

## SECTOR ASSESSMENT (SUMMARY): WATER AND OTHER MUNICIPAL INFRASTRUCTURE AND SERVICES

### Sector Road Map

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

1. Located in Central Asia's heartland, the Republic of Uzbekistan sits at the crossroads of the ancient Eurasian trade routes. A landlocked territory covering about 447,000 square kilometers, Uzbekistan shares borders with Kazakhstan to the north and west, the Kyrgyz Republic and Tajikistan to the east, and Turkmenistan and Afghanistan to the south. Uzbekistan is comprised of fertile river valleys surrounded by vast plains and mountain ranges. It has a wealth of natural resources, including natural gas and minerals such as gold, uranium, and potassium, and vibrant agriculture, notably growing cotton. Uzbekistan's population was estimated to be 29.2 million in 2012, growing annually by 2.2% in 2009 to 2011.<sup>1</sup> It is the most populous nation in Central Asia and has a large rural population, as only 36.9% of the total population was urban as recently as 2010. Although provinces vary significantly in population density, most people live in the eastern, southern, and central-western parts of the country.<sup>2</sup> Vast areas of central, northern, and western Uzbekistan have extremely sparse populations.

2. Uzbekistan has the second largest economy in Central Asia, with a per capita gross national income of \$1,737.5 in 2012.<sup>3</sup> Since independence, the government has successfully adopted a developmental approach of gradual reform and industrial reprioritization in a market economy context—an approach that has yielded a relatively strong and stable economy.<sup>4</sup> This enables refocusing development objectives toward the secondary cities and rural areas to narrow the urban–rural divide. However, recent economic growth, a growing population, and increasing urbanization impose a range of challenges and demands on the country's urban areas, crucially that they replace aging infrastructure and improve urban services.

3. The significant contrasts in population density and economic development in Uzbekistan yield dramatic differences in the volume and, to some extent, the characteristics of the municipal solid waste (MSW) being generated nationally. In Tashkent, recent surveys show daily MSW generation at 0.55 kilograms/person/day, a rate that dramatically decreases progressively in smaller cities, towns, and rural areas. Uzbekistan is estimated to generate over 12,000 tons of MSW daily, or over 4 million tons annually. This is expected to accelerate to over 7 million tons per year by 2030, cumulatively generating from 2013 to 2030 about 100 million tons of MSW.

4. The nation's solid waste management (SWM) systems are poorly equipped to meet current demand. Outside Tashkent, the rudimentary SWM systems in cities and towns are heavily constrained, often reduced to basic truck-and-dump operations that collect MSW in often inefficient waste collection vehicles for direct transfer to un-engineered and unsanitary dumpsites and dumping grounds, where it is simply dumped and left exposed.<sup>5</sup> Outside of the primary urban areas, MSW services are sporadic and in many cases nonexistent. Rural MSW

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<sup>1</sup> ADB. 2013. *Uzbekistan Fact Sheet*. Manila.

<sup>2</sup> Highly populated areas include the Fergana Valley, the Tashkent–Samarkand corridor, the environs of Navoi and Termiz in the south, and along the Nukus and Novo-Urgench corridor in the west.

<sup>3</sup> Footnote 1, using the Atlas Method.

<sup>4</sup> The government's prudent fiscal management successfully steered Uzbekistan through the global economic downturn, allowing it to emerge with a gross domestic product growth of 8.1%, one of the highest in Central Asia.

<sup>5</sup> The State Committee for Nature Protection counts 178 registered dumpsites throughout Uzbekistan and believes there are several hundred additional unrecorded facilities.

collection efficiency is reportedly less than 50%.<sup>6</sup> In the cities, recycling is in its infancy, and recycling efficiencies are informally estimated at less than 10%. In rural areas, recycling is virtually unknown.

5. Existing SWM practices throughout Uzbekistan cause considerable environmental damage to air, land, surface waters, and groundwater resources, harming the health and well-being of residents. Impacts are especially acute at the dumpsites, where exposed wastes pose serious health risks to nearby populations and contribute considerably to land, water, and air pollution.

6. The SWM institutional and regulatory framework in Uzbekistan is defined in the Law on Waste, 2002, which guides and regulates sector development. The Cabinet of Ministers is ultimately responsible for approving state SWM programs and SWM sector norms and standards.<sup>7</sup> Four national agencies are responsible for sector planning, development, coordination, and regulation: (i) The State Committee for Nature Protection controls regulatory compliance. (ii) The Ministry of Health ensures compliance with health standards. (iii) Uzkomkhizmat is the government's national municipal infrastructure development agency. (iv) Sanoatkontekhnazorat controls and supervises mining and waste processing. In addition, the Ministry of Finance coordinates and manages sector investment programs, financing, and tariff implementation, and the Ministry of Economy develops utility programs and promotes initiatives under the clean development mechanism.

7. Uzbekistan's provincial authorities are mandated to implement SWM programs, resolve facility siting issues, promote MSW collection and recycling enterprises, and encourage business development in SWM. Each city characteristically operates its own SWM system, often through a SWM service company that it controls. Outside of Tashkent, SWM services are basic, generally with an underfunded SWM services company striving to provide adequate waste collection while operating rudimentary dumpsites and dumping grounds. In rural areas, SWM is informal, with communities often self-funding waste collection on an ad hoc basis.

8. Tariffs and tariff-setting mechanisms are in force in Uzbekistan's urban areas, with household tariffs ranging from SUM1,500 per capita per month in Tashkent to about SUM500 per capita per month in secondary cities. Generally, three tariffs exist for residential users, commercial users, and state enterprises based on either the weight of the waste hauled or the distance it needs to be hauled. Local municipalities set tariffs based on information provided by beautification agencies. Tariffs are often barely sufficient to cover even the basic operation and maintenance costs of rudimentary systems.

9. Although currently in need of significant and immediate rehabilitation, Tashkent's SWM system is markedly more advanced than those of other cities in Uzbekistan. Supported by a relatively substantial SWM tariff, the system is able to serve the entire population of 2.3 million, including the northern city of Chirchik.<sup>8</sup> The system is operated by Maxsustrans, a joint stock company owned by municipality of Tashkent. It has nearly 700 MSW collection points, from which MSW is collected by over 300 collection vehicles for transport to one of Tashkent's three MSW transfer stations. At the transfer stations, the MSW is compacted into large containers

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<sup>6</sup> Uncollected MSW is primarily burned or dumped illegally on vacant land and waterways.

<sup>7</sup> The Cabinet of Ministers establishes procedures for SWM registration and control, waste certification, land allocation to facilities, trans-boundary waste movement, and setting compensation amounts.

<sup>8</sup> Tashkent's SWM system was developed in 1999 through a \$56 million investment project funded by the World Bank, European Bank for Reconstruction and Development, and Japan International Cooperation Agency and including components for MSW collection, transfer, and disposal.

then transported to the Akhangaran controlled dumpsite 30 kilometers southeast of the city, where it is dumped and covered. The system has served Tashkent for over a decade and now needs substantial rehabilitation.<sup>9</sup>

10. In summary, existing SWM systems are heavily constrained and largely incapable of accommodating future MSW volumes and other sector demands. A coherent SWM strategy does not yet exist, leaving disparities in service provision, with many areas completely lacking SWM services. SWM regulations are widely recognized as being uncoordinated, outdated, and difficult to implement. Regulatory enforcement is weak. Institutions lack planning, management, and operational capacity, and there is a critical need to build human capacity and systems.<sup>10</sup> Service delivery is basic, and modern concepts of waste minimization, segregation, recycling, collection, transfer, and disposal, as well as environmental compliance, are poorly understood. Recycling exists but only barely, wasting valuable resources and denying society the social, economic, and environmental benefits that recycling can bring.<sup>11</sup>

## **2. Government's Sector Strategy**

11. Government fully recognizes the nation's SWM challenges, while appreciating that Uzbekistan's progressive development has reached a point where SWM is now a key priority. There is strong consensus to replace the rudimentary truck-and-dump methods of the past with modern, internationally compliant SWM systems in step with advances achieved in other areas of infrastructure. The government considers SWM to have a crucial social welfare element and of high social importance, as demonstrated by its decision in 2009 to nearly double national SWM expenditures from 1.0% of the national budget to 1.8%.

12. The government is beginning to assess options for national SWM development, incorporating the analysis of solutions for Tashkent, second cities, towns, and outlying rural areas, all of which demand different solutions.<sup>12</sup> This initial work will lead to the formulation of a national SWM strategy to guide sector improvements and corresponding investment programs over the medium-term. In the short-term, however, the government faces an acute and immediate challenge to rehabilitate the Tashkent SWM system and avert system breakdown.<sup>13</sup> This is government's priority focus, following which it can incrementally improve SWM in other cities, towns, and eventually peri-urban and rural areas.

## **3. Asian Development Bank Sector Experience and Assistance Program**

13. SWM sector improvements are consistent with the Asian Development Bank (ADB) country partnership strategy (CPS), 2012–2016 for Uzbekistan, which prioritizes replacing aging

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<sup>9</sup> The required rehabilitation includes restoring and expanding waste collection points, completely replacing fleets of collection and transfer vehicles, rehabilitating transfer stations, developing an engineered landfill, initiating formal citywide waste minimization and recycling initiatives, and providing management and operational support.

<sup>10</sup> Necessary capacity development includes SWM planning, management, engineering, environmental compliance, contracting public-private partnerships, tariff implementation, customer service, and media and public relations.

<sup>11</sup> Recycling protects the environment by reducing atmospheric and terrestrial pollution; creates new industries with jobs particularly for lower-paid workers; and reduces MSW collection, transfer, and disposal costs as recycled materials are diverted from the municipal system. Existing practices needlessly waste valuable resources, which include paper, cardboard, glass, plastics, metals, and a host of other potentially recyclable materials. In addition, opportunities likely exist to compost organic components of the waste stream in many rural areas of Uzbekistan.

<sup>12</sup> Prime for evaluation are innovative solutions using existing regional rail networks that transport MSW over extended distances to remote regional disposal facilities.

<sup>13</sup> The government is already acting to avert system breakdown, including acquiring 138 MSW collection vehicles through lease-to-own modalities.

infrastructure and improving the quality, coverage, and climate resilience of SWM and other municipal services.<sup>14</sup> They also conform with ADB's 2020 Strategy<sup>15</sup> and the government's Welfare Improvement Strategy.<sup>16</sup> They are cited in the country operations business plan (COBP), 2012–2014 for Uzbekistan, aligning fully with the immediate objective of developing basic urban infrastructure to support economic growth.<sup>17</sup> SWM sector investments are a natural progression from ADB's recently successful water sector investments and are consistent with other municipal infrastructure interventions. The proposed ADB assistance fully aligns with the government's immediate sector requirements by helping to expeditiously rehabilitate the Tashkent SWM system, while concurrently providing specialist technical assistance to assist with formulating a national SWM strategic plan for implementation nationwide over the medium term.

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<sup>14</sup> ADB. 2012. *Country Partnership Strategy: Uzbekistan, 2012-2016*. Manila.

<sup>15</sup> ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.

<sup>16</sup> Government of Uzbekistan. 2013. *Welfare Improvement Strategy of Uzbekistan 2012-2015*. Tashkent.

<sup>17</sup> ADB. 2012. *Country Operations Business Plan: Uzbekistan, 2012-2014*. Manila.

## Problem Tree for Solid Waste Management

