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

A. Sector Performance, Problems, and Opportunities

1. During 2004–2010, urban residents living in Dili and Timor-Leste’s 12 other towns, as a share of total population, increased from 26.1% to 29.5%, representing an annual average growth rate of 4.2%, as compared to the national population growth rate of 2.4% over the same period.\(^1\) Dili, the capital city and main urban center, had a population of 192,652 in 2010, accounting for 62.1% of the country’s urban population.

2. Dili and other urban centers around the country have grown in a largely uncontrolled manner. No urban plan for Dili has yet been approved, resulting in a lack of urban planning systems. Recent investments in roads, drainage, and water supply in Dili have not been coordinated, resulting in poorly integrated and inefficient urban investments. Until the 1970s, Dili encompassed a small area of around 3 square kilometers covering the central areas of Caicoli, Vila Verde, Farol, Bidau, Lecidere, and Santa Cruz. Dili city has expanded to cover a narrow strip of flat land of around 12 kilometers along the coastline, bounded by the ocean to the north and mountains to the south. The bulk of informal settlement growth is taking place to the city’s west in Comoro.

3. In 2003, the government embarked on program of decentralization to create a municipal-level government in each district. In January 2014, as part of a phased approach to decentralization, the government passed Decree Law No. 4/2014, which establishes an implementation structure and procedures for “pre-decentralization” as the first step towards building the necessary capacity for effective local administration.\(^2\) Services initially targeted for decentralization include water supply, sanitation, and basic health services. Municipal installation committees are being established to help prepare for the process.

4. Timor-Leste has achieved its targets for the Millennium Development Goal indicators relating to urban water supply and urban sanitation.\(^3\) The proportion of the urban population with access to improved drinking water sources increased from 67.4% in 2001 to 91.1% in 2010, while the proportion of the urban population with access to improved sanitation increased from 68.5% to 80.9% over the same period.\(^4\) However, in 2010, among those with access to improved water sources, only around 47% of urban residents could access a private piped connection.\(^5\)

5. Rapid urbanization, dilapidated infrastructure, inadequate operation and maintenance, pilferage, and not charging for water have all contributed to the poor quality of urban water supply services. Most piped water supplies are intermittent and do not meet national drinking water quality standards. For example, in Dili, customers receive an average of 6 hours of water supply daily. Limited access to clean drinking water, and poor sanitation and hygiene have contributed to the high incidence of water-borne disease in Timor-Leste. Diarrheal disease is a

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\(^5\) The World Health Organization and UNICEF Joint Monitoring Programme for Water Supply and Sanitation definition for improved sources is used, which classifies these as protected wells, protected springs, tube wells, or boreholes.
leading cause of infant mortality, resulting in an estimated 44 deaths per 1,000 live births in 2009.\textsuperscript{6}

6. The Ministry of Public Works, Transport and Communications, through the National Directorate of Water Services (DNSA) and National Directorate for Basic Sanitation Services (DNSB), is responsible for (i) developing sector policies and strategies, (ii) supervising and monitoring service levels, and (iii) providing water supply and sanitation services in Dili and the 12 other district towns. Responsibility for solid waste management is shared between the DNSB and the district administrations under the Ministry of State Administration. In some urban centers, including Dili, district administrations have contracted private sector operators to collect solid waste.

7. The lack of institutional separation between core sector responsibilities and the resulting system of self-regulation have contributed to the poor quality of urban services. There is limited strategic planning to achieve the government’s sector targets, or performance monitoring and reporting on current service levels. The DNSA and DNSB have limited autonomy in decision making other than for basic operational matters, and they exhibit little accountability to service users. All budgeting, infrastructure development, and procurement decisions require the prior approval from the Ministry of Public Works, Transport and Communications’ Directorate of Corporate Services, and branches of the Ministry of Planning and Strategic Investment such as the Major Projects Secretariat, the National Development Agency, and the National Procurement Commission. The Ministry of State Administration controls all staffing decisions.

8. Decree Law No. 4/2014 established charges for water supply services (para. 3).\textsuperscript{7} However, in 2006, all tariff collection was halted following the political crisis and associated civil unrest. Tariffs have been reintroduced selectively since August 2013 for the small number of households receiving a 24-hour water supply in Dili. The DNSA receives all of its funding for recurrent expenses through annual appropriations. In 2014, $1.9 million was allocated to the DNSA to cover recurrent costs, including around $700,000 for operation and maintenance-related expenses, while the DNSB was allocated $138,000. Tariff revenues, averaging around $10,000 per month in 2013, are paid directly into the government’s general fund since the DNSA is not designated as a revenue retention agency. No charges are levied on the collection or disposal of solid waste.

9. The DNSA has local water supply offices in each of the country’s district towns. The quality of service delivery in district towns is constrained by (i) limited interaction between DNSA staff in Dili and staff in its local water supply offices; (ii) long delays in processing of requests from its local water supply offices, such as procurement of spare parts; (iii) uniform budget allocations that are not defined on the basis of actual operation and maintenance requirements, resulting in inadequate funding; and (iv) limited accountability of DNSA decision makers in Dili to customers in the district towns.

B. Government’s Sector Strategy

10. Timor-Leste’s Strategic Development Plan, 2011–2030 (SDP) sets out an overarching vision to guide long-term national development planning.\textsuperscript{8} The SDP commits to providing

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universal access to clean water and improved sanitation by 2030. National access targets for 2020 are 87% for water supply and 76% for sanitation services. In order to identify and prioritize investments needed to achieve these sector goals, the SDP commits to the development of master plans in each district center, with priority given to Baucau, Manatuto, Lospalos, and Suai.

11. The government’s current program during 2015–2017 outlines specific public investments to be undertaken to achieve SDP sector targets. Investments include the development of new water sources from bores and rivers; construction of new water treatment facilities to help piped water meet national drinking water quality standards; improvement of supply through leak repairs, and replacement of faulty pipes, valves, and meters; expansion of the distribution network; and installation of new service connections to increase access to water supply services. However, actual budget allocations are substantially less than what is needed to finance identified investments. During 2014–2017, around $55.5 million has been allocated for water supply capital investments from the country’s Infrastructure Fund. It is estimated that investment requirements for Dili alone are $75–$110 million.

12. To improve the quality of urban water supply services, the government is investigating the feasibility of introducing private sector participation into the water sector through public–private partnership (PPP) arrangements initially in Dili but expanding to other district towns over time. A low-risk PPP contract is likely to be most suitable given the current state of the sector, which is marked by the following shortcomings: (i) limited information on the actual condition of water supply networks and associated investment requirements, (ii) lack of financial sustainability due to limited collection of tariff revenues, (iii) weak sector regulatory framework, and (iv) limited experience with PPPs in Timor-Leste. A simple, low-risk PPP contract would offer the technical and managerial expertise needed to deliver water supply services more efficiently and effectively. The most viable PPP options are likely to be a management, lease, or hybrid management lease contract, under which only limited risk is transferred to the private sector. To achieve improvements in water supply services, private sector participation will need to be accompanied by a substantial increase in public investment to improve the asset base.

C. Asian Development Bank Sector Experience and Assistance Program

13. The Asian Development Bank (ADB) has been engaged in supporting improvements to Timor-Leste’s urban water supply and sanitation services since 2000. Initial support, provided in the form of two emergency grants of $4.5 million each approved in 2000 and 2003, focused on emergency rehabilitation of destroyed water supply and sanitation infrastructure. The Dili Urban Water Supply Sector Project (comprising a $6 million Asian Development Fund grant approved in December 2007) provided support for the upgrading of tertiary distribution networks using a zonal approach to provide 18,000 people in targeted areas of Dili with safe and reliable water supply services. The ongoing District Capitals Water Supply Project (comprising an $11 million Asian Development Fund grant approved in September 2011) is supporting the rehabilitation of water supply systems, including source intakes, transmission mains, treatment systems, storage reservoirs, and distribution networks, in Manatuto and Pante Macasar district towns to provide

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11 ADB. 2007. Report and Recommendation of the President to the Board of Directors: Proposed Grant to the Democratic Republic of Timor Leste for the Dili Urban Water Supply Sector Project. Manila (Grant 100-TIM(SF) approved on 18 December 2007).
reliable 24-hour water supplies.\textsuperscript{12} ADB is helping to prepare a follow-on investment project in Dili to expand access to improved water supply services and support improvements in the solid waste management system to complement ongoing drainage and sewerage works.

14. ADB’s non-lending support to the sector has included five technical assistance projects amounting to nearly $4.3 million to promote improved water resources management; water supply, solid waste, and sanitation investment planning; and the design and implementation of institutional reforms. ADB’s Pacific Private Sector Development Initiative is providing ongoing advisory support on PPP arrangements to improve water services delivery in Dili.\textsuperscript{13}

15. ADB will scale up its lending assistance during the period covered by this country partnership strategy (i.e., 2016–2020) if the government makes a demonstrated commitment to implementing sector reforms, such as through making institutional reforms to separate policy-making, regulatory, and service delivery functions; improving cost recovery in the delivery of services; and introducing private sector participation into the sector. ADB support will include investments in integrated and inclusive urban infrastructure in Dili and district centers. It is envisioned that ADB-financed investments will support priority investments identified in investment plans prepared by private sector operators needed to achieve necessary service improvements. Sovereign ADB-financed investments may also be implemented by private sector operators on behalf of the government to overcome public sector capacity constraints.

16. Non-lending support will include strengthening sector policy and regulation, and building public sector capacity to manage PPP contracts. ADB support will emphasize the following principles: (i) financial and managerial autonomy of service providers to promote more accountable and sustainable urban service operations; (ii) strengthened technical and economic regulation to improve sector performance; (iii) inclusive urban development to promote equitable access to urban services, particularly among low-income groups and women; and (iv) integrated urban planning to better coordinate and manage urban growth. ADB-supported activities will consider natural hazard and climate change risks and will include appropriate adaptation measures in the design of investments. Since Timor-Leste is classified as a fragile state, assistance will include elements to promote extensive community involvement, strong ownership from government agencies, and flexibility to accommodate implementation adjustments when necessary.

17. Lessons from ADB’s previous and ongoing assistance to the sector highlight the difficulty in implementing the institutional changes needed to introduce more autonomous, commercially oriented service providers in the absence of strong reform champions within line agencies. Greater engagement with central agencies and the public will be critical in building support for more accountable, effective, and efficient service arrangements, including greater private sector participation. Past experience in the sector points to the need to place greater emphasis on operation and maintenance to help sustain urban infrastructure investments. ADB-supported sector investment projects have experienced lengthy implementation delays, demonstrating a need to improve the government’s capacity to oversee, manage, and coordinate public investment projects, particularly through enhanced organizational and reporting arrangements within responsible line agencies.

\textsuperscript{12} ADB. 2011. Report and Recommendation of the President to the Board of Directors: Proposed Grant to the Democratic Republic of Timor Leste for the District Capitals Water Supply Project. Manila (Grant 258-TIM(SF) approved on 23 September 2011).

\textsuperscript{13} ADB. 2009. Technical Assistance for Pacific Private Sector Development Initiative Phase II. Manila (TA 7430-REG).
Problem Tree for Water Supply and Other Municipal Infrastructure and Services

**National and sector impacts**
- Low levels of social and economic development
  - Low labor productivity due to poor health
  - Low Disposable income due to health care expenses
  - High incidence of disease

**Core Issues**
- Poor Urban Environmental Health Conditions

** Causes**
- Lack of access to clean drinking water supplies
  - Vulnerability to drought
- Inadequate treatment of solid and liquid waste
- Water supply, sewerage and solid waste infrastructure is dilapidated
- No accountability to customers
- Lack of autonomy in decision-making
- Limited operation and maintenance
- Illegal water supply connections
- Limited tariff collection
- Low management and operations capacity
- No accountability to customers
- Lack of enforcement of regulations
- Limited awareness of water, sanitation, and hygiene issues
- Poor housing and overcrowding
- Limited infrastructure investment
- Inadequate funding
- Budget allocation not sufficient
- Limited tariff collection
- Low levels of engagement with communities