

SECTOR ASSESSMENT (SUMMARY): WATER AND OTHER URBAN INFRASTRUCTURE AND SERVICES

Sector Road Map

1. Sector Performance, Problems, and Opportunities

1. **Performance.** Urban centers have driven services- and manufacturing-led economic growth in India, placing cities at the forefront of its economic transformation.¹ According to recent estimates, the urban sector contributes around 63% of the country's gross domestic product (FY2009); this projected to increase to 75% by 2021.² Urbanization in India is estimated to grow from 31% (2011) to 43% by 2031.³ Rajasthan, with a population of 68.6 million and an area of 342,239 square kilometers, is the country's largest state. Currently about 25% of the population is urban; urbanization is occurring at a rate of 2.9% per annum.

2. **Contribution to growth.** Rajasthan's gross state domestic product (GSDP), at current prices, increased at a compound annual growth rate of 17.9% from FY2004 to FY2012 with agriculture, mining, and allied industries dominating the economy.⁴ The tertiary sector, including the important sector of tourism, contributes only about 44% of GSDP (54% for India), while manufacturing and agriculture contribute the rest almost equally. The urban sector contributes around 48% of GSDP; this is likely to increase to more than 60% by 2030.⁵

3. **Increased investment needed to upgrade urban infrastructure.** Urban sector growth has preceded the development of infrastructure. Water supply, waste collection and treatment, sanitation, the road network, integrated public transport and mass-transit facilities, and housing are increasingly inadequate to respond to population pressures and economic demands. Water supply is characterized by low coverage (around 70%), intermittent supply, and poor standards and quality; 13% of urban households do not have access to latrines, 94% of all cities and towns do not have sewers, and 80% of all sewage generated is discharged untreated. About 30% of solid waste generated is not collected (up to 50% in smaller towns) and/or not disposed of properly. Urban roads and transport systems are overstretched, resulting in traffic congestion and adversely impacting urban efficiency.⁶ The housing shortage in India is acute and estimated at 18.78 million housing units. This is expected to increase due to rapid urbanization and population growth, among other factors. Poor infrastructure is also contributing to widespread pollution, environmental and health problems, and cities' loss of competitiveness. Infrastructure deficiencies are estimated to have a larger impact on the poor, who represent nearly 25% of the urban population. India will have to provide improved urban infrastructure if its cities and towns are to support faster, inclusive, and sustainable economic growth, and increased migration from rural areas. A 2010 study estimates urban infrastructure investment needs of \$1.2 trillion by 2030 (or \$134 per capita per year).⁷ The High Powered Expert Committee, Government of India

¹ Government of India, High Powered Expert Committee. 2011. *Report on Indian Urban Infrastructure and Services*. Delhi.

² Government of India, National Planning Commission. 2007. *Report of the Steering Committee on Urbanization, Eleventh Five Year Plan (2007–2012)*. New Delhi.

³ Government of India, National Planning Commission. 2012. *Report of the Steering Committee on Urbanization, Twelfth Five Year Plan (2012–2017)*. New Delhi.

⁴ India Brand Equity Foundation. <http://www.ibef.org/download/Rajasthan-March-2014.pdf>.

⁵ McKinsey Global Institute. 2010. *India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth*. New Delhi.

⁶ Public transport in India accounts for only 22% of the modal share.

⁷ McKinsey Global Institute. 2010. *India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth*. New Delhi.

(footnote 1) has also estimated investment need of \$130 per capita per year up to 2030. Using these projections, investment needs in the urban sector in Rajasthan are estimated to be about \$2,200 million per year. The allocation for water supply, sanitation, and urban development in the Twelfth Five Year Plan (FYP), 2012-2017 in the state is Rs. 210,301 million (Rs. 156,368 million for urban development and Rs. 53,933 million for urban water supply) or \$3,505 million, equivalent to about \$700 million per year.⁸ Moreover, the state is seriously constrained by the lack of adequate water resources. It also has high nonrevenue water, primarily due to limited investments in networks, poor maintenance, and low tariffs. As per a Rajasthan government study, capital investment of \$4,483 million is required in urban water supply alone over the next 15 years (up to 2030) for rehabilitation and augmentation of various water schemes in the state: phase 1 (2015–2020): \$1,496 million; phase 2 (2021–2025): \$1,732 million; and phase 3 (2026–2030): \$1,255 million.⁹

4. **Sector organization.** The important state departments in the urban sector are (i) the Urban Development and Housing Department responsible for housing, urban planning and development, and overall control over urban local bodies (ULBs); (ii) the Local Self Government Department responsible for administrative control over municipal bodies; and (iii) the Public Health Engineering Department responsible for the provision of water supply to urban and rural areas. These state departments also manage national programs: (i) the Jawaharlal Nehru National Urban Reform Mission (JnNURM) and (ii) the Urban Infrastructure Development Scheme for Small and Medium Towns. The Rajasthan Urban Infrastructure Development Project was created to implement projects financed by the Asian Development Bank (ADB).

5. **Urban governance.** In Rajasthan, ULBs continue to provide core municipal services as obligated under the Rajasthan Municipal Act of 2009. Implementation of larger projects is through project level agencies such as the Rajasthan Urban Infrastructure Development Project or a state intermediary such as the Rajasthan Urban Infrastructure Finance and Development Corporation. The Public Health Engineering Department is responsible for water supply, although initiatives are under way to transfer water supply to municipal bodies. The institutional framework of urban governance has several weaknesses, including (i) incomplete devolution of functions to ULBs, (ii) fragmented lines of authority between various state agencies and ULBs, and (iii) weak capacity in urban planning and service provision. An effective and unified administrative framework needs to be developed for urban areas with clear accountability to the people. Responsibilities of state agencies, regional planning authorities, and ULBs need to be clarified; and equal emphasis used when addressing gender equality in urban governance.

6. **Financing urban infrastructure and services.** Urban infrastructure funding and asset sustainability is challenged by poor cost recovery mechanisms and the reluctance of the state government and ULBs to levy user charges. Other key sources of revenue such as property taxation, publicly owned assets (such as land), and licenses remain underutilized. ULBs often have limited financial administrative capacity, and are unable to use and mobilize their own resources efficiently. Government transfers need to increasingly catalyze private sector investment and leverage alternative financing. To promote this, reforms are needed to (i) establish a policy environment that fosters private sector participation via public–private partnerships, with appropriate regulation performance standards and concern for equity; and (ii) launch innovative methods and instruments of financing. The current property tax in the state

⁸ <http://www.planning.rajasthan.gov.in/Twffyp1anc.htm>

⁹ Government of Rajasthan. 2013. *Benchmarking of Urban Water Supply Schemes of Rajasthan by SMEC International*. Jaipur.

(the urban development tax) is limited to properties larger than 300 square meters; it needs to be made applicable to all properties.

2. Government's Sector Strategy

7. The national government's 11th FYP, 2007–2012 aimed to address infrastructure and governance challenges through the JnNURM. A second phase of the JnNURM, incorporating lessons from the first phase, is expected within the framework of the 12th FYP (2012–2017), potentially expanded and recognizing differences between cities.¹⁰ The government's strategy for the 12th FYP focuses on strengthening the five enablers for urbanization—governance, planning, financing, capacity building, and innovation. The thrust of the government's urban management strategy as part of the 12th FYP is on inclusivity through regulations to manage density and access to land, and enhance governance through devolution of powers; devolution of finances including leveraging of land-based revenues, and property-based taxes and user charges; private participation in service delivery; enhanced planning; and strengthening of local capacity to plan and manage development. The water sector strategy of the 12th FYP includes goals to improve demand management, reduce water supply and sewage treatment gaps, and enhance system efficiencies through loss reduction and improved tariffs. The 12th FYP and India's 2013 water policy call for a paradigm shift in the management of water resources. The Rajasthan government constituted the State Commission on Urbanization to define priority sector actions, basic planning guidelines, and suitable projections of future needs. A major initiative is the Municipal Act of 2009, an act based on the model municipal law.

8. **Opportunities.** The state is expected to reach an urbanization rate of 29.6% by 2026.¹¹ Growth is expected to be rapid in the coming decade, especially given recent trends of emergence of secondary centers and growth of clusters and corridors in the region. Besides high growth in the National Capital Region areas of the state, the Delhi Mumbai Industrial Corridor will have a major impact on urban growth, as 58% of the length of the dedicated freight corridor will pass through the state. Similarly, corporatized structures of water and wastewater utilities with required autonomy will enable better service delivery and accountability.

3. ADB Sector Experience and Assistance Program

9. **Sector experience in India.** ADB's urban sector portfolio comprises 19 projects under implementation. These include six project loans (regular and additional financing) and 15 tranche loans (under nine multitranches financing facilities).¹² ADB interventions have strategically supported (i) provision of integrated municipal infrastructure (water, sanitation, solid waste management, traffic management, and mass-transit corridors) promoting environmental sustainability and inclusiveness through targeted poverty reduction and gender mainstreaming components; (ii) governance and municipal reforms; (iii) development of institutions and processes for innovative and sustainable urban infrastructure financing; and (iv) capacity building of ULBs for improved project implementation, service delivery, and utility management. ADB's engagement has fostered regional approaches to improve connectivity and develop tourism infrastructure, develop state urban infrastructure financial intermediaries, and initiate steps to enable and promote public–private partnerships.

¹⁰ The JnNURM has been successful in more progressive states, where governance reforms have been implemented, helping ULBs take up projects at an unprecedented scale. The JnNURM has however generally exposed the lack of local government capacity to prepare and implement projects in urban infrastructure.

¹¹ As per the estimates of the report of the technical group on population projections constituted by the National Commission on Population (May 2006), Registrar General Census.

¹² It is also projected that six multitranches financing facilities and 20 new loans will be approved from 2012 to 2015.

10. **Sector Experience in Rajasthan.** The Rajasthan government has successfully implemented two multisector urban investment projects since 1998, covering 6 major cities under the first project and 15 secondary cities under the second project.¹³ The Rajasthan Urban Infrastructure Development Project, covering the six divisional headquarter cities, i.e., Ajmer, Bikaner, Jaipur, Jodhpur, Kota, and Udaipur with about 7.7 million population (2011), is complete and rated successful. The Rajasthan Urban Sector Development Investment Program, with \$273 million in financing, is currently under implementation. Important lessons from these projects are (i) consultations with participating cities on cost-recovery, tariffs, and user charges, in addition to consultations related to project formulation and design, are critical for project sustainability; (ii) advance action on the recruitment of project consultants and procurement can help avoid delays; (iii) information, education, and communication aimed at changing the behavior of urban residents are necessary to achieve design results; (iv) small investments can have large impacts and make a big difference to people's lives; (v) including house service connections and door-to-door solid waste collection in the project scope ensures that the assets created will be used effectively; (vi) achieving critical mass in the staffing of the project management and implementing units, and retaining key staff members for the duration of the project are important factors in smooth implementation; (vii) timely induction of counterpart staff and building up their capacity is critical to a successful handover of assets to ULBs and line agencies; and (viii) the capacity developed during project implementation must be institutionalized to improve coverage and service delivery in the state.

4. Road Map

11. **ADB's new urban sector strategy.** Building on experience and recognizing India's and ADB's strategic priorities, the new urban strategy will promote innovation and value addition through (i) integrated and strategic regional and metropolitan planning, leveraging economic advantage (competitiveness), while addressing environment (green) and equity (inclusiveness, including gender) challenges; (ii) well-organized provision of urban infrastructure and services through a framework that (a) defines appropriate medium- and long-term roles for the public and private sectors, (b) leverages additional finances, and (c) encourages technical advancement; (iii) new municipal financing modalities; (iv) strengthening of governance and reforms for service delivery; and (v) institutional capacity to support the previous items. ADB will also support institutional reforms and organizational developments to improve interagency coordination, transport policy, and planning and management integration.

5. Proposed Sector Modality

12. One of the important lessons identified by the state government, also reiterated in the review of ADB's country partnership strategy, 2009–2012 for India, is that investments must be coupled with sustainable and vibrant institutions, and effective governance systems, to sustain and maximize their impacts. Accordingly, the state government has committed to developing a long-term urban development policy to stimulate investments in urban infrastructure, address institutional deficiencies, and target major reforms in urban governance.

¹³ ADB. 1998. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to India for the Rajasthan Urban Infrastructure Development Project*. Manila; ADB. 2007. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranchise Financing Facility to India for the Rajasthan Urban Sector Development Investment Program*. Manila. The two investments focused on the urban sector with several subsectors, such as water supply, wastewater, urban transport, drainage, solid waste management, fire fighting, and heritage.

Sector Results Framework (Water and Other Urban Infrastructure and Services, 2013–2017)

Country Sector Outcomes		Country Sector Outputs		ADB Sector Operations	
Outcomes with ADB Contribution	Indicators with Targets and Baselines	Outputs with ADB Contribution	Indicators with Incremental Targets	Planned and Ongoing ADB Interventions	Main Outputs Expected from ADB Interventions
More people have access to an improved supply of drinking water and sanitation services	<p>100% of urban households have access to safe drinking water (tap, hand pump, or tubewell) by 2017 (2011 baseline: 91.4%)</p> <p>100% of urban households have a latrine facility within their premises by 2017 (2011 baseline: 81.4%)</p> <p>100% of urban households have minimum access to solid waste collection by 2017 (2011 baseline: 72%)</p>	Water and other urban infrastructure and services expanded, improved, and well managed	<p>Piped water supply infrastructure extended to all households (including poor and vulnerable) for all cities by 2017 (2011 baseline: 70%)</p> <p>Wastewater collection and treatment infrastructure extended to all urban households by 2017 (2011 baseline: 25%)</p> <p>Solid waste collection and treatment service extended for all cities by 2017 (2011 baseline: 20%)</p>	<p>Planned key activity areas Drinking water system (52% of funds) Sewerage and sanitation systems (43% of funds) Waste management (5% of funds)</p> <p>Pipeline projects 14 projects amounting to \$1,125 million for 2013–2015 (including 10 projects categorized as EGM)</p> <p>Ongoing projects 23 ongoing loans totaling \$2,004 million as of 31 December 2012 (including 15 projects categorized as EGM)</p>	<p>Planned key activity areas 900 km of distribution, 215,000 metered connections in Delhi on PPP basis Strengthened urban economic planning, management, and economic infrastructure in Bangalore Metropolitan Region</p> <p>Pipeline projects 540 km of water supply pipes installed or upgraded; 512 km of sewerage and drainage network constructed; 165 MLD water treated; 63 MLD wastewater treated; 0.13 million households with improved water supply; 0.15 million households with improved sewerage</p> <p>Increased gender equity in water supply, sanitation, and other municipal services with greater representation of women in decision-making processes, structures, and training</p> <p>Ongoing projects 6,780 km of water supply pipes installed or upgraded; 4,150 km of sewerage and drainage network constructed; 1,336 MLD water treated; 1,116 MLD wastewater treated; 18 sanitary landfills (1,363 t/d) developed or improved; 1.25 million households with improved water supply; 1 million households with improved sewerage</p>

ADB = Asian Development Bank, EGM = effective gender mainstreaming, km = kilometer, MLD = million liters per day, t/d = ton per day, PPP = public–private partnership.
Sources: Government of India, Planning Commission. 2011. *Report of the Steering Committee on Urbanization, Twelfth Five Year Plan (2012–2017)*. New Delhi; Government of India, Planning Commission. 2011. *Faster, Sustainable and More Inclusive Growth: An Approach to the Twelfth Five Year Plan*. New Delhi; Government of India, High Powered Expert Committee. 2011. *Report on Indian Urban Infrastructure and Services*. New Delhi; and S. Sankhe et al. 2010. *India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth*. Seoul.

PROBLEM TREE

