

Solid Waste Management Practices in Azerbaijan

Current Conditions and Ways Forward

Hajar Huseynova

Topics of discussion

Solid waste management from the different perspectives; current state policy and plans with regards to solid waste management in Azerbaijan; current and previous practices and lessons learned; different waste management business practices, challenges they face, and ways to overcome them; global practices in solid waste management.

Introduction

This document summarizes a roundtable discussion organized by the Institute of Development and Diplomacy in April 2023 on Solid Waste Management Practices in Azerbaijan with the involvement of various public, private, and international institutions, such as the Ministry of Ecology and Natural Resources (MENR), “Tamiz Shahar” JSC, EBRD, AzEkol, Oven (residents of Balakahni Industrial Park that are dealing with recycling of various waste products) as well as individual experts including Islam Mustafayev, Madina Hajiyeva and Elnur Safarov. The roundtable was moderated by IDD’s Hajar Huseynova. This event served as a basis for different stakeholders to openly discuss the questions that concerning their activities and get familiar with recent updates.

Hajar Huseynova is a Senior Research Fellow at the Institute for Development and Diplomacy (IDD) specializing in environmental policy and management, sustainable development, and water resources management. She is a former Regional Project Analyst for the UNDP-GEF Kura II Project. She has also cooperated with GIZ as an independent consultant on ecosystem services and worked as a research assistant with the Caspian Center for Energy and Environment, the Konrad-Adenauer Stiftung, and the Norwegian Institute for International Affairs. The views and opinions expressed herein are solely those of the author.

Current Situation

Solid Waste Management faces logistical, transportation, financing, and management challenges in Azerbaijan. Currently, it is overseen by local executive authorities responsible to the state; however, in other countries, municipalities handle it, with costs borne by producers and consumers. As there are no managed and sanitary landfills and waste sorting practices in the regions of Azerbaijan, more than half of the solid waste generated in the country is not properly managed, creating environmental and health concerns as well as obstacles for recycling companies. Azerbaijan is taking some action to improve the situation, however a holistic approach anchored in strong political will is much needed, at this stage.

Innovative approaches, like waste-to-energy capturing methane and using it for electricity generation and/or heat are being considered. The focus of waste management in Azerbaijan extends beyond solid household waste to include various types of waste, including medical waste. Properly sorting medical waste from medical institutions is of great significance. Waste incineration processes occur at the factories of the MENR in Sumgait, but the ultimate goal is recycling rather than incineration, though progress has been made in the latter.

In 2008, Azerbaijan adopted strategic documents concerning domestic waste management at the state level, and these documents were updated between 2018 and 2020. Notably, in 2019-2020, the President approved a document that focused on measures related to plastic waste recycling. The MENR is presently working on digital accounting of waste, however improved management is essential for accurate tracking. Recently, the use of plastic bags began to be restricted and discouraged; however, there is still room for development in terms of enforcement and coverage.

To enhance waste management nationwide, a commission was established in 2021 under the order of the Prime Minister. The Commission, chaired by the First Deputy Prime Minister, Shahin Mustafayev, is responsible for waste management in the country's territory, including the recently liberated regions. "Tamiz Shahar" represents a successful example of solid waste management in Azerbaijan—thus, the same entity will oversee waste management in the liberated areas as well.

Sanitized Landfills in Azerbaijan

The initial task of "Tamiz Shahar" JSC was to transform the Balakhani landfill into a sanitary landfill; the plant is now equipped to capture gases released from waste, and the contaminated water is treated and converted into technical water used for watering trees. Waste materials suitable for recycling are handed over to residents of an industrial park for processing, with 51 million AZN invested in these initiatives. Additionally, out of the total production of 157 million AZN, 18 million AZN worth of waste materials

have been exported to foreign countries. The incineration plant handles approximately 500,000 tons solid household waste, including 10,000 tons of medical waste.

78.3 percent of the 2,6 million tons of solid household waste generated in 2022 were transported to landfills for disposal, 21.2 percent were used to generate energy, and 0.5 percent were sold within the country. Through incineration, the plant generates 205.3 million kilowatt hours of energy, of which 15 percent is used to power the facility itself. The waste-to-energy plant's electricity production goes down during the summer months, due to the waste type (i.e., because the consumption of foods rich in water content like many fruits and vegetables is increasing)

The local residents surrounding the plant have expressed concerns about waste-to-energy activities taking priority, which leads to less sorted waste being available. On the other hand, the plant requires a minimum amount of waste to operate efficiently. The scattered waste management system across Baku creates challenges for "Tamiz Shahar" in functioning as both a waste sorting entity and providing enough waste for the plant to burn. This dilemma arises as the plant needs to meet its own waste requirements first before considering sharing the remaining waste. Striking a balance between waste-to-energy activities and waste sorting efforts is crucial for "Tamiz Shahar" to effectively manage waste disposal and energy generation while addressing the concerns of residents. Collaborative efforts and strategic planning are necessary to find a suitable solution that meets the needs of all stakeholders involved.

To combat the issue of illegal waste dumping, specific loading and unloading points are planned to be constructed in the Shuvelan settlement of the Khazar region and the Kizildash settlement of the Garadag region. Waste management and transportation plans are in place for Shusha and Zangilan (Aghali village), two districts in the liberated territories of Karabakh. Moreover, landfill sites in nine other districts of Karabakh have been identified and cleaned from landmines with the assistance of ANAMA.

Experiences of International and Private Entities

Currently, waste sorting is rarely happening at the household level due to low trust, low awareness, and (consequently) low engagement level with the public. Additional challenges are related to the lack of infrastructure, transportation, as well as administration of the process. Landfills beyond of the Greater Baku region are not managed fully; in the regions, landfills are usually located near bodies of water, which causes additional environmental and health challenges. Lack of waste sorting practices and unmanaged access to the landfills represents a burden for the recycling companies, as they cannot directly reach their raw materials. As most unsorted solid waste ends up in the landfills and there is no regulation on who can access the area, there is a network of different waste pickers. The bigger the chain network, the costlier the process becomes. To address this situation, the management of the company

could be outsourced, or alternative working mechanisms should be explored to find a solution that benefits all parties involved.

Additionally, some companies have specific challenges, like unavailability and not knowing the necessary chemical substances imported from China used for recycling the food products into feed and feed additives in agriculture. This activity contributes to the reduction of environmental pollution and strengthens food safety, yet due to the lack of awareness and fragmented waste management practices they face challenges with accessing the buyers. Farmers prefer buying traditional feed whereas the prices of the offered recycled feed are like wheat and barley.

The EBRD has also shared its recent practices in solid waste management in the Green Ganja Project. It was noted that, at present, the project is in its initial stages, with ongoing waste collection and visibility analyses being conducted in Ganja city. The project's current emphasis is primarily on developing infrastructure and acquiring necessary equipment. However, there is a need to increase focus on waste management and address other related issues. Various challenges are being faced in municipalities, particularly concerning waste collection and financial aspects. To overcome these challenges, a comprehensive approach is required, which involves attracting different financial sources. Participants indicated that while the Ganja project is currently focused on infrastructure and equipment, it should also place significant emphasis on waste management strategies and financial sustainability. A systematic approach and support from various financial sources would contribute to the success of the project and improve waste management practices in Ganja city.

Best Practices and Solutions

The independent experts highly recommended taking example of the countries that have similar pathway as Azerbaijan rather than looking to countries with already established and advanced level of solid waste management. Although, for instance, Germany is one of the top countries in terms waste management, it was recommended to have study visits to countries like the Czech Republic and Türkiye that are evolving in this sphere recently with noticeable progress. International studies indicate that people are willing to pay a certain amount for effective waste management and cleanliness services. There is a need to conduct similar studies in Azerbaijan to better understand the needs of population.

To arrange efficient waste management, it is important:

- I. To clearly understand (1) the specific challenges faced by different regions like lack of necessary trucks, infrastructure, and/or awareness and trust; and (2) conflict of interest amongst the involved stakeholders to organize the overall process in a most favorable way for all.
- II. To adopt a systematic holistic approach, starting with waste reduction and sorting, followed by mechanical and dialogic treatment.

- III. To consider incineration and burial as subsequent steps. Implementing this order would ensure a more effective and environmentally conscious waste management process.
- IV. To ensure awareness raising is an integral and leading part of the development and enforcement of a holistic waste management approach. Without the necessary support from the producers of waste, it would be challenging to enhance the overall process efficiently. One of the ways of ensuring this is the enforcement of responsible production and consumption approach.
- V. To ensure that comprehensive data collection and analysis becomes an integral part of the holistic waste management approach. Having detailed data would enable stakeholders to analyze current trends and address them properly.