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 limited urbanization to about 34% of the population.\(^1\) The urban sector is dominated by its two largest cities, Yangon (with a population of about 4.6 million) and Mandalay (about 1 million). After Mawlamyine (about 500,000), city size falls off rapidly—only 31 urban centers have more than 100,000 inhabitants.\(^2\) Large parts of Yangon and Mandalay consist of resettlement areas with an estimated population in the hundreds of thousands. These areas resulted from relocation in the 1980s and early 1990s, when residents evicted from informal settlements were rehoused, or when government employees were assigned plots as part of their remuneration. Urban services in these areas are frequently below acceptable levels; for example, piped water supply is usually not available, there are no functioning drainage or sewerage systems, and lack of solid waste collection results in widespread environmental pollution, exacerbated by continuing densification.

2. Core constraints. The core constraints to Myanmar’s urban development are lack of urban planning and inadequate urban infrastructure and services. Policies for key areas of urban development do not exist, such as laws on land management, environmental protection, water resource management, decentralization, housing development, and urban planning and development. The national development plan, spatial plan, and sector master plans are not linked, which makes for weak coordination between pertinent central and local agencies. Although the government promotes decentralization of local administration and management, the division of roles and responsibilities at central, regional or state, and municipal levels is not clearly understood by local governments. Chronic underinvestment in urban infrastructure over decades has resulted in seriously deficient urban services throughout Myanmar. Investment needs for upgrading and expanding urban infrastructure and municipal services are huge.

3. Water supply. Sporadic, unreliable, and incomplete data are still a major constraint in assessing sector performance and establishing a basis for planning and prioritization. Official statistics indicate that Myanmar has performed well on achieving the water and sanitation targets of the Millennium Development Goals (MDGs). For instance, access to improved drinking water stands at 83% (urban: 93%, rural 78%) and to improved sanitation at 76% (urban 83%, rural 73%). However, piped water supply systems in Yangon and Mandalay distribute untreated surface water from open reservoirs, which may not be considered an improved water source. Recent data for Yangon indicate that water supply coverage remains at about 60%.\(^3\) Water supply networks do not extend to resettlement areas or to informal settlements, and the hours of supply vary significantly. Most of the population in all urban areas relies on informal private supplies. The quality of water used by households is uncertain and unlikely to meet international bacteriological guidelines for drinking water. Nonrevenue water is estimated at 40% in Yangon; it is probably much higher elsewhere, but data cannot be found or verified.

---


\(^2\) All population estimates are based on 2009 population data, not on the preliminary data of the new census released in 2014.

4. **Sanitation, solid waste, and stormwater drainage.** Urban areas do not have functioning citywide sewerage and drainage networks. With the exception of a small piped sewerage system in the old business district of Yangon, collection and treatment of domestic wastewater is not systematic. Most households in formal residential areas have some form of septic tank, but the tanks are not routinely serviced, and proper treatment of the sludge from septic tanks is unclear. Informal settlements depend primarily on improvised latrines that pollute the environment and pose a substantial risk to public health. Solid waste is collected in the 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 dumps. 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 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. In 2010, the mortality rate of children under 5 years of age (66 per 1,000 live births), often resulting from waterborne diseases such as diarrhea, was the highest within the Association of Southeast Asian Nations.4

6. **Climate change implications.** Myanmar is one of the countries hardest hit by extreme weather events related to climate change, including both prolonged droughts and intensive flooding. In the coastal and delta areas, potential climate change impacts are more frequent storms and floods, moving shoreline, seawater intrusion, and changes in rainfall pattern and intensity. Frequent flooding in urban areas, particularly in informal settlements often built along waterways and with lacking or nonfunctional drainage systems, is of concern.

7. **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).

8. **Gender issues.** The absence of any reasonable form of environmental infrastructure in poor communities places a particular burden on women. Women are the primary collectors, users, and managers of domestic water, and are responsible for waste disposal and environmental management. They are also the promoters of home- and community-based sanitation activities. Residents in marginal, low-lying urban settlements are regularly inundated by stagnant polluted water, aggravated by human waste coming from unimproved latrines. This gives rise to infections and waterborne diseases, and women often have primary responsibility for taking care of sick children and family members. Failure to include gender issues in water and urban infrastructure planning and implementation affects the quality and sustainability of local infrastructure investments and may exacerbate women’s work burden and time poverty, harm their health and well-being, and limit their capacity to pursue economic opportunities.

---

2. **Government’s Sector Strategy**

9. **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. 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.

10. **Institutional frameworks and capacities.** Policy and strategic guidance for the sector by central and local governments is inadequate. Institutional roles and responsibilities for planning, managing, and regulating the sector have not been clearly defined. While management of water supply and sanitation services in the three major cities is the responsibility of the local governments, the city development committees have limited autonomy and effectively function as implementers of programs designed by the central government. In other, smaller urban centers, a central government body—the Department of Development Affairs—provides water supply and sanitation services. While the government is moving toward decentralization, starting with devolving duties and responsibilities to the regions and states, many governance functions are still centralized. Although the Department of Human Settlement and Housing Development (DHSHD) at the Ministry of Construction is responsible for urban planning, other central ministries carry out the same function on certain levels. No single institution is responsible for the management of national water resources. Skills shortages have been identified as a probable obstacle to growth in the sector. The staff of government agencies and 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.

11. **Development partners.** Not many development partners are active in the areas of urban development and water. The United Nations Human Settlements Programme (UN Habitat) is taking a lead role in supporting capacity development of urban planning and management with the establishment of the Urban Research and Development Institute in Yangon. Japan International Cooperation Agency completed a master plan and feasibility studies for Yangon’s urban infrastructure, e.g., water, sanitation, solid waste management, and urban transport. Agence Française de Développement is supporting feasibility studies for urban infrastructure in Mandalay. The United Nations Children’s Fund, along with Japan International Cooperation Agency and the World Bank, initiated a water sector assessment that will provide updated information on access to water and sanitation services and other sector issues.

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

12. **Experience and assistance in the sector.** The Asian Development Bank (ADB) has funded several projects in Myanmar up to 1988. Of ADB’s total pre-1988 lending approvals to Myanmar of $531 million, only about $36 million (6.8%) was for water supply and other municipal infrastructure services. Urban projects included the Yangon water supply project (approved in 1973) and the Mandalay water supply project (approved in 1982).

---

Lessons and best practices from the region. Based on the lessons learned in other countries in Southeast Asia during the 2-decade interruption of ADB operations in Myanmar, certain principles should be adopted to make future programs more efficient: (i) allow an initial period of effective policy dialogue, (ii) develop sector indicators for institutional reform and financial performance of urban service operators, and (iii) enhance borrower commitment to tariff adjustments. Examples of well-performing utilities are the Phnom Penh Water Supply Authority in Cambodia, the Manila Water Company and Manila Water Services in the Philippines, and the Hai Phong Water Supply Company in Vietnam. These utilities have showcased best practices and tremendous improvements in various aspects of service delivery and management, such as (i) streamlining governance and institutional arrangements; (ii) improving their operational performance; (iii) reducing nonrevenue water; (iv) improving their financial performance; and (v) expanding service coverage, particularly to the poor.

Priority assistance. ADB’s urban development and water strategy for Myanmar aims to support the government’s objective of poverty reduction, and 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.

Since 2012, ADB, in close collaboration with the DHSHD, the Yangon City Development Committee, and the Mandalay City Development Committee, is building up a program of urban development, and water lending and nonlending operations. Early support in particular involved (i) providing a senior advisor for urban planning and strategy development to the Ministry of Construction; (ii) implementing a grant-financed pilot demonstration activity (PDA) for upgrading basic sanitation infrastructure in poor urban areas, completed in 2013; and (v) twinning arrangements for Yangon and Mandalay water and sanitation under the ADB-supported Water Operators Partnership Program.

Building on these early initiatives, of which many are still ongoing, future urban development and water projects will cover in particular (i) the Green Cities initiative, starting with a loan of $60 million for the Mandalay Urban Services Improvement Project to promote improved environment and resilience toward a Green Mandalay, for approval in 2015; (ii) the Competitive Cities initiative, starting with a loan of $80 million for the Third GMS Corridor Towns Development Project to develop Mawlamyine, Hpa-An, and Myawaddy as competitive economic nodes along the East–West Economic Corridor, for approval in 2016; (iii) the Inclusive Cities initiative, starting with a grant of $4 million provided by the Japan Fund for Poverty Reduction for improving basic infrastructure in poor urban communities in Yangon and Mandalay, scaling up the results of the PDA implemented in Dawbon, Yangon (footnote 9); and (iv) capacity development and institutional strengthening through capacity development technical assistance of $2 million for the Transformation of Urban Management.


In 2013, the nongovernment organization Malteser International implemented Demonstrating a Community-Led Approach to Improved Sanitation in Yangon, Myanmar. This $50,000 PDA provided better latrines and waste collection equipment and infrastructure for the Dawbon ward in Yangon, and targeted awareness building and behavioral change in matters of public health and hygiene.

Twinning arrangements for capacity development and peer-to-peer support, due for completion in 2015, are provided in (i) Mandalay by Vitens Evides International, Netherlands, to improve water supply; and (ii) Yangon by Vitens Evides International (water supply) and Hunter Water Australia (sanitation).

PROBLEM TREE FOR WATER AND URBAN INFRASTRUCTURE AND SERVICES

EFFECTS
- Health threats to the urban residents and environmental degradation
- Limited opportunities and economic growth in the urban areas
- Low quality of life and hardship for the urban poor

CORE PROBLEM
- URBAN DEVELOPMENT CONSTRAINED BY LACK OF URBAN PLANNING AND INADEQUATE URBAN INFRASTRUCTURE AND SERVICES

CAUSES
- Decades of isolation and economic stagnation in the country
- Lack of incentives to fund infrastructure in urban sector
- Weak capacity of urban service providers
- Absence of effective policy, institutional, and regulatory framework for the sector
- Sporadic, unreliable, and incomplete data
- Unpreparedness for natural disasters and climate change

- Inadequate investment from external partners and private sector
- Severe under-investment in infrastructure and services
- Lack of resources, knowledge, tools, and exposure to international best practices
- Unclear guidance and delineation of responsibilities in planning, regulating, and managing urban services
- Lack of effective planning and prioritization
- Limited knowledge on disaster preparedness and climate change adaptation

- Lack of resources for infrastructure expansion and improvements to the services
- Inadequate coverage and lack of cost recovery
- Poor services and low operational and management efficiency
- Inefficient and overlapping institutional setup for planning and managing urban services
- Inadequate planning for infrastructure and services in the urban sector
- Unclear government champion and policies on strategic disaster preparedness
### Sector Results Framework (Water and Other Urban Infrastructure and Services, 2012–2016)

<table>
<thead>
<tr>
<th>Country Sector Outcomes</th>
<th>Country Sector Outputs</th>
<th>ADB Sector Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased access of the urban population to good-quality basic services such as water supply, sanitation, solid waste management, and drainage</td>
<td>Water supply, wastewater management and sanitation, solid waste management, and other urban infrastructure and services expanded, improved, and sustained</td>
<td>Planned key activity areas&lt;br&gt;Infrastructure development (water supply, wastewater, sanitation, flood protection, solid waste management) (70% of funding)&lt;br&gt;Urban policy, institutional and capacity development (30% of funding)</td>
</tr>
<tr>
<td>No. of urban households using improved water supply increased</td>
<td>Water supply capacity increased</td>
<td>Planned key activity areas&lt;br&gt;Infrastructure development (water supply, wastewater, sanitation, flood protection, solid waste management) (70% of funding)&lt;br&gt;Urban policy, institutional and capacity development (30% of funding)</td>
</tr>
<tr>
<td>No. of urban households using improved wastewater management and sanitation increased</td>
<td>Wastewater treatment capacity increased</td>
<td>Planned key activity areas&lt;br&gt;Infrastructure development (water supply, wastewater, sanitation, flood protection, solid waste management) (70% of funding)&lt;br&gt;Urban policy, institutional and capacity development (30% of funding)</td>
</tr>
<tr>
<td>No. of urban households using improved solid waste collection increased</td>
<td>Solid waste collection and disposal capacity increased</td>
<td>Planned key activity areas&lt;br&gt;Infrastructure development (water supply, wastewater, sanitation, flood protection, solid waste management) (70% of funding)&lt;br&gt;Urban policy, institutional and capacity development (30% of funding)</td>
</tr>
</tbody>
</table>

**Planned key activity areas**
- New water treatment plants built
- Water distribution networks upgraded
- New wastewater treatment plants built
- Sewerage collection networks built or upgraded
- Sanitary landfills built
- Stormwater drains built or improved

**Pipeline projects**
- Loan for Mandalay Urban Services Improvement Project ($60 million)
- Loan for Third GMS Corridor Towns Development Project ($80 million)

**Ongoing projects with approved amounts**
- WOP twinning arrangement with YCDC and MCDC water and sanitation departments
- Capacity development technical assistance for Transformation of Urban Management ($2 million)
- Grant for Pro-Poor Community Infrastructure and Basic Services Project ($4 million)

**Ongoing projects**
- Partnership arrangements established for YCDC and MCDC
- Nine training courses implemented for government staff in six cities (Yangon, Mandalay, Mawlamyine, Pathein, Lashio, and Monywa)

(2018) 2,000 sanitary latrines constructed
- 17 kilometers of community drains improved
- 4 community solid waste collection systems established

**ADB = Asian Development Bank, GMS = Greater Mekong Subregion, MCDC = Mandalay City Development Committee, WOP = Water Operators Partnership, YCDC = Yangon City Development Committee.**

- The baseline data will be discussed with the government and updated when available.
- Quantitative targets will be completed based on information provided by feasibility studies for the pipeline projects.
- The Pro-Poor Community Infrastructure and Basic Services Project will be completed by 2018.