

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

Sector Road Map

1. Sector Performance, Problems, and Opportunities

a. National Context

1. **Urbanization.** Although 66% of Myanmar's population resides in rural areas, the urban population has grown by 2.5% per year, faster than the country's total population (0.8% per year). The percentage of the urban population in Myanmar increased from 27.0% of the total population in 2000 to 34.1% of the total population in 2015. It is expected to increase to 36.9% in 2020 and 42.8% in 2030.¹ Currently, 10% of the population lives in the two major cities of Yangon and Mandalay, contributing 30% of gross domestic product (GDP)—this share is expected to rise rapidly in the future. It is estimated that about 25% of the country's population will live in urban areas in 2030, accounting for about 50% of Myanmar's GDP.² Once Myanmar has a functioning tax regime with ongoing and planned tax reform, the majority of tax revenue is also likely to come from cities. However, to ensure that urbanization is a driving force for economic growth and social development, urban planning and management needs to be modernized and investments in urban infrastructure must increase.

2. **Health and poverty implications.** The urgency to improve basic urban infrastructure and services is highlighted by Myanmar's poor record on health and poverty. Inadequate environmental infrastructure and underinvestment in preventive and curative medical care have contributed to severe health threats across the country. As a result, mosquito-borne diseases, such as malaria, dengue, and chikungunya fever, are common. In 2015, the mortality rate of children under 5 years of age, often resulting from waterborne diseases such as diarrhea, was 57 per 1,000 live births—the second highest within the Association of Southeast Asian Nations.³

3. **Climate change implications.** Myanmar was considered to be the country hit second hardest by extreme weather events related to climate change during 1991–2010. Up to 2030, the country's overall climate-change vulnerability factor is rated *acute*.⁴ Potential climate-change impacts include more frequent storms and floods, moving shorelines, seawater intrusion and sea-level rises, prolonged droughts, and changes in rainfall patterns, intensity, and monsoon characteristics. Frequent flooding in urban areas, particularly in informal settlements, often built along waterways and lacking functional drainage systems, is of concern.

4. **Development of Greater Mekong Subregion corridor towns.** The corridor town development approach aims to maximize the economic benefit of increased traffic and trade along the economic corridors by developing corridor towns as competitive growth nodes that link the outlying region, and by fostering economic activity clusters. This approach will also contribute to the transformation of transport corridors into economic corridors in the Greater Mekong Subregion (GMS).

¹ United Nations. 2015. *World Urbanization Prospects: The 2014 Revision*. New York.

² H. Chhor et al. 2013. *Myanmar's moment: Unique opportunities, major challenges*. McKinsey Global Institute.

³ United Nations. World Population Prospects 2017. <https://esa.un.org/unpd/wpp/Download/Standard/Population/> (accessed 9 April 2018).

⁴ Germanwatch. 2012. *Global Climate Risk Index 2013*. Bonn.

b. City Profiles of Mawlamyine, Hpa-An, and Myawaddy

5. **Mawlamyine.** Future population growth and economic activities in Mawlamyine will be predominantly linked to the city's role as an administrative and tourist center, rather than a national economic growth center. It will also be a source of migrant labor until incomes increase relative to neighboring countries and make employment in Mon State a visible alternative. The piped water supply system supplies between 25,000 and 30,000 cubic meters (m³) per day, fed by water from two existing dams and Attran River, and serves about 30% of the city's population. Apart from the natural sedimentation process, the water is not being treated. The share of nonrevenue water is extremely high, estimated at over 80%, with a large share of physical losses. The water and sanitation department of Mawlamyine's Town Development Committee (TDC) is responsible for the piped water network. The TDC's Cleansing Department collects about 50% of the waste generated in the city. The remaining waste is illegally dumped along roads, in nearby water courses, and at the sea front. Households bring their waste to the TDC's garbage trucks when the bell rings in the neighborhood. Waste is taken to an uncontrolled dump site located upstream of the water supply river intake, which may increase the risk of contamination of water supplies with toxic leachate.

6. **Hpa-An.** Hpa-An has the potential to develop as a center in its own right given its strong links with Thailand and its proximity to several tourist attractions, such as limestone caves and monasteries. Mount Zwekabin, which is 723 meters high, is a sacred place for Buddhists with a monastery at the top. Once the ongoing construction of a cable car is completed, the site should attract large numbers of visitors. Only 4 square kilometers or 13% of the city's population is served by the piped water supply system. The maximum production capacity is about 5,000 m³ per day, of which 70% is from river surface water and 30% from groundwater. None of the existing facilities provides treatment or even disinfection of the water. Nonrevenue water is estimated to be not less than 70%, with a significant amount of commercial losses. The water and sanitation department of Hpa-An's TDC is responsible for the piped water network. Only about 13 tons of 42 tons of generated solid waste is collected daily. The rest of the waste is dumped at unauthorized places and in water bodies. Primary collection uses the bell system and the waste is transported to an uncontrolled dump site similar to Mawlamyine. The dump site is close to the major tourist attraction of Mount Zwekabin.

7. **Myawaddy.** The potential for Myawaddy is huge given its strategic location as a border town with Thailand. The second Thailand–Myanmar Friendship Bridge, with access road and border crossing facilities on both sides, is being constructed with grant funds from the Government of Thailand. The bridge and facilities will allow to handle a larger amount of cross-border movements of goods and people. The city is expected to grow faster than Hpa-An by 2023. Myawaddy has no public water supply system, but two private operators were granted the right to distribute piped water and supplies 54% of the city's population. Their networks have been expanded on an ad hoc basis. As a result, two networks are overlapping in some areas, while the eastern half of the city receives no piped water. None of the two systems is equipped with a reliable treatment facility. A nonrevenue water analysis was not conducted in the absence of a public water network in Myawaddy. The development committees of five wards in the city execute solid waste collection, transportation, and disposal by hiring privately owned garbage trucks and laborers hired by the truck owners. Two dump sites exist along Thaungyin River, which forms the border with Thailand. There is a risk that leachate and eroded material from the dump sites gets into the river during flooding, which would contaminate the downstream water intakes.

2. Government's Sector Strategy

8. **National and local plans and strategies.** The government's Framework for Economic and Social Reforms recognizes that the role of urban centers as a growth engine for the nation's economic development and poverty alleviation will rapidly increase in importance.⁵ The government considers it essential to invest in urban centers, not only to efficiently utilize existing infrastructure and environmental resources but also to facilitate balanced development crucial for peace, stability, and consolidation of the nation. The framework emphasizes the imperative needs for urban development through (i) formulation of urban development strategies linking urban centers with the rural hinterland, (ii) development of necessary laws and regulatory frameworks, and (iii) institutional capacity strengthening in urban planning and management.

9. **Development partners.** From the end of the 1980s until 2012, few development partners were active in Myanmar. Most agencies that kept a presence were involved in small-scale humanitarian assistance in kind or through small grants. For the moment, not many development partners are active in water and other urban infrastructure and services in Myanmar. Among multilateral agencies, only the Asian Development Bank (ADB) and the United Nations Human Settlements Programme (UN Habitat) are active in the sector. Agence Française de Développement (AFD) and the Japan International Cooperation Agency are the major bilateral agencies supporting mainly water supply improvements. Given the small number of development partners active in the sector, no formal donor coordination mechanism exists. However, ADB, AFD, JICA, and UN Habitat are sharing information on planned and ongoing activities. Such coordination helps avoid duplication and ensure complementarity at the project level, and helps influence policy reforms.

10. **City Development Concept Plan Vision 2040.** The Department of Urban and Housing Development of the Ministry of Construction helped prepare the City Development Concept Plan Vision 2040 for each of the three cities. These plans are rather ambitious, based on an assumption that the three cities have significant potential for economic development, thanks to (i) an increase in trade with Thailand, (ii) better access to Yangon, (iii) the potential to be a base for offshore projects in the Bay of Bengal, (iv) an increase in tourist arrivals, and (v) a new international airport in Bago. The plans envisage identifying special zones within the city, improving road links and the river ports, improving public transport, and developing green areas within the city.

3. ADB Sector Experience and Assistance Program

11. **Experience and assistance in the sector.** Previously, ADB funded water supply projects in Yangon, approved in 1973,⁶ and in Mandalay, approved in 1982.⁷ An ongoing capacity development technical assistance project is developing the capacity of six cities to plan, budget, and prepare multisector urban development projects.⁸ ADB has assisted Yangon and Mandalay

⁵ Government of Myanmar. 2013. *Framework for Economic and Social Reforms: Policy Priorities for 2012–15 toward the Long-Term Goals of the National Comprehensive Development Plan*. Nay Pyi Taw.

⁶ ADB. 1973. *Report and Recommendation of the President to the Board of Directors: Proposed Loans to the Union of Burma for the Rangoon Water Supply Project*. Manila and ADB. 1978. *Report and Recommendation of the President to the Board of Directors: Proposed Supplementary Loan and Technical Assistance Grant to the Union of Burma for the Rangoon Water Supply Project*. Manila. ADB recognizes Burma by the name of Myanmar.

⁷ ADB. 1982. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to the Union of Burma for the Mandalay Water Supply Project*. Manila.

⁸ ADB. 2013. *Technical Assistance to the Republic of the Union of Myanmar for Transformation of Urban Management*. Manila.

in improving their water supply through a twinning partnership of urban water utility operators.⁹ A grant project is being implemented that focuses on small-scale and tertiary infrastructure in Yangon and Mandalay.¹⁰ ADB approved a loan and grant for improvement of water supply systems and wastewater and drainage management.¹¹

12. ADB's urban development and water sector strategy for Myanmar aims to support the government's objective to improve the quality of life for the majority of people, as well as the country's integration into the broader GMS. This framework is consistent with ADB's Urban Operational Plan under Strategy 2020, which promotes green development, competitiveness, and inclusiveness.¹²

13. **Priority assistance.** With job creation as the central priority of the government, it is expected that urbanization will be accelerated since most new employment opportunities will emerge in or around Myanmar's cities. Better urban infrastructure and services are essential for fostering the new industries and markets through which employment will be created, as well as serving in-migrants seeking employment. Modernized urban planning and management, infrastructure, and reliable and high-quality urban service provision are key in ensuring that urbanization is a driving force for economic growth.

14. ADB support in water and other urban services and infrastructure will focus on the cities in strategic locations along the GMS East–West economic corridor, which extends from Viet Nam, the Lao People's Democratic Republic, and Thailand to Myanmar; and the GMS Northern economic corridor, which connects Myanmar with India and the People's Republic of China. Linking urban development with GMS economic corridors will maximize the economic benefit of increased traffic and trade along these corridors by developing the cities as nodes of economic activities. This approach will provide an opportunity to create new growth poles to benefit their hinterlands and outlying regions, and the overall subregion. Accordingly, future projects in this sector will include the cities of Mawlamyine, Hpa-An, and Myawaddy as potential economic nodes along the GMS East–West economic corridor. In addition, Mandalay is strategically located on the Northern corridor linking India and the People's Republic of China and so projects may also touch on it and other towns along the Northern corridor. Furthermore, Bago will also be included because it lies on the route connecting the East–West corridor with Yangon and is the planned site of a new international airport for the Yangon region.

⁹ ADB. 2011. *Technical Assistance for Supporting Water Operators' Partnerships in Asia and the Pacific*. Manila.

¹⁰ ADB. 2014. *Grant Assistance to the Republic of the Union of Myanmar for the Pro-Poor Community Infrastructure and Basic Services Project*. Manila.

¹¹ ADB. 2015. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Grant to the Republic of the Union of Myanmar for the Mandalay Urban Services Improvement Project*. Manila.

¹² ADB. 2013. *Urban Operational Plan 2012–2020*. Manila.

PROBLEM TREE FOR WATER AND OTHER URBAN INFRASTRUCTURE SERVICES

