SECTOR ASSESSMENT (SUMMARY): WATER AND OTHER URBAN INFRASTRUCTURE AND SERVICES[1]

Sector Road Map

1. Sector Performance, Problems, and Opportunities

1. **Urbanization.** Viet Nam is one of the fastest urbanizing countries in Southeast Asia. Of the current population of 86 million, the urban population is 30% and this is expected to rise to 37% (35 million) by 2020. Most urban growth is in the metropolises of Ha Noi and Ho Chi Minh City, followed by Hai Phong, Da Nang, and Can Tho. The next tier of secondary cities is experiencing slower growth because they have fewer attractive employment and income opportunities. As a result, big urban centers receiving large migration inflows are becoming more congested and experiencing serious social and environmental problems.

2. **Climate change.** According to the Intergovernmental Panel on Climate Change, in Viet Nam, the average sea level has risen by 20 centimeters (cm) and the average temperature has increased by 0.5°–0.7° Celsius since 1960s. Flooding is impacted by sea-level rise, which delays the discharge from the drainage system in estuarine areas. During 2001–2010, natural disasters such as floods, landslides, and water salinity have damaged about 1.5% of annual gross domestic product (GDP). With the increased sea levels and potential changes in storm intensity, this situation is likely to become both more uncertain and most likely exacerbated. According to climate change scenarios, in the late 21st century, Viet Nam's yearly mean temperature will go up by 2°–3° Celsius and the sea level will rise 75–100 cm compared to the 1980–1999 period. It is estimated that 10%–12% of Viet Nam's population will be directly affected and the country will lose around 10% of its GDP.

3. **Urban infrastructure and services.** Viet Nam's urban areas are centers of economic growth, generating 70% of GDP. Infrastructure has significantly improved since the early 2000s, enabled by this growth. The water service coverage rate is 73% on average and ranges from 75% to 90% in the major cities. Average water consumption is 90 liters per capita day (lpcd), varying from 110–130 lpcd in large cities to 70–80 lpcd in small towns. Surface water accounts for 70% of the total water sources, with the remaining 30% coming from groundwater sources. Sixty eight water supply companies serve clean water to the urban areas. There are more than 420 water supply systems and the total design capacity of the water supply is 5.9 million cubic meters per day.[2] However, the operational capacity of the water supply is 4.5 million cubic meters day, equivalent to 77% of the design capacity. The rate of nonrevenue water has been reduced considerably from 40% on average in 2000 to 30% on average in 2009, but remains high compared with other countries.[3]

4. Since the mid-1990s, the government has made considerable effort to develop urban sanitation policies, legislation, and regulations, and to invest in urban sanitation including wastewater treatment systems. Annual sanitation sector investment has been increasing, reaching $550 million in 2012, or more than 0.45% of GDP. By the end of August 2012, there were 17 municipal wastewater treatment plants in operation and 31 municipal wastewater

[1] This summary is based on the ADB. 2011. *Viet Nam Water and Sanitation Sector Assessment, Strategy, and Road Map.* Manila; and ADB. 2012. *Country Partnership Strategy for Viet Nam, 2012–2015*. Manila.

[2] Data in this paragraph is from benchmarking surveys by the Viet Nam Water Supply and Sewerage Association. 2010. *Report on Benchmarking Study on Urban Water Supply Utility Performance in Viet Nam for the Period 2007–2009*. Ha Noi.

[3] The government has announced a $500 million program to reduce nonrevenue water from 2011 to 2025.

systems programmed or under construction. Ninety four percent of the urban population has improved sanitation, with 77% of households discharging wastewater to a septic tank.[4] Despite the government's efforts, there are still many critical issues, including (i) only 10% of generated wastewater is treated, (ii) very few urban households have proper connections to drainage or sewerage systems, (iii) only about 4% of septage from septic tanks is treated, and (iv) the influent reaching the wastewater treatment plants is very diluted because of combined storm water and wastewater systems and the small number of connections.

5. **Urban planning.** The Law on Urban Planning stresses the decentralization of urban planning responsibility to include all government administration levels and requires stakeholder consultation.[5] A major challenge in realizing decentralization is the lack of experience below the national level with urban planning and management and municipal financial management. Delegation to the provincial and city levels is not yet matched with improved accountability regarding compliance with agreed regulations and standards and delivering adequate services to users or consumers.

6. Urban and provincial development is controlled or guided by three types of plans: (i) provincial socio-economic development plans (SEDPs) prepared by the provincial departments of planning and investment that reflect the national SEDP; (ii) spatial plans, also known as construction master plans, prepared at four levels of geographic detail; and (iii) sector development plans corresponding to line ministries. Provincial or city construction master plans guide the planning and implementation of infrastructure projects but are not necessarily in line with sector development plans. Master plans are prescriptive for land use rather than permissive and are not linked to funding or financing realities.

7. **Key legislation.** The key legislation on urban water supply is Decree 117/2007/ND-CP, supplemented by Decree 124/2011/ND-CP, demanding that water supply companies operate with full cost recovery and a reasonable profit, with connection costs included in the tariff. The parallel Decree 88/2007/ND-CP for wastewater management defines the principle of cost recovery, with connection costs to be borne by households. These decrees provide the basis for setting realistic water supply and wastewater tariffs. Supporting circulars [6] provide implementation guidelines and specify water quality requirements.[7] Further decisions add ambitious targets for water supply coverage (100% by 2025 for all urban areas, with 24-hour continuous supply), reducing nonrevenue water to 15% by 2025, and wastewater collection and treatment coverage (70% in provincial towns and higher by 2025).[8] Decree 59/2007/ND-CP covers solid waste, with target indicators set in two phases: 2011–2015 and 2016–2020.[9]

8. **City and town classifications.** Urban areas in Viet Nam are categorized by administration and hierarchy. Under the administrative classification, nine cities have provincial status and are administered directly under the central government, 99 have district status under provincial governments, and the remaining 646 have commune status under district governments. Hierarchical classification is based mainly on population but with additional parameters such as population density and economic activity. Ha Noi and Ho Chi Minh City are

[4] World Bank. 2013. *East Asia Pacific Region Urban Sanitation Review: A Call for Action.* Washington, DC.
[5] 32/2009/QH/12 Law on Urban Planning.
[6] 01/2008/TT-BXD for water supply and 09/2009/TT-BXD for wastewater.
[7] QCVN01/2009/BYT (Minister of Health) on National Regulation on Drinking Water Quality (for consumption); and QCVN02/2009/BYT (Minister of Health) on National Regulation on Domestic Water Quality (for production, water may be contaminated during distribution).
[8] Orientation Plans 1929/2009/ND-TTg, for water supply and 1930/2009/NC-TTg for wastewater.
[9] Decision 798/QD-TTg on approving the program for investment in solid-waste treatment during 2011–2020.

recognized as special cities, above the seven class I cities, which include Da Nang, Hai Phong, and Can Tho. There are 14 class II cities with populations greater than 250,000 and lesser growth rates showing signs of stagnation in contrast to the rapid growth of the largest cities.

9. **Financial sustainability.** The state budget is the main source of finance to meet investment needs for delivering urban services. Investment needs are significant compared with the local revenue base. There are overlapping one-off fees on real estate transactions but no single property tax, which traditionally is an important revenue base and could reflect property value increases on the back of public investment in infrastructure and services.

10. The financial sustainability of water companies has been hampered by low tariffs. Local political considerations often prevent the timely application of tariff adjustments. Surveys of affordability and willingness to pay indicate that consumers are prepared to pay for improved services. Tariffs for wastewater connection are charged only in certain cities where sewer projects have been completed. Urban water supply systems are therefore still subsidized to a large extent by governments on a nontargeted, default basis. The effective policy of local governments of maintaining low tariffs on water supply amounts to a nontargeted subsidy of a service for which consumers are willing to pay. The practice encourages waste and benefits high-volume users.

11. **Opportunities for reform to support economic growth.** The ongoing expansion of the economy presents substantial opportunity in Viet Nam's urban areas. Benefits must be recognized in terms of the resources flowing into the urban economy, and in terms of strong incentives to create a significant transformation that will enable sustained and equitable growth and development, balanced throughout the urban hierarchy of primary growth centers and secondary cities. A growing population with ever-higher expectations for infrastructure and services is intensifying the pressure on urban management agencies. The challenge for central and local governments is to actively and constructively manage this transformation opportunity. The urban sector requires access to public and leveraged private sector funding, as well as new skills, to meet these expectations.

2. Government's Sector Strategy

12. The SEDP, 2011–2015, ratified by the National Assembly on 8 November 2011, aims to create a foundation for the country to become an industrialized country by 2020. It emphasizes the importance of environmental protection, natural disaster prevention, and climate change adaptation through improved land use planning and management; established monitoring, forecasting, and warning systems for natural disasters; and raised public awareness on environmental protection and climate change adaptation. Development of secondary cities is another priority area of the SEDP—the secondary cities are expected to be the regional centers for social and economic development through investments in basic urban services. In the orientation master plan for urban development to 2020, the government aims to develop model cities and divert rural migration away from the large cities through the development of secondary cities and strengthening of rural–urban links.[10]

3. ADB Sector Experience and Assistance Program

13. **ADB program to date.** Since resuming operations in Viet Nam in 1993, ADB has provided 11 loans totaling $1,009.2 million for urban development and the environment. ADB has

[10] Ministry of Construction. 1998. *Orientation Master Plan for Urban Development to Year 2020.* Ha Noi.

also provided three grants totaling $5.0 million and 21 technical assistance projects totaling $19.4 million. Starting with the Ho Chi Minh City Water Supply and Sanitation Rehabilitation Project in 1993,[11] ADB's development assistance has responded to the government's need to rehabilitate and expand water supply and sanitation systems in urban and rural areas, and is now shifting to urban environmental improvement and climate change resilience through a comprehensive green city development approach.

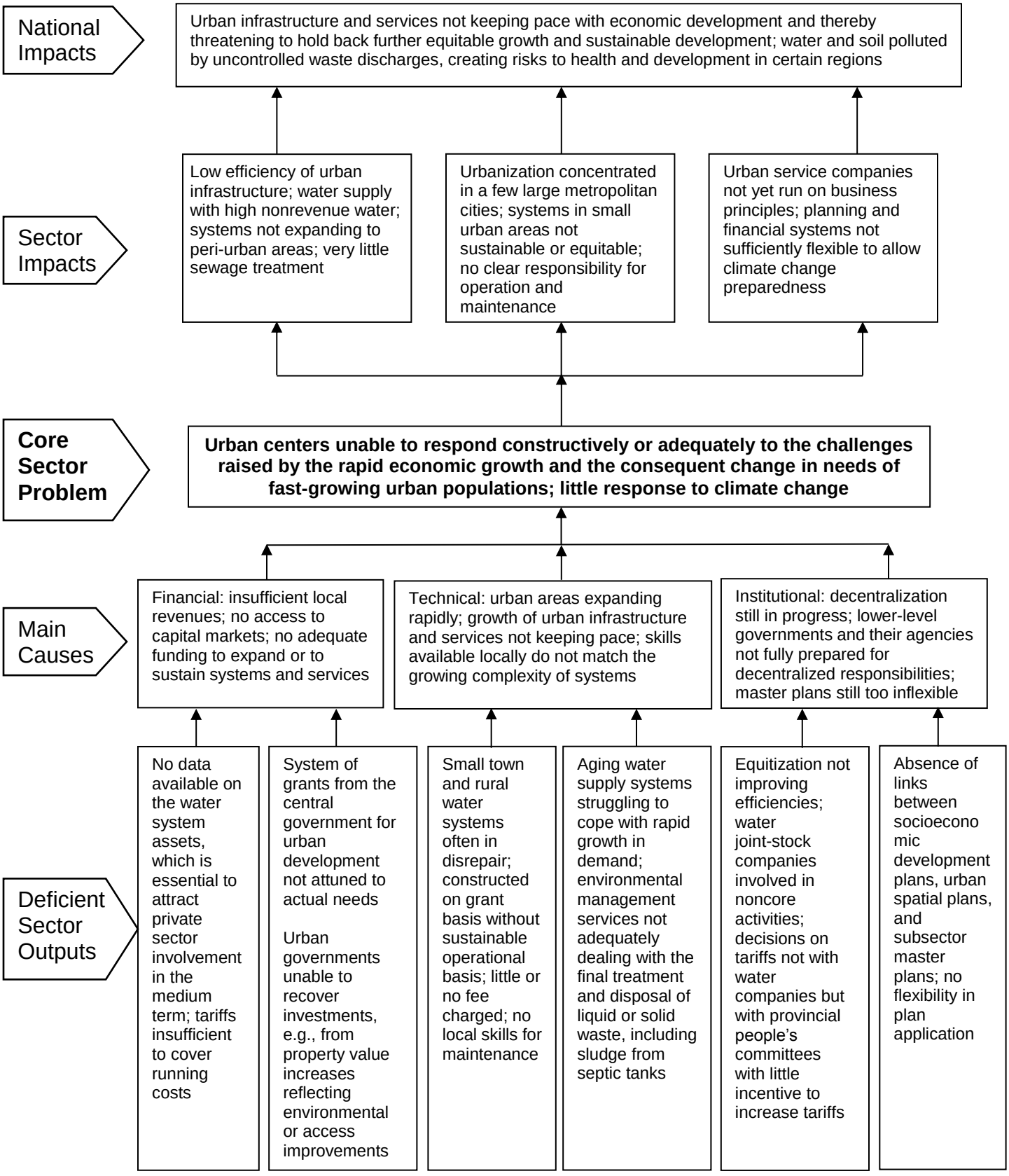
14. **Urban and water operational plans.** ADB's Urban Operational Plan 2012–2020 aims to catalyze a new form of climate-friendly, resilient, inclusive, competitive, and environmentally sustainable urban development.[12] The plan focuses on improving urban systems, making them financially sustainable, and maximizing the urban contribution to such development. The outcome will be increased levels of inclusive urban economic growth and poverty reduction with fewer global and local environmental impacts. ADB's Water Operational Plan 2011–2020 addresses the wide range of water challenges, including (i) efficiency in water use across the range of users; (ii) wastewater management and reuse, including sanitation; (iii) integrated water resource management, including mitigation of floods, droughts, and other water-related disasters; (iv) knowledge and capacity development using technology and innovation; and (v) partnership with the private sector. To implement the measures to address such challenges, the Water Financing Partnership Facility, in which Viet Nam was one of the priority countries, will sustain ADB's water investment at $2.0–2.5 billion annually during 2011–2020.[13]

15. Geographically, funding has shifted from Ho Chi Minh City and Ha Noi to secondary growth centers in the Greater Mekong Subregion economic corridors in line with decentralizing administrative responsibility. The comprehensive socioeconomic development series of projects present a new approach to urban development by linking planning and investment, which the government recognizes as a model for future urban development. Project formulation was based on an agreed city development strategy defining a vision and identifying competitive advantages. Financing involved broad-based cofinancing. Future ADB urban development projects will, as previously, link spatial planning with sector investment plans and have a renewed focus on inclusive, competitive, and green city development.

16. New urban projects will include components that will (i) develop (toward inclusiveness) urban, peri-urban, and rural links and access to services and infrastructure improvement to better distribute the benefits of economic growth; (ii) help the government effectively and competitively manage urbanization by expanding local revenue sources while introducing stronger budgeting and financial management procedures and financial mechanisms that can leverage cofinancing and private sector investment, in particular from targeted ordinary capital resources lending and by setting up local development investment funds; (iii) encourage green development through reduction of the carbon and water footprints by improving liquid and solid waste management, and the impact of waste generated by the urban economy to reverse environmental degradation; and (iv) help enhance the resilience of cities against climate change impacts by identifying climate change adaptation and mitigation measures, introducing climate-change-resilient spatial planning and infrastructure designs, and developing and implementing cities' climate change adaptation and mitigation plans. The urban poor can play a positive role in managing environmental impacts in more degraded areas, where they often reside, through activities such as waste recycling, watershed management, and citizen monitoring of the provision of local services.

[11] ADB. 1993. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Technical Assistance Grant to the Socialist Republic of Viet Nam for the Ho Chi Minh City Water Supply and Sanitation Rehabilitation Project*. Manila.
[12] ADB. 2013. *Urban Operational Plan 2012–2020.* Manila.
[13] ADB. 2011. *Water Operational Plan 2011–2020.* Manila.

Problem Tree for Water and Other Urban Infrastructure and Services



Sector Results Framework (Water and Other Urban Infrastructure and Services, 2011–2015)

Country Sector Outcome		Country Sector Outputs		ADB Sector inputs	
Outcomes with ADB Contributions	**Indicators with Targets and Baselines**	**Outputs with ADB Contributions**	**Indicators with Incremental Targets** (baselines zero)	**Planned and ongoing ADB Operations**	**Main Outputs Expected from ADB Interventions**
Increased access to basic urban services	**1. Urban water supply** Urban population in cities class III and above with access to improved drinking water to increase from <60% in 2010 to 90% in 2015 **2. Drainage, sewerage, and sanitation** Households' access to the collection and treatment of domestic wastewater rises from 10% in 2010 to 20% in 2015	Water supply, sanitation, and other urban infrastructure expanded, maintained, and well managed	Access to 120 liters per capita per day of safe drinking water in urban areas and 50 liters per capita per day in rural areas by 2015 Nonrevenue water reduced from 30% to 25% by 2015 Additional 5 million people connected to a central sewerage system	**Planned key activity areas** WSS (60%) Urban sector development (40%) **Pipeline projects with estimated amounts** MFF Water Supply Sector Investment, PFR3 (2014): $250 million Urban Environment and Climate Change Adaptation (2015): $100 million Second Secondary Cities Development (2015): $140 million Second GMS Corridor Towns Development: $100 million MFF Water Supply Sector Investment, PFR4 (2014): $170 million **Ongoing projects with approved amounts** Central Region Small and Medium-Sized Towns: $53 million Thanh Hoa Comprehensive Socioeconomic Development: $72 million Central Region Rural Water Supply and Sanitation: $45 million MFF Water Supply Sector Investment, PFR1: $138 million Comprehensive Socioeconomic Urban Development in Viet Tri, Hung Yen, and Dong Dang: $70 million MFF Water Supply Sector Investment, PFR2: $212 million GMS Corridor Towns Development: $131 million Secondary Cities Development Project: $95 million	**Planned key activity areas** Expanded coverage and improved efficiency of basic urban services **Pipeline projects** Introduction of improved asset management and control systems Technical support through the Ministry of Construction to selected water companies to achieve nonrevenue water targets Acceptance of revised performance indicators Formal guidance for water supply companies on equitization Strengthened role for the Ministry of Construction and VWSA in monitoring the performance of water supply companies **Ongoing Projects** Acceptance of improved systems and procedures for urban wastewater management Increases in women's participation in community planning of urban infrastructure investments Subnational climate change mitigation strategies and low-carbon technology driving employment opportunities

ADB = Asian Development Bank, GMS = Greater Mekong Subregion, MFF = multitranche financing facility, PFR = periodic financing request, VWSA = Viet Nam Water Supply and Sewerage Association, WSS = water supply and sanitation.
Source: Asian Development Bank