160	1.08	9,816	4.91
Maheshwar Sewerage	199,836	1,680	0.84	4,032	2.02	19,512	9.76
Shajapur Sewerage	199,836	2,400	1.20	2,400	1.20	10,584	5.30
Chhindwara Sewerage	199,836	2,400	1.20	2,400	1.20	11,040	5.52

Sewda Water Supply	199,836	720	0.36	960	0.48	5,280	2.64
Khargone Water Supply	199,836	2,400	1.20	2,400	1.20	3,288	1.65
Burhanpur WSS	199,836	1,200	0.60	1,200	0.60	2,496	1.25

Note: a Socio-Economic Survey in Project Towns in Madhya Pradesh, 2015, ADB TA-8816 IND: Madhya Pradesh Urban Services Improvement Program, 2015–2016.

30. **Financial performance of eight ULBs.** An analysis of the financial performance of the eight ULBs during the last five fiscal years shows the following:

(a) Own-source revenues vary among ULBs (from 7 percent in Nasrullaganj to 55 percent in Shajapur), but overall there is a dependency on state financing.

(b) Except Shajapur, no ULB can fully cover expenses from own-source revenues. The coverage of expenses from own sources varies from 13 percent in Nasrullaganj to 136 percent in Shajapur.

(c) Except in Nasrullaganj, growth in income is in line with (or more than) the growth of expenses in past years. This is a positive sign, provided the ULB meets all its expenses.

(d) The rate of growth of own-source revenues is less than the growth of external sources. In Sewda, own-source revenues have declined over the period.

31. The results of the analysis show that all ULBs can implement and maintain the subprojects (see tables 5.15 and 5.16). Key assumptions for the analysis include the following:

- Cash flow forecasts over a 20-year period from FY2017–FY2036;
- Household size of the ULBs, based on the census 2011 data;
- Implementation period is three years starting from FY2017;
- In case of sewerage schemes, 2 percent of the project cost is considered as O&M expenses, and in water supply projects, 1 percent. This water supply O&M cost considered is over and above the existing O&M expenses incurred by the local bodies;
- In MP, flat rate tariff system for water supply services is followed. However, each local bodies can fix their tariff after obtaining necessary approvals. Thus the same water tariff structure is used for the proposed projects;
- As there are no sewerage schemes in these ULBs, it is assumed that the sewerage tariff is equal to the flat rate water tariff prevailing in the respective ULBs;
- Sources of funds: 50 percent GoI, 20 percent state share and 30 percent as loans from at 9 percent per year, for Khargone and Burhanpur Water Supply Scheme as

these are to be co-financed with the AMRUT program. For other projects, the state share is 30 percent and loan is 70 percent from FIs at 9 percent per year;

- Growth rate for ULB financials are fixed based on the historical trend of each category with a minimum of 5 percent and maximum of 20 percent cap;
- Upon implementation of the scheme, it is assumed that about 95 percent of households will have private water supply connections in a span of two years, and 90 percent will have sewer connections in a span of five years;
- User charges will increase by 15 percent once in three years; and
- Tariff collection efficiency will reach 90 percent over a period of three years after implementation of the projects.

Table 5.15. ULB Revenue Account (INR, millions)

	FY2016	FY2021	FY2026	FY2031	FY2036
Nasrullaganji - Sewerage Project					
Total Revenue Income	52.9	84.1	137.1	248.8	505.1
Total Expenses	27.3	83.2	108.5	156.2	249.7
Operating Surplus/Deficit	**25.7**	**1.0**	**28.6**	**92.5**	**255.4**
Mandsaur - Sewerage Project					
Total Revenue Income	733.2	1,570.4	3,648.9	9,559.4	27,832.4
Total Expenses	339.0	801.7	1,569.3	3,454.6	8,329.4
Operating Surplus/Deficit	**394.2**	**768.7**	**2,079.7**	**6,104.9**	**19,503.0**
Maheshwar - Sewerage Project					
Total Revenue Income	92.5	205.5	498.5	1,373.3	4,214.6
Total Expenses	38.2	106.6	192.2	451.0	1,303.5
Operating Surplus/Deficit	**54.4**	**98.9**	**306.3**	**922.3**	**2,911.1**
Shajapur - Sewerage Project					
Total Revenue Income	192.8	387.0	829.1	1,991.3	5,240.6
Total Expenses	87.0	217.3	359.8	686.3	1,477.1
Operating Surplus after interest payment	**105.8**	**169.7**	**469.3**	**1,305.0**	**3,763.5**
Chhindwara - Sewerage Project					
Total Revenue Income	451.0	1,053.4	2,577.3	6,921.9	20,535.2
Total Expenses	216.2	581.2	1,058.2	2,224.7	5,217.0
Operating Surplus/Deficit	**234.9**	**472.2**	**1,519.1**	**4,697.2**	**15,318.2**
Sewda - Water Supply Project					
Total Revenue Income	47.8	78.3	123.9	214.9	393.6
Total Expenses	14.8	33.3	38.0	44.8	55.4
Operating Surplus/Deficit	**33.0**	**45.0**	**85.9**	**170.1**	**338.3**
Khargone - Water Supply Project					
Total Revenue Income	387.9	764.4	1,593.2	3,911.1	10,886.3
Total Expenses	142.6	325.7	672.9	1,588.8	4,160.3
Operating Surplus/Deficit	**245.3**	**438.8**	**920.3**	**2,322.3**	**6,726.1**
Burhanpur - Water Supply Project					
Total Revenue Income	381.6	845.0	1,972.5	5,269.9	15,549.9

	FY2016	FY2021	FY2026	FY2031	FY2036
Total Expenses	351.6	813.2	1,869.7	4,838.5	13,745.6
Operating Surplus after interest payment	**30.0**	**31.8**	**102.8**	**431.4**	**1,804.3**

Source: Own analysis.

Table 5.16. Financial Indicators of ULB

Projects	Actuals FY2011 to FY2015	Projected FY2017 to FY2036	
	Average TE/TR	Average TE/TR	Average DSCR
Criteria	<1	<1	>1.25
Nasrullaganji Sewerage Scheme	0.50	0.66	2.32
Mandsaur Sewerage Scheme	0.50	0.35	42.65
Maheshwar Sewerage Scheme	0.36	0.34	22.46
Shajapur Sewerage Scheme	0.52	0.32	26.75
Chhindwara Sewerage Scheme	0.40	0.35	18.01
Sewda Water Supply Scheme	0.38	0.24	8.83
Khargone Water Supply Scheme	0.45	0.40	54.22
Burhanpur Water Supply Scheme	0.45	0.40	54.22

Source: Own analysis.

32. **Conclusion.** The present tariff is sufficient to fully recover O&M costs of five proposed subprojects (Mandsaur Sewerage Scheme, Shajapur Sewerage Scheme, Chhindwara Sewerage Scheme, Khargone Water Supply Scheme, and Burhanpur Sewerage Scheme). The other towns require tariff revision for full O&M cost recovery. The current tariffs are not sufficient for full cost recovery in any of the subprojects; an upward tariff revision will be required. However, all ULBs can bear the additional burden of the project from their general finances, that is, the deficit from their subprojects can be covered by the general finances of the ULBs.