

SECTOR ASSESSMENT (SUMMARY): URBAN DEVELOPMENT AND WATER SECTOR¹

Sector Road Map

1. Sector Performance, Problems, and Opportunities

1. **Urbanization.** Decades of isolation and economic stagnation in Myanmar, resulting in little industrialization and foreign investment, have kept its urban character low. Current urbanization is quoted as being about 34%. The urban sector is dominated by its two largest cities Yangon² and Mandalay³. After the third city of Mawlaikini⁴, city size rapidly falls away with altogether only 31 urban centers with a population over 100,000⁵. Large parts of the urban areas in Yangon and Mandalay consist of resettlement areas of recent decades, the result of relocation in the 1960s and early 1990s, with estimated population in the hundreds of thousands. Urban services in these areas are frequently below acceptable levels, for example, with low quality water supply and no functioning drainage network or sewerage in the area.

2. **Core constraints.** The core constraint to Myanmar's urban development is inadequate infrastructure and poor quality of services. One of the key causes for this has been chronic underinvestment in urban infrastructure over decades, particularly in water supply and environmental infrastructure, including drainage, wastewater and solid waste management. As a result, water supply and environmental conditions are often below acceptable standards. Similarly, prolonged isolation and economic stagnation has resulted in the country seriously lacking in private sector presence and drive, in stark contrast to many Southeast Asian countries where the private sector is a key driver of economic activities and stakeholder in urban development⁶. A Problem Tree Analysis for the sector is attached.

3. **Sector performance indicators.** A key constraint in assessing the sector performance and having a basis for planning and prioritization are the sporadic, unreliable and incomplete data. Official statistics for Myanmar present a high achievement on Millennium Development Goals (MDG) relevant for water and sanitation. For instance, access to "improved water" stands at 83% (urban: 93%, rural 78%) and to sanitation at 76% (urban 83%, rural 73%). However, piped water supply systems in the main cities of Yangon and Mandalay distribute untreated surface water from open reservoirs, which may not be fully considered an improved water source. Recent data for Yangon indicate that water supply coverage remains at about 60%⁷. Water supply networks do not extend to resettlement areas or to informal settlements, and hours of supply are highly variable. As a further indicator, chlorination of municipal water distributed in Mandalay was discontinued in 1994. The majority of the population in all urban areas relies on informal private supplies. Quality of water used by households is uncertain and unlikely to meet international bacteriological guidelines for drinking water. Arsenic is found in groundwater of the Ayeyarwaddy delta and sometimes also in surface water of the lower reaches of the Sittaung river. Non-revenue water (NRW) is estimated at 40% in Yangon and is probably much higher

¹ This summary is based on Southeast Asia Department Working Paper: Preliminary Urban Development and Water Sector Assessment, Strategy and Road Map for Myanmar, May 2012, ADB, Manila. Available on request.

² Population about 4.6 million.

³ Population about 1 million.

⁴ Population about 500,000.

⁵ All population estimates are based on 2009 population data.

⁶ A grass roots private sector exists but is not equipped to operate in a global market. Notably, this grassroots private sector consisting of the small scale water service providers filling the big gap in municipal water supply.

⁷ Institute for Sustainable Futures, University of Sydney. 2011.

elsewhere although data cannot be found or verified.

4. **Sanitation, solid waste and stormwater drainage.** Urban areas do not have functioning city-wide sewerage and drainage networks. With the exception of a small piped sewerage system in the old business district of Yangon, there is no systematic collection and treatment of domestic wastewater. Most households in formal residential areas have some form of septic tank, but these are not routinely serviced, and treatment of the sludge from septic tanks is unclear. Informal settlements primarily depend on improvised latrines. Solid waste collection takes place in the two major cities, but the collection and disposal process involves intermediate street-corner depots and considerable manual handling. Significant informal recycling takes place through scavenging at intermediate depots. Residual waste is deposited in open dump sites. Waste often ends up in open drains, leading to stagnant wastewater and breeding opportunities for mosquitoes.

5. **Health and poverty implications.** The urgency to improve basic urban infrastructure and services is highlighted by the record on health and poverty in Myanmar. Inadequate environmental infrastructure, combined with underinvestment in preventative and curative medical care, has contributed to severe health threats at many levels across the country. The incidence of diarrhea amongst children under five in particular is considerably higher than elsewhere in Southeast Asia, at 66 per 1,000 live births, compared to 13 for Thailand, 35 for Indonesia and 54 for Lao PDR. The Human Development Index (HDI)⁸ for Myanmar stands at 149 out of 187 countries listed in the 2011 report, with only three other countries lower in Asia rankings, and compared with Thailand at 103⁹.

6. **Climate change implications.** Myanmar is considered one of the countries hardest hit by climate change related extreme weather events for the period 1991 – 2010¹⁰. In addition, Myanmar's rural population surviving at subsistence levels is vulnerable and exposed to aggravated drought occurrences in the central dry zone that could occur in the future as a result of climate change. In the coastal and delta areas, potential climate change impacts include more frequent storms and floods, moving shore line, sea water intrusion and changes in rainfall pattern and intensity. The overall climate vulnerability factor for 2010 and 2030 is classified as "acute"¹¹.

7. **Opportunities through development of Greater Mekong Subregion (GMS) corridors and towns.** Significant infrastructure development is currently underway along certain corridors with support from Peoples Republic of China, India, Thai and Malaysian companies, in order to export oil and natural gas to these countries. These developments are not only expected to provide significant earnings to the country through the exports but will also make Myanmar an important player in the GMS Southern and East West Economic Corridors and boost trade, employment opportunities in the towns and overall economic development in the country.

8. **Gender issues:** Women are the primary collectors, users and managers of domestic water and promoters of home and community based sanitation activities. Women take care of sick children and family members affected by water-borne diseases. Women also play a primary role in waste disposal and environmental management. Failure to include gender issues in the water and urban infrastructure planning and implementation affect the quality and sustainability

⁸ UNDP 2011 Human Development Report. HDI is a composite index which includes indicators for life expectancy, years of schooling, gross national income per capita.

⁹ Peter Gleick. 2012. The World's Water – Volume 7. Data tables 6 and 7.

¹⁰ Sven Harmeling, Germanwatch "Global Climate Risk Index 2012", December November 2011/09.

¹¹ Institute for Sustainable Futures, University of Sydney. 2011.

of local infrastructure investments and has negative implications for women's work burden, health and well being.

2. Government's Sector Strategy

8. **National and local level plans and strategies.** The Government's five-year National Development Plan (NDP) is being finalized. It consists of five sections including (a) Regions and States Development Plan; (b) Villages, Townships and Districts Development Plan; (c) Industrial Development Plan; (d) Investment Plan; and (e) Financial Sector Development Plan. The Government has not yet articulated a country-wide specific strategy for urban development. Other development partners, such as UNICEF, have noted the lack of a coherent holistic policy for WASH (water, sanitation and hygiene) as challenge for the sector. On local level urban development strategies, an Urban Development Program for Yangon is being planned with technical and financial support from JICA. The master plan is set to include urban transport, power, water and sewerage and solid waste management.

9. **Institutional frameworks and capacities.** There is inadequate policy and strategic guidance for the sector on both central as well as local government levels, and institutional roles and responsibilities for planning, management and regulation have not been clearly defined and delineated. Though management of water supply and sanitation services in the three major cities is the responsibility of their respective urban local governments, i.e., the City Development Committees (CDCs), these CDCs have limited autonomy and effectively function as implementers of the programs designed by the Union or central government. In other smaller urban centers, a central government body, the Department of Development Affairs (DDA), provides both water supply and sanitation services. While the government is moving towards decentralization, starting with devolving duties and responsibilities from the Union level to the Regions and States, many governance functions are still not decentralized from the Union government level. Though Ministry of Construction (MOC) is responsible for urban planning, other central ministries are also carrying out the same on certain levels. No single institution is responsible for management of national water resources. Skill shortages have also been identified as a probable obstacle for growth in the sector. Staff of government agencies, water supply and utility companies—in particular at middle management and operational levels—have had little or no exposure for some time to global developments and best practices.

3. ADB Sector Experience

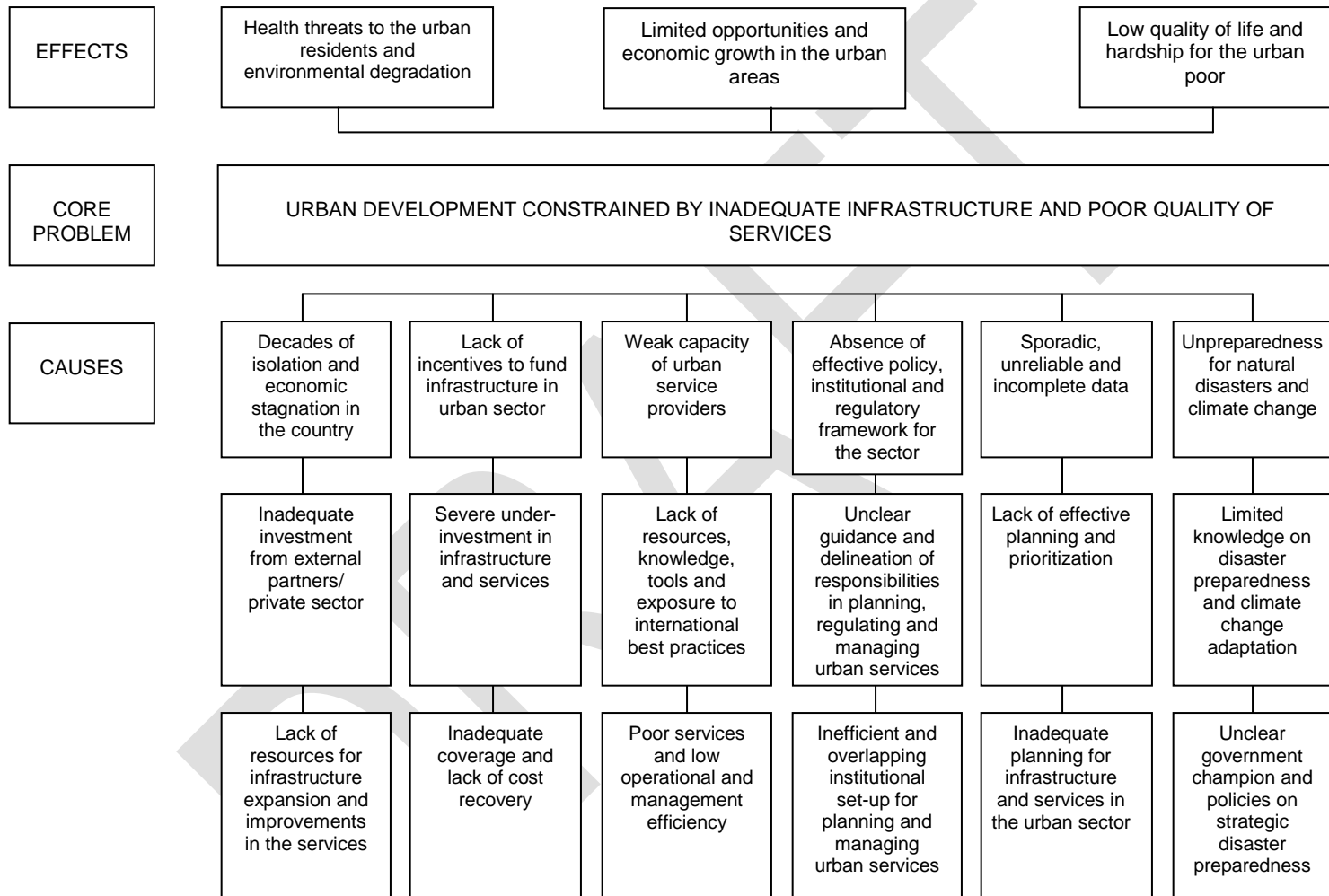
10. **Past experience and assistance in the sector.** A number of projects in the urban sector, particularly on water supply, were implemented and funded by the ADB in Myanmar up to the early 1990s. Of ADB's total cumulative lending to Myanmar of about \$531 million only about \$36 million (6.8%) was on water supply and other municipal infrastructure services. The Yangon and Mandalay water supply projects, approved in 1973 and 1982 respectively, did achieve their physical objectives, however, delays and cost overruns were experienced, mainly attributing to the implementation delays, underestimation of the civil works, and increases in materials due to design changes.

11. **Lessons learnt and best practices from the region.** Following an interruption in collaboration for two decades, and bearing in mind the lessons learned elsewhere in Southeast Asia, certain principles should be adopted to improve efficiency in future programs: (i) allowing initial period of policy dialogue; (ii) designing programs as single agency project focusing on a single autonomous executing agency; and (iii) maintaining comprehensive and consistent focus on laying the foundations for a sustainable operation of key agencies such as water and

sewerage companies. Best practices from successful urban water and sanitation utilities in the region should also be utilized for future interventions in the sector. Examples of such utilities include, for example: (a) Cambodia - Phnom Penh Water Supply Authority; (b) Philippines - Manila Water Company Inc., Maynilad Water Services Inc.; or (c) Viet Nam - Hai Phong Water Supply Company, among others, that have showcased best practices and tremendous improvements on various aspects of service delivery and utility management. Key examples of such best practices are: (i) streamlining governance and institutional arrangement; (ii) improving operational performance; (iii) focusing on NRW reduction; (iv) improving financial performance; and (v) connecting all, particularly the poor.

12. **Priority assistance.** Myanmar will need support in realizing its potential for an important regional function by strengthening essential infrastructure and services in main nodal urban centres and along key corridors in a regionally balanced and sustainable manner. Therefore, geographically, assistance could initially focus on towns that would support or are part of GMS corridors, specifically the Southern Economic Corridor and the East Western Economic Corridor. Sequentially, a gradual assistance program may develop along the following lines: (i) technical assistance to create an opportunity for a period of policy dialogue with critical national and subnational government agencies as well as with influential civic society organizations, assessing existing legal and policy basis for future collaboration; (ii) strengthening the basis of essential sector specific and socio-economic data, which may include work with development partners to conduct and expand the WASH Sector Review; (iii) pilot implementation of community infrastructure upgrading—to explore the potential and practicalities for community-led needs-based tertiary environmental infrastructure improvement, including water supply, drainage, sewerage and solid waste management; and (iv) supporting strategic studies, to fill critical knowledge gaps.

Problem Tree for Urban Development and Water Sector



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