

## SECTOR ASSESSMENT (SUMMARY): WATER AND OTHER URBAN INFRASTRUCTURE AND SERVICES<sup>1</sup>

### Sector Road Map

#### 1. Sector Performance, Problems, and Opportunities

1. **Rapid urbanization.** The Philippines is one of Asia's fastest urbanizing countries, with 138 cities, 1,496 municipalities, and 42,027 *barangays*.<sup>1</sup> Since 2000, the country's population has increased 1.9% annually on average, and reached a total population of 92.34 million in 2010 (the most recent pronouncement by the Philippine Statistics Authority). Rapid urbanization is putting significant pressure on urban infrastructure. All 17 cities and municipalities in Metro Manila, or the National Capital Region (NCR), are now classified as "highly urbanized cities" (HUCs), three of these being home to more than 1 million inhabitants. Cities in the Philippines are contending with urban problems such as congestion, overcrowding, poor quality of life, and rapidly growing poor urban communities. The government needs to address the current situation, and plan for and finance substantial urban development needs. This is a particularly urgent concern in light of the fact that the urban population is expected to grow by as much as 67% by 2030, adding an additional 34.8 million inhabitants to the country's urban areas. This rapid rate of urban growth is being driven by limited employment opportunities in rural areas, land shortages, natural disasters, and the negative impacts of climate change. The expansion of major cities and municipalities as centers of consumption, productivity, and employment has been instrumental in the general improvement in living standards of the country's population. For the last quarter of 2015, the Philippines increased its Gross Domestic Product (GDP) by 6.3%. The Philippine economy grew by 6.2% per annum in 2014.<sup>2</sup> The NCR accounted for 36.3% of the GDP in 2014, the largest share of the national economy.<sup>3</sup>

2. **Sector performance.** Water supply coverage has not kept pace with the growing population in the last few decades. Many water utilities face financial difficulties because tariffs are too low to recover costs and systems are too small to work efficiently. Persistent problems in water supply include (i) institutional fragmentation, (ii) weak sector planning and monitoring due to lack of sector information, (iii) poor performance of many water utilities, (iv) low public and private sector investment and limited access to financing for service expansion, and (v) inadequate support for poor urban communities and rural water utilities.

3. Sanitation remains a big challenge especially outside Metro Manila where there are no significant sewerage systems and most septic tank effluents are discharged without treatment, exposing millions to water-related diseases. Acute watery diarrhea is a leading cause of morbidity in the country.<sup>4</sup> In 2015, the WHO/UNICEF Joint Monitoring Programme (JMP) reported that the Millennium Development Goal target of 92% coverage had been met for drinking water, with 94% coverage in urban areas and 90% in rural areas. Further, the JMP noted a large difference in the sources of drinking water used in urban and rural areas. In urban areas, 59% was piped onto premises, and 35% came from other improved sources; for rural

---

<sup>1</sup> This summary is based on ADB. 2013. *Philippines Water Supply and Sanitation Sector Assessment, Strategy, and Road Map*. Manila. (<http://www.adb.org/sites/default/files/philippines-water-supply-sector-assessment.pdf>)

<sup>2</sup> Republic of the Philippines. 2015. <http://www.gov.ph/report/gdp/> (February 23, 2016)

<sup>3</sup> Republic of the Philippines. 2015. *Philippines Statistics Authority. Gross Regional Domestic Product*. Manila.

<sup>4</sup> Government of the Philippines, Department of Health (DOH). 2012. *Field Health Service Information System, Annual 2011*, Manila. The decline in morbidity attributable to acute watery diarrhea is largely due to the increase in access to safe water and sanitation services and the promotion of hygienic practices such as hand washing. Other water and sanitation related diseases such as typhoid and cholera have shown similar decline.

areas, only 30% was piped and 60% came from other improved sources.<sup>5</sup> It is alarming though that, even with the vast majority of households having toilets connected to septic tanks, only an estimated 10% of effluents is treated before discharge in fields or rivers. Notwithstanding the general reduction in the incidence of most of the water-borne diseases achieved in recent years, expanding access to safe water and sanitation services should remain a priority for the government with the population now exceeding 100 million.

4. **Metro Manila Water Supply and Sanitation Services.** Services in Metro Manila and adjacent provinces are provided by the Metropolitan Waterworks and Sewerage System (MWSS) and its two private concessionaires: Manila Water Company, Inc. (MWCI), which is the concessionaire serving Manila's east zone, and Maynilad Water Services, Inc. (MWSI), the concessionaire serving Manila's west zone. As a result of committed efforts by the Metro Manila concessionaires to improve their operations, water service in Metro Manila has substantially improved in all respects, particularly in terms of coverage, non-revenue water, and hours of service. As of the end of 2014, MWCI served 949,000 water connections, with an estimated non-revenue water level of 11.3% in its service area (Manila's east concession). Similarly, as of end of 2014, MWSI served 1,274,000 water connections, with nonrevenue water levels estimated at 29.4% in its service area (the west concession). The MWSS reports service coverage of 98% for Metro Manila households.

5. Under the concession agreements, MWCI and MWSI also assumed responsibility for providing sanitation services. It is currently estimated that 11% sewerage coverage has been achieved. MWSS seeks to urgently ramp up sanitation investments, to reduce the costs on the economy and population, including health costs and impacts on tourism, and to improve the quality of water channels in and around Metro Manila.<sup>6</sup> MWSS is still targeting 100% sanitation coverage by 2037. While MWSS' long-term target is still to implement separate conventional sewer systems, it is now targeting 100% coverage by 2037 through a combination of combined sewer-drainage systems and septage treatment facilities (STPs).<sup>7</sup> MWSS' 2014 updated sewerage master plan focuses on more cost-effective combined sewer-drainage systems that carries both sewage from buildings and stormwater collected from buildings, catch basins, and storm drains to interceptor sewers which divert the wastewater and stormwater to treatment plants, prior to discharge to nearby bodies of water. This will require close cooperation and coordination with the relevant LGUs in Metro Manila as they are responsible for building drainage infrastructure, and MWSS and the concessionaires.

6. **Fragmented services outside Metro Manila.** Outside Metro Manila, local government units (LGUs) are responsible for providing frontline basic services, including water supply and sanitation. Water supply coverage outside Metro Manila has not kept pace with the growing population in the last few decades. The 1973 Provincial Water Utilities Act encouraged LGUs to form corporatized water utilities known as water districts. The 1973 act also established the Local Water Utilities Administration (LWUA), a government-owned specialized lender mandated to help water districts develop systems and achieve sustainability through providing (i) concessionary loans,<sup>8</sup> and (ii) engineering, technical, and institutional development services.

<sup>5</sup> World Health Organization and UNICEF. 2015. *Progress on sanitation and drinking water – 2015 update and MDG assessment*. Geneva.

<sup>6</sup> 17% of the 2 million cubic meters of wastewater generated daily in Metro Manila is treated before discharge. At year-end 2013, MWCI had total septage treatment capacity of 139 million liters per day (MLD) and 266 kilometers (km) of sewerage lines (16% of its service area); MWSI, 494 MLD and 500 km (11% of its service area).

<sup>7</sup> Stormwater drainage conveys sewage and interceptors to divert wastewater with stormwater to treatment plants, prior to discharge to nearby bodies of water.

<sup>8</sup> Since 1973, LWUA has been funded mainly through loans from ADB and other development partners.

There are no validated numbers of level III water service providers (other than LWUA's official tally of the 506 operational water districts) and there is no harmonized national database for water supply coverage. Urban piped water supply coverage outside Metro Manila is estimated to be 40-50%. In several sector reports, the number of level III water systems in the country is estimated to range from 3,000 to 6,000, reflecting a broad array of small-scale water service providers in smaller cities and municipalities, especially in rural areas. At present, the main utilities operating level III systems in urban areas are (i) water districts which are local corporate entities formed at the option of the LGU, (ii) LGU-owned and operated water utilities, and (iii) private sector operators, which have been given a franchise or authority to operate within the entire geographical jurisdiction of an LGU or an industrial zone, or property developers which operate water supply systems to serve their development projects. There are numerous community-based organizations such as cooperatives, rural water supply associations (RWSAs) and barangay water service associations (BWSAs), homeowners associations (HOAs) and property developers. Many water utilities face financial difficulties because tariffs are too low to recover costs, and systems are too small to work efficiently. The vast majority are not registered with NWRB nor attached to a national agency. There are also no comprehensive sector statistics on water distribution service levels and quality (continuity of water supply (24/7 supply), quality of water supplied, per capita supply of water, etc.) among operators.

7. With regard to sanitation services, Baguio City, Boracay, Clark, and Subic are among the few urban centers outside Metro Manila with sewerage systems; Zamboanga City and Cabanatuan City have partial systems. The Clean Water Act of 2004 (CWA) requires LGUs and WDs to create septage management programs in areas without sewerage systems. However, most LGUs and WDs have not had the capacity, technical knowledge or funds to take much action since the passage of the CWA. There are private companies in major cities providing septic tank desludging services but in many cases, treatment and disposal of sludge are likely to not be compliant with environmental regulations, with little enforcement for waste from non-industrial sources.<sup>9</sup> The National Sewerage and Septage Management Program (NSSMP) was launched in 2012 to facilitate demand-driven project development of sewerage systems in 17 HUCs outside Metro Manila by providing technical assistance, training, promotion, and financial incentives, principally through a 40% National Government capital cost share. NSSMP has not yet triggered new investment in sewerage, although Department of Public Works and Highways (DPWH) has recently indicated that the application of Zamboanga City (an HUC) is currently being processed. Some larger property developers operate private sewage disposal systems to serve their projects.

8. **Key Constraints** The main constraints in general for development of the urban water and sanitation sector are (i) institutional fragmentation and weak sector planning and monitoring, (ii) low public and private sector investment, and (iii) weak performance of utilities. The constraints are more severe in the provincial and rural water supply and sanitation sectors due to unclear delineation of responsibilities and very limited access to financing, which has resulted from a decline in available government funds. The main constraint for development of Metro Manila's water sector is the overreliance on a single water source and increasingly more unreliable transmission system.

## 2. Government's Sector Strategy

9. **Medium-Term Philippine Development Plan, Medium-Term Public Investment Plan, and Comprehensive and Integrated Infrastructure Program.** In collaboration with other

---

<sup>9</sup> German Technical Cooperation – World Health Organization. 2010. *Sector Assessment Report*. Manila.

related government agencies, NEDA prepared the Philippine Development Plan results matrix for the 2011–2016 Mid-Term Philippine Development Plan (MTPDP) and the Medium-Term Public Investment Plan (MTPIP). The results matrix integrates the results envisioned under the various strategies, programs, and projects outlined in the MTPDP. It thus facilitates tracking of gains achieved, and serves as a tool for monitoring and evaluating the progress in implementing the MTPDP to ensure that the goals of all strategies are met in the medium term. For water supply, the MTPDP focuses exclusively on the goals and programs adopted under the Philippine Water Supply Sector Roadmap (PWSSR). Several government reform initiatives are designed to help ensure that the MTPDP objectives and MDGs are met.

10. The 2011–2016 MTPIP earmarked nearly P2 trillion for infrastructure development, including significant investment in the water and sanitation sector through the DPWH, LWUA, and the MWSS. The MTPDP and the MTPIP are concretized in the 3-year rolling Comprehensive Infrastructure Investment Program. The program lists the projects that the government would like to prioritize, and specifies priority projects to be implemented by the government using purely public resources either through the PPP framework or official development assistance.

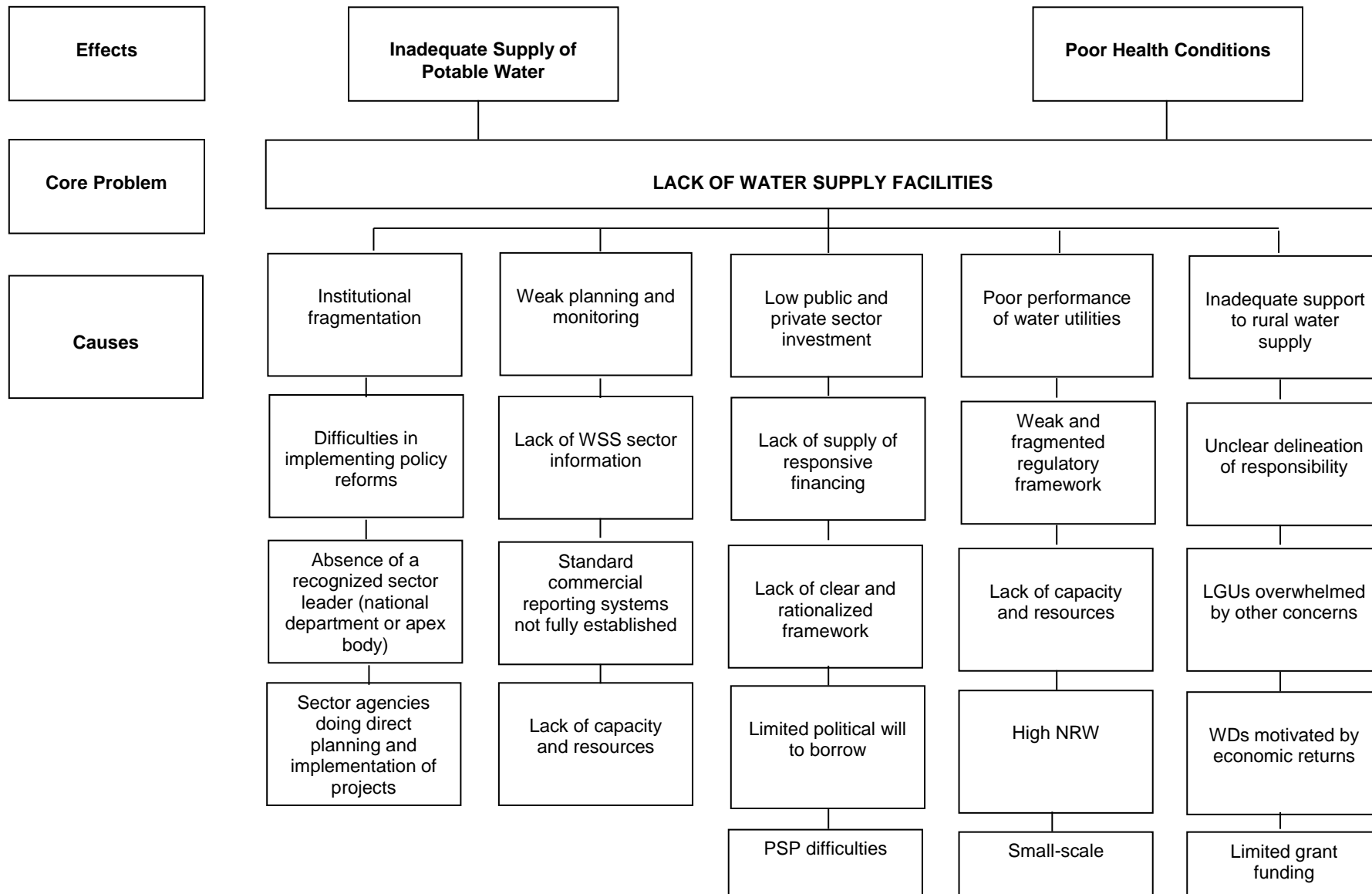
11. **Philippine Water Supply Sector Roadmap.** In 2007, the government prepared the PWSSR with the participation of stakeholders from both government and civil society. The overall goal of the PWSSR is “access to safe, adequate, and sustainable water for all.” Its vision is to achieve by 2025: (i) universal access coverage and sustained utility operations, (ii) continued coverage expansion of existing formal utilities on a par with population growth, and (iii) regulation of all water service providers. Its 2015 target of halving the percentage of the population that lacks sustainable access to safe drinking water and basic sanitation has been achieved.

12. The PWSSR supports operationalization of the MTPDP strategies by focusing development interventions on three major sector outcomes: (i) institutional strengthening, (ii) capacity development, and (iii) strategic alliance building. The purpose of these 3 core outcomes is to improve the operating environment of the water supply sector, and to complement a fourth outcome—adequate infrastructure provision. These four sector outcomes are inter-linked, and support the national development goals as embodied in the government’s commitments to achieve the targets of the 2011–2016 MTPDP and the United Nations MDGs. Outcomes are disaggregated into outputs and activities for easy monitoring through the use of verifiable indicators. Implementation of the PWSSR will be monitored and evaluated using results-based monitoring and evaluation.

### **3. ADB Sector Experience and Assistance Program**

13. ADB has provided support in the water and sanitation sector in the Philippines since 1974, through various loans and technical assistance programs to government agencies including MWSS, LWUA, DPWH, and Pasig River Rehabilitation Commission. As of 31 December 2015, ADB had provided 20 loans totaling \$731 million, and technical assistance and pilot demonstration activities amounting to almost \$20 million, bringing ADB’s total lending and non-lending assistance in water and urban sectors to about \$750 million over the past forty years. The substantial amount of technical assistance grants provided to the government highlights the importance that ADB places on supporting the government develop and strengthen strategic institutions in the sector.

### PROBLEM TREE ANALYSIS: WATER SUPPLY SUBSECTOR



LGU = local government unit, NRW = nonrevenue water, PSP = private sector participation, WDs = water districts.  
 Source: Asian Development Bank.

### SECTOR RESULTS FRAMEWORK

| Country Sector Outcome   |   | Country Sector Outputs  |   | ADB Sector Operations   |  |
|--|---|---|---|---|--|
| Outcomes with ADB Contributions  | Indicators with Targets and Baselines   | Outputs with ADB Contribution   | Indicators with Incremental Targets (Baselines Zero)  | Planned and Ongoing ADB Interventions   | Main Outputs Expected from ADB Contributions   |
| Enhanced access of population to sustainable and climate-resilient water, sanitation, and waste management facilities and services | <p>a. Increase in percentage of population provided with access to potable water from 82.9% in 2007 to 86.6% by 2016.</p> <p>b. Increase in percentage of population with access to basic sanitation from 76% in 2008 to 83.3% of households by 2016.</p> | <p>a. Improvement in quality and service area coverage of water supply and sanitation service providers</p> <p>b. Improvement in the frequency of waste water collection and de-sludging by service providers</p> <p>c. Improvement in drainage capacities of urban areas</p> | <p>a. Increase in number of water and sanitation service providers operating efficiently.</p> <p>b. Increase in private sector investments in water supply and sanitation services.</p> <p>c. Capacity of urban drainage in participating LGUs increased.</p> <p>d. Improvement in regulation and monitoring capacity of all regulatory agencies.</p> <p>e. Increases in the share of women in community-based water and sanitation committees and implementation teams</p> | <p><b>Planned key activities</b></p> <p>a. Developing urban water supply, sanitation, and solid waste management</p> <p>b. Policy reforms and institutional capacity development for urban water supply, sanitation, and solid waste management</p> <p>c. Facilitating private sector investments through public sector support</p> <p><b>Pipeline Projects</b></p> <p>a. Water District Development Sector Project (\$62 million)</p> <p>b. Angat Water Transmission Improvement Project (\$124 million)</p> <p>c. Solid Waste Management Sector Project (\$72 million)</p> <p>d. Metro Manila Water and Sanitation Project (\$100 million)</p> <p><b>Ongoing Projects</b></p> <p>a. PPTA-Water District Development Sector Project (\$1.27 million)</p> <p>b. PPTA-Angat Water Transmission Improvement Project (\$0.94 million)</p> <p>c. PPTA - Solid Waste Management Sector Project (\$1.22 million)</p> <p>d. PPTA - Metro Manila Water and Sanitation Project (\$1.0 million)</p> | <p><b>Planned key activities (by 2022)</b></p> <p>a1. Water supply systems constructed for 20 utilities</p> <p>a2. Increased security of water supply MM</p> <p>a3. Sanitation improvements in Metro Manila and another 4 urban centers</p> <p>a4. Solid waste management improved in 12 urban centers</p> <p>b. Instructional capacity to manage water supply, waste water and solid waste improved in MM and another 20 urban centers</p> <p>c. Public infrastructure financing for MWCI and MWSI.</p> <p><b>Pipeline Projects (by 2022)</b></p> <p>a. 40,000 HH provided with improved drinking water source; 80,000 HH provided with improved sanitation</p> <p>b. 6.3 km raw water transmission pipeline; 2.2 million HH in MM ensured of continuous water supply</p> <p>c. 60,000 HH ensured of improved solid waste disposal</p> <p><b>Ongoing Projects</b><br/>N/A</p> |

ADB = Asian Development Bank, HH = households, LGU = local government unit, MM = Metro Manila, MWCI = Manila Water Company, Inc., MWSI = Maynilad Water Services, Inc., PPTA = project preparatory technical assistance.

Source: Asian Development Bank.