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Assessing the waste recycling capacity in Georgia

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Part I - Assessment of waste recycling capacity and recommendations on the introduction of the 3R principle in selected rural communities in Georgia (Tskaltubo and Khoni municipalities).

Assessment of waste recycling capacity and recommendations on the introduction of the 3R principle in selected **rural communities** in Armenia (Vanadzor and Dilijan municipalities). The report will contain information on waste recycling capacity (separation of plastic and paper, in particular) and recommendations on the introduction of the 3R principle in 7 communities in Tskaltubo and Khoni municipalities (Georgia).

Objective

Contributing to improving environmental quality and reducing waste in rural areas by supporting the introduction of modern waste management practices and increasing environmental awareness through cross-border cooperation and cross-sectoral partnership in Georgia, Armenia, Moldova and Romania.

Specific project objectives

Capacity building of selected rural communities in Georgia and Armenia by sharing and introducing European approaches and experience of the 3R principle in waste management.

Developing cross-border cooperation and cross-sectoral partnership for anti-litter protection, public awareness and environmental education in rural areas of Georgia and Armenia.



The general methodology of the project consisted in collecting data, observing the area, drawing conclusions and making short and long term recommendations by way of the following activities:

- study visits to collection points and other locations,
- meetings with local officials
- studying available data, reports and previous studies
- research for baseline data on waste quantities and composition
- analysis and reporting

INTRODUCTION

The rural waste management sector is poorly developed in low and middle-income countries compared to urban areas, even though a significant part of the population lives in such regions. Rural waste management issues are less discussed in the literature than those in the urban areas due to lack of adequate data.

Firstly, the proportion of the rural population is higher and has a lower standard of living and secondly, waste collection services are poorly developed, covering only some rural areas.

Waste operators avoid such areas and local authorities provide little or no financial resources to provide adequate public services. In addition, geographical constraints (mountains, hills, high plateaus, karstic regions and wetlands) make it difficult to implement adequate waste management facilities.

Direct landfilling poses a complex of environmental threats but it is often widespread in rural areas of developing countries due to the lack of formal waste management services. Illegal dumping of waste has occurred even in countries where waste management systems are better developed and cover almost the entire population as in Spain or Italy. The rural waste management sector is an emerging issue in developing and transition countries around the world.

Reorganisation of waste collection services, closure or upgrading of non-compliant landfills, development of recycling centres are priorities for new EU members or aspiring countries. The implementation of the Landfill Directive 1999/31 is a challenge even for old EU countries such as Greece. Investments in the modernisation process of



the municipal waste management sector are expensive and CEE countries rely on EU funds. Extending waste collection to less populated areas leads to a reduction of illegal landfill activities. Changes in the composition of municipal waste have varied differently between urban and rural households over the last decade, leading to different waste management options.

Rural areas in Eastern Europe have been often ignored by waste management services until the implementation of the EU Landfill Directive. Recent studies pay attention to rural waste management issues in EU candidate countries with regard to illegal waste disposal practices, poor waste management facilities and future prospects for EU waste policy. Inter-municipal cooperation should be developed to address administrative and logistical inefficiencies in rural areas, which are underperforming in terms of separate collection and recycling activities. Romania needs to move onto waste management facilities in the poor rural municipalities.

The **EU approach** to waste management is based on three major principles:

- Prevention of waste generation - a factor considered to be of paramount importance in any waste management strategy, directly linked to both improving production methods and to getting consumers to change their product demand (green product orientation) and to adopt a low-waste lifestyle.
- Recycling and reuse - where waste is generated, encouraging a high level of recovery of component materials, preferably through material recycling. In this respect, several waste streams are identified for which material recycling is a priority: packaging waste, end-of-life vehicles, waste batteries, waste electrical and electronic equipment.
- Improved final waste disposal and monitoring - where waste cannot be recovered, it has to be disposed of in a safe manner both environmentally and in terms of human health with a strict monitoring programme.

The basic objectives of current EU waste policy are to prevent waste generation and to promote re-use, recycling and recovery to ensure environmental protection.

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3R - Concept, definitions

The principle of reducing waste, reusing and recycling resources and products is often referred to as the "3Rs".

- Reduction means choosing to use items carefully to diminish the amount of waste generated;
- Reuse involves the repeated use of items or parts of items that still have usable aspects;
- Recycling means using the waste itself as a resource.

Waste minimisation can be achieved effectively by focusing first and foremost on the first of the 3 Rs, that is 'reduce', followed by 'reuse' and then 'recycle'. The waste hierarchy refers to the "3Rs" namely reduce, reuse and recycle, which rank the waste management strategies according to their desirability. The 3Rs are listed as a hierarchy, in order of importance. The waste hierarchy has taken many forms over the past decade, but the basic concept has remained the cornerstone of most waste minimisation strategies. The aim of the waste hierarchy is to extract the maximum practical benefits from products and generate the minimum amount of waste.

The concept of minimising the impact of waste in terms of quantity or negative effects by reducing the amount of waste, reusing waste with simple treatments and recycling waste by using it as a resource to produce the same or modified products is commonly referred to as the "3Rs". Purchasing and using resources with care can reduce the rate of resource and energy consumption and connected resources continually, ultimately reducing waste many times for waste streams. When long-lived goods are reused from time to time, offsetting the collection of similar or equivalent new products. This saves fresh resource exploitation and waste generation quantity. Some waste can be used as a resource for the production of different goods or the same product, i.e. recycling the same resource.

This saves fresh resources and offsets waste generation. Thus the 3R concept individually or collectively saves the exploitation of fresh resources, adds value to already exploited resources and very significantly minimises the amount of waste and

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its negative effects. The efficiency of waste minimisation is said to be best achieved by applying the 3Rs in a hierarchical order - Reduce, Reuse and Recycle.

Waste is a resource

Traditionally, waste has been seen as worthless. In a resource-efficient economy and society, the term "waste" would refer only to those waste materials that have absolutely no potential for use and therefore no economic value. According to this definition, traditionally "worthless" waste streams can be considered as resources for a new level of the economy. They can be recovered (or prevented from being lost) through greater efficiency and management at each stage of production and consumption.

Recycling waste is not a profitable business, but the use of recycled products in industry is truly beneficial.

Even some hazardous or toxic materials can be recycled or re-refined for re-use.

Waste separation at source

Waste separation at source is of paramount importance in the 3R initiative. Municipal waste on account of its diverse sources will have mixed materials. However, recently it has been observed that recyclable materials with economic value such as waste paper, plastic, broken glass, metal etc., is not separated and is dumped on the streets by people together with household/commercial/institutional waste. By disposing of such recyclables on the streets or in a communal bin, the quality of the recyclables deteriorates as they will be soiled by wet waste which often even contains contaminated and hazardous waste.

Without waste segregation, the composition of waste will not be known and the planning, the engineering and the implementation of waste management systems could not possible.

Separation is a key activity in any successful 3R initiative.

In general, waste can be separated at three levels;

1) household and community level,

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2) in the collection and transportation process by municipal workers, and
3) at the landfill by the workers. It is also important to note that in the absence of recycling industries or buyers for separated waste, sorted waste ends up being dumped and mixed with unsorted waste in open spaces or at disposal sites. At least 80-90% of all waste can be recycled, which now goes to landfills or dumps in the absence of waste segregation practices at source.

The quality and efficiency of recycling facilities depend largely on the quality of the separated waste. In particular, composting of organic waste depends solely on the quality of waste separation.

A highly successful rural recycling programme can extract about 9% of the residential waste stream if items such as glass, metal containers and cardboard are recovered.

Rural areas can present unique alternatives for the use of recyclable materials. For example, waste newspaper and mixed paper can be used as a straw substitute for animal bedding. In fact, waste paper outperforms straw in absorbing animal waste and could be less expensive, according to pilot projects in some areas. Waste paper can also be used to insulate buildings and as a filler material for hydroseeding.

Potential uses for glass mix include stained glass (a mixture of glass and asphalt for paving roads), landfill cover, glass concrete (a mixture of glass and concrete), sandblasting, backfill, road surfacing material, erosion control, septic fields and as a sand substitute.

Mixed plastics can be shredded and applied with additives to unpaved vehicle parking areas.

GEORGIA

Georgia, with its transitional economy, is seeking Euro-Atlantic integration and hopes to apply for EU membership in 2024.



It has a population of 3.7 million, of which 2.2 million (59.04%) live in urban areas and 1.5 million (40.96%) in rural areas.¹ Nearly a third of the country's population - 1.2 million - live in Tbilisi, the capital.

Since 2016, the total population has grown by an average of 0.01% annually, with a positive urban population increase of 2.36% and a negative rural population loss of 3.23%. Tbilisi enjoyed the highest growth with 5.11%, followed by Achara with 3.8% and Kvemo Kartli region with 1.91%.

Georgia was classified as an upper middle-income country for the first time in 2015 and again in 2018 (based on Gross National Income - GNI - per capita). Between 2007 and 2016, the economy grew at an average rate of 4.5%. Consumption and high investment rates drove this growth, while net exports dampened it. Between 2017 and 2019, the growth rate returned to five percent due to strong exports underpinned by the regional recovery along with tax reforms. However, the COVID-19 pandemic in Georgia led to a steep six percent economic contraction in 2020.² The initial economic shock caused by the COVID-19 lockout resulted in a 16.6 percent economic decline compared to the same period in April 2020. After the infections came under control, restrictions were gradually lifted the following summer and the economy began to recover, with Gross Domestic Product (GDP) contraction falling to 5.3 percent year-on-year by August 2020. The pace of recovery was again halted due to the second wave of the pandemic and the nearly total lockdown in late 2020 and early 2021. Future economic prospects will depend on the duration of the pandemic, the availability and distribution of vaccines and the restoration of international trade and investment flows. If further waves of infection can be avoided, Georgia would see a gradual economic recovery, with growth reaching four percent in 2021 and six percent in 2022. However, real GDP in this scenario would be about 10 percent lower in 2022 than projected before the pandemic. Despite signs of gradual recovery, the economic shock of the pandemic has impoverished 350,000 people in Georgia and forced more than 800,000 to undergo downward mobility, according to the World Bank's latest poverty projection.

The poverty rate in 2020 could increase by nine percent, from 38 percent (counterfactual scenario) to 47 percent, including pandemic-related economic shocks

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(assuming an upper middle-income class poverty line of \$5.5 per day, 2011 PPP). Extreme poverty might get more than double to 7.4 percent. The national poverty rate in 2020 could exceed the 2013 level. Policy measures implemented by the Government of Georgia (GoG) to mitigate the economic shocks to household incomes caused by COVID-19 have had progressive effects on the population. When they are combined, such measures are significant - though insufficient to reverse all the poverty caused by the pandemic, reducing poverty only by up to 4.7% (the national poverty line).

Georgia's ability to address its development challenges depends on how it manages risks, with regional development remaining a strategic driver for inclusive and sustainable growth. Prior to COVID-19, Georgia faced increasing fiscal risks that prompted the Government to develop a fiscal consolidation programme at the end of 2016 to ensure a sustainable fiscal path. This commitment formed the basis of an Extended Fund approved by the International Monetary Fund (IMF) in April 2017. Government policies have supported economic growth in the short term, and the IMF-supported programme was designed to help Georgia reduce economic vulnerabilities in the future. But key sustainability challenges remaining in 2019 are likely to be exacerbated by the pandemic. The 2018 Systematic Country Diagnostic prioritized equalizing access to opportunities and investing in people. Today, the country is an economic patchwork with islands of prosperity and opportunity (especially in a few cities) and a vast rural hinterland characterised by limited mobility and low productivity. These regional disparities constrain inclusive growth, worsen along with demographic change and hamper Georgia's long-term growth prospects and ability to harness its talent pool. Reform has been uneven across government layers and sectors, and capacity constraints exacerbate institutional limitations. While, for example, Georgia has developed excellence in key aspects of central government decision-making, this needs to be extended to lower technical levels, where connections are being built between urban centres and rural areas

Environmentally, Georgia has performed well in recent decades and has started to align national regulatory and policy frameworks and state institutions with EU standards. The adoption of the Waste Management Code (WMC) in 2015 substantially advanced

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Georgia's solid waste management (SWM) agenda. This was followed by the development of a National Waste Management Strategy (NWMS) and an associated National Waste Management Plan (NWMP). A series of implementing regulations and guidelines have been adopted to support SWM and gradual implementation has begun. Local authorities have formally adopted five-year municipal waste management plans (MWMPs) followed by their implementation. In addition, many waste companies have submitted waste management plans to the Ministry of Environmental Protection and Agriculture (MEPA) for approval and have started annual reporting of their waste according to WMC requirements. MEPA and other relevant authorities have set up a number of electronic waste registers and waste accounting by waste producers has improved significantly. MSW collection in Georgia has improved significantly, with rates reaching almost 100% in urban areas and about 64% in rural areas. Many small landfills have been cleaned up across the country - a number of operational landfills that posed high risks to public health and the environment have been closed and cleared, while those with lower impacts have been rehabilitated and scheduled for closure and remediation. The International Financial Institutions (IFIs) financed the construction of new EU-compliant regional landfills and provided support for the establishment of relevant transport systems and transfer stations. The recent introduction of Extended Producer Responsibility (EPR) through the adoption of technical regulations on batteries and accumulators, waste oils, end-of-life tyres (ELT) and waste electronic and electrical equipment (WEEE) is one of the most important reforms in the SWM sector. Draft regulations on packaging and end-of-life vehicles (ELVs) have been developed and are under discussion by various stakeholders. The EPR approach implies wider responsibilities for producers - including importers of specific products for the management of waste generated from product use, either individually or collectively - through producer responsibility organisations (PROs). Despite the GoG's significant progress towards integrated SWM, Georgia still faces many challenges that need to be addressed in the short, medium and long term. The sector can still benefit from better infrastructure and sustainable practices, including know-how, financing mechanisms and improved capacity, especially at municipal level. Further support for the

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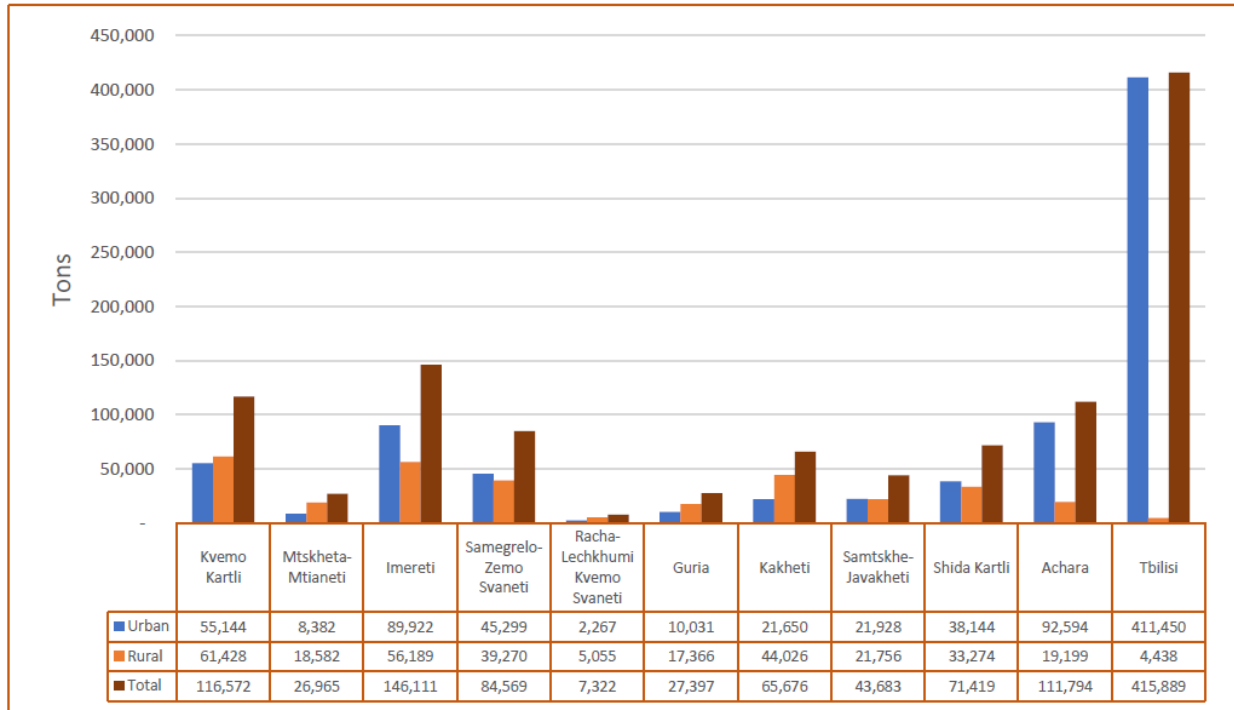
implementation of full cost recovery policies for MSWM and for strengthening the recently adopted EPR regulations can promote SWM. The sector can reinforce high levels of participation and encourage certain waste producers, consumers and local authorities to better collaborate in establishing and implementing EPR schemes (especially for packaging waste) and to start separate collection and recycling of dry recyclables and household hazardous waste as mandated by the WMC. Public awareness of MSW can be deepened as littering and dumping remain common practices, especially in tourist hotspots such as those along the Black Sea coast and in rural areas where waste collection is quite low.

Given economic development trends in urban and tourist areas - with positive population growth rates and increasing visitor numbers - total municipal waste generation is expected to increase from 1,117,396 metric tons in 2019 to 1,212,538 tons by 2025 assuming a 0 percent increase in the waste generation index (WGI)⁶ and to 1,252,855 t if the WGI increases by 1.6 percent in urban areas and 0.8 percent in rural areas. With the introduction of regional compliant landfills, the management of the sector will become more costly and require more human and financial capital. To meet the growing needs of the sector, given the known challenges, investor and private sector support must be mobilised to identify and prioritise short, medium and long-term investments effectively.

Solid waste generated per each region



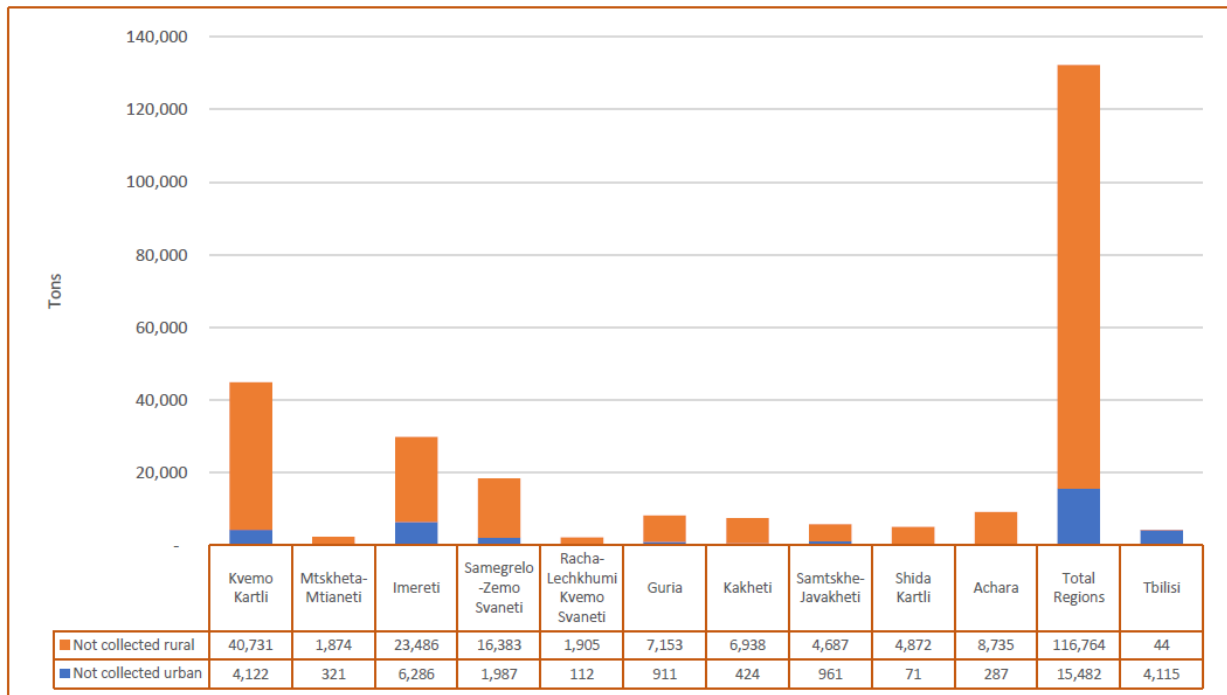
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Collection rate, quantities collected and collection gaps. The current collection/service coverage rate for MSW is 87.88 percent, with 97.56 percent reported for urban areas and 63.56 percent for rural areas. This ranges from 38 percent (Gardabani) to 100 (Poti and Batumi)²⁹, Tbilisi to over 99 and Kutaisi to 98. Urban areas range from 60 to 100 percent, while rural areas report between 25 (Gardabani, Marneuli, Tchiatura) and 95 percent (Mtskheta and Khashuri).

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Uncollected quantities of waste per area



Waste recycling and recovery

Recycling and recovery of existing and potential capacities.

According to 2019 estimates, Georgia's total recycling potential is 361,759 t of dry recyclables, of which 228,977 t (63.3 percent) are attributed to the regions and 131,781 t (36.70 percent) to Tbilisi. Of all the regions, Achara has the highest potential, followed by Imereti, Kvemo Kartli, Shida Kartli, Samegrelo-Zemo Svaneti and Kakheti. By 2025, the total recycling potential will increase to 406,233 t/year, with 246,642 t/year attributed to the regions and 159,591 t/year - to Tbilisi (WGI urban 1.6% and WGI rural 0.8% average annual growth scenario).

Large municipalities such as Tbilisi, Kutaisi, Rustavi and Batumi have a relatively high potential for recycling and energy recovery compared to smaller rural municipalities and therefore may consider attracting investment for waste processing facilities from their own municipalities only.



However, adopting a regional approach is the most efficient way to acquire expensive recycling and recovery technologies, and regional facilities can only be built and operated through inter-municipal cooperation or strong public-private partnerships. Also, the efficiency of material recovery depends on the type of waste collection system (e.g. mixed waste collection system, 2 or more containers collection system, etc.).

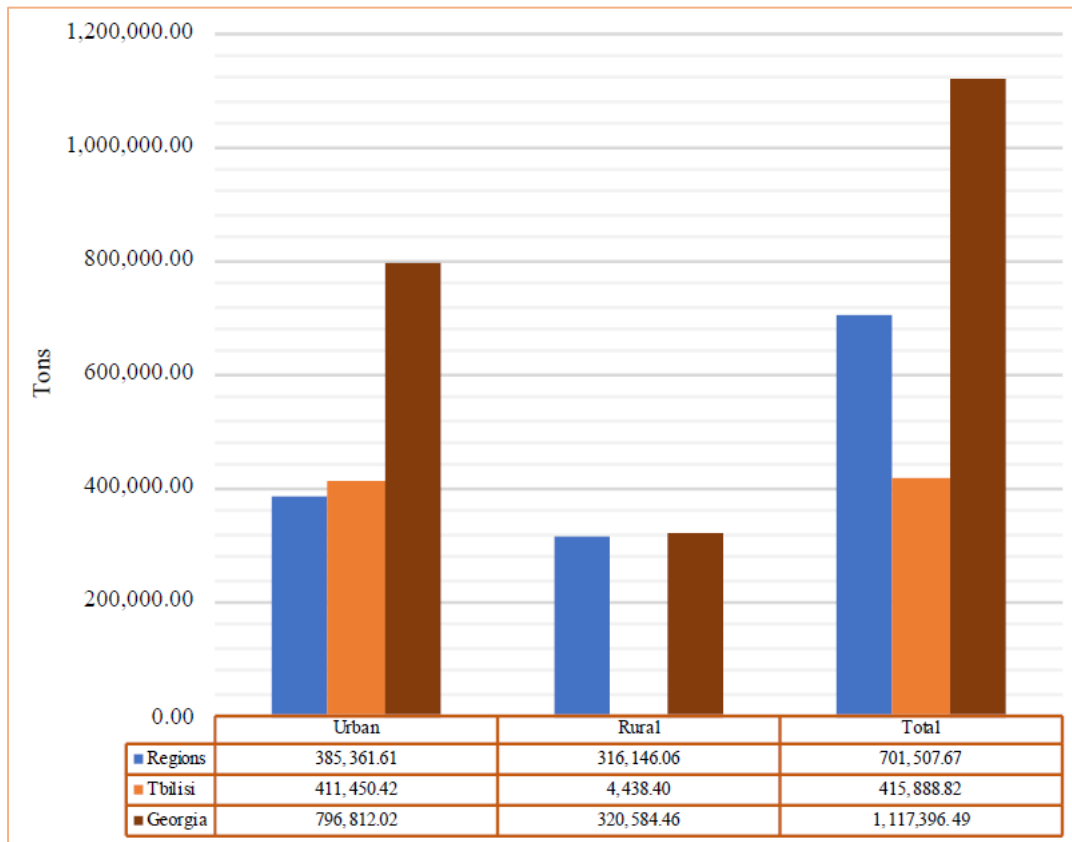
As mentioned above, few municipalities carry out source separation of MSW streams and the extent of these operations is rather limited. Therefore, there are no recycling and recovery facilities for MSW collected by these municipalities. There are, however, several plants with the potential to recycle dry MSW fractions in Tbilisi, Kvemo Kartli, Imereti and Achara, or currently carrying out recycling activities that can basically process dry recyclables from nearby municipalities.

Currently, there is no official data on MSW generation in Georgia. Therefore, MSW quantities for 2019 were estimated using WGI for urban and rural areas. The index for each municipality was based on data on MSW collection/disposal quantities, MSW collection/disposal rates by urban and rural areas, population size by urban and rural areas and, for some municipalities, number of tourists. This exercise was followed by the aggregation of regional and national data.

The average MDI for 2019 was 0.95 kg/h/day (kilogram per inhabitant per day) for urban areas and 0.54 kg/ha/day for rural areas. The total MSW generated in 2019 was 1,117,396.49 t, with 796,812.02 t generated in urban areas and 320,584.46 t in rural areas.



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With a few exceptions, municipalities carry out collection, transport and street cleaning directly, without involving third parties, including private contractors. Rustavi outsources about 60 percent of its MSW collection to Auto-2003 because the Rustavi Service Centre ("Service Centre") has too few RCVs. The Municipality of Zugdidi rents 11 cars but uses its own drivers. In Achara A.R., Batumi-based Sandasuptaveba Ltd. (Batumi Sanitation Service), wholly owned by Batumi Municipality, collects and transports MSW for Batumi and three other municipalities in the region - Khelvachauri, Shuakhevi and Khulo.

Despite the statutory requirement to start separate collection, the prevailing practice remains mixed collection of residual waste via public, so-called "communal" containers located within administrative units. In some cities and municipalities (e.g. in Mtskheta), CII (companies, institutions, industries) use individual containers. A few cities and many remote rural areas have a so-called "bell" service where MSW is collected directly

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from customers in a program without using containers. The preference for this approach is based on road access (especially in rural areas), availability of containers and compactor/RCV trucks, space for containers and customer feedback. For example, Poti Service has enough collection containers but not enough space in some districts, so locals prefer scheduled pickups. A similar situation exists for some districts in the city of Zugdidi.

The current volume of containers operated by urban and rural municipalities is 1,100 l. Plastic and metal containers between 20 and 240 l are located mostly in urban areas. While many municipalities are upset about the expense and difficulty of repairing metal containers damaged by frequent car accidents, others dislike the higher flammability of plastic. Almost all municipalities have a sufficient number and volume of containers, including Tbilisi, Kutaisi, Batumi et al. In some municipalities, 10-20 percent of containers need to be replaced, and most municipalities do not have spare parts.

In many remote areas, the distance between containers is more than 150-200 m, a reference value in the MSW collection guidelines and based on international standards. In the worst cases, a container on a paved major road is recorded as serving the whole settlement, which in practice is not applicable. Collection in rural areas is usually two or three times a week. Tourist areas see more frequent collection during peak season, often exceeding twice a day.

Unserved or underserved populations often dump their DSM illegally into nearby gullies, drains and streams.

Currently, the cleaning/ sanitation services in Mtkheta, Kutaisi and Tslaltubo are piloting source separation activities for dry recyclables. Tskaltubo and Kutaisi collect 20 and 43 t of plastic bottles respectively (2019 data) which are pressed and baled for sale at public auctions.

In the case of paper waste, there is some practice of source separation by some municipalities (e.g. Tbilisi, Batumi, Mtskheta, Tskaltubo, Kutaisi, Akhaltsikhe), public institutions, civil society organisations But this is done only on a very limited scale.

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The analysis of waste collection costs (excluding landfill) in the "Tskaltubo Financial Report-May 2020", prepared by KfW/EU, shows an estimated collection cost of 85 GEL/tonne, which breaks down into 27 percent wages, 24 percent fuel, 32 percent maintenance and 17 percent, miscellaneous.

The situational analysis identified a number of key challenges in rural Georgia.

These include the following:

- Rural population decline and rural population ageing;
- Widespread and far-reaching social and economic problems in the mountain regions;
- Relatively low FDI in agriculture and related sectors;
- Poor diversification of the rural economy, low productivity and low value-added activity in the agricultural sector;
- Relatively low household incomes and relatively high levels of poverty in rural areas;
- Lack of employment opportunities in rural areas;
- Land fragmentation and inefficient economic conditions in both crop and livestock sectors and poor infrastructure (including irrigation), lack of pasture, lack of storage and grain storage facilities and/or high prices for their use;
- Significant areas of uncultivated land;
- Limited access to markets;
- Limited access to financing;
- Insufficiently developed agricultural businesses (most farmers are oriented towards maintaining subsistence or semi-commercial farming businesses);
- Insufficient business and marketing skills; a low production capacity;
- A negative trade balance of agricultural commodities, a limited number of competitive products for export, low competitiveness of local production against imported goods;
- Limited access to advisory services; lack of modern technology;
- Poor condition of local roads and access to clean water in households;
- Insufficient supply of high-speed fibre broadband internet services in some regions;
- Public service centres and public and private services provided by these centres require further improvement and upgrading;

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- Lack of willingness of the local population to engage in local self-government and lack of experience of municipal authorities in modern development approaches;
- Lack of public transport to enable school attendance for children from remote communities;
- Lack of education and training opportunities in rural areas;
- Ineffectiveness of protected areas, and the significant extent of threatened species and threatened genetic resources, and unsustainable use of natural resources;
- Degraded forests and poorly managed and overgrazed upland pastures;
- Water pollution and unregulated, disorganised waste management;

Recommendations

Institutional recommendations

- National legislation should be fully harmonised with the requirements of EU directives on landfill management
- The waste law should be amended based on the provisions governing waste reduction, sorting and recycling processes.

Human health

Establish a monitoring system to study the negative effects of landfills on human health and the environment

- improved conditions of solid waste landfills, especially in rural areas, which threaten human health and spread diseases must be a priority in the implementation of the WMP.

Socio-economic recommendations

- subsidies/reductions of waste collection charges for the population in the rural border communities (waste collection exceptionally carried out with the community budget) and other disadvantaged communities (e.g. socially insecure families, considering areas with high unemployment rates);
- promoting the development of waste recycling skills, i.e. composting skills among the local population, production and use of organic waste can also contribute to solving

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socio-economic problems and improving compost production, developing relevant projects and providing compost to the local rural population. Compost production can also lead to savings in agricultural production, improved land management from a sanitary point of view (by removing harmful bacteria from the compost management site);

- promoting public awareness of the rules for the disposal of household waste, unusable appliances, light bulbs and the usefulness of separate waste collection and resource management practices;
- information and data collection on waste management should be carried out and made available to waste management/collection companies and other relevant stakeholders. Introduction of relevant provisions (on reporting) in the Waste Management Plan so that monitoring data must be published.

Prevention of waste generation should be preferred to recycling and secondary use of waste

- using reusable packaging materials (bags and sacks), promote green procurement and packaging.

The recommendations were made in a step-by-step approach. Regardless of the availability or accuracy of the data, there are plenty of steps that can be taken and some immediate ones without major cost implications.

- Improving waste collection through a better maintenance of vehicles and garbage bins, a greater ability to avoid littering by blocking bins, closing all chutes and introducing alternative collection methods such as large containers and especially in rural areas. This would make collection quicker, safer for both residents and collection staff and cheaper.
- Separate collection of bulky waste, including construction and demolition waste, and avoid collecting it in regular bins. This would make the collection of MSW safer and more efficient, improve the functionality and extend the life of both collection vehicles and landfill.
- Improving general awareness of hazardous waste and provide separate collection systems for this type of waste, including electrical and electronic waste (WEEE).

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- Focusing more on implementation, monitoring and enforcement of existing regulations than on studies of future technologies to invest in.
- Improving landfill operations, even if unauthorised. Improving the access road, enforcing control at the landfill gate, checking vehicles and recording waste volumes, organising separate storage of different types of waste, including hazardous waste, training both collection and site staff for safe operation.
- Co-operation within the provinces with the private sector, the academia, NGOs and other organisations gathers resources for investment and operation of waste treatment facilities or systems as well as for public awareness campaigns and exchange of information and experience.
- Promoting capacity building of municipal staff in waste treatment technology, but also management, procurement and monitoring of private contractors.
- Finding economic incentives for businesses or public participation, e.g. for source separation of waste or reuse or improved tax collection.

Recommendations for local communities

- Continuous follow-up by a designated team of all calls and programmes in order to access funds for compliant waste management.
- Increasing the number of spaces for separate collection of recyclable waste.
- Implementation of source separation programmes.
- Initiation of programmes to educate the population and promote selective collection with emphasis on the advantages for improving the quality of life .
- Introduction of a fee in the contracts of the sanitation operator in a fee/person/month set by the local authorities.
- Placing vending machines/collection centres for plastic, metal or glass cans in large shops and supermarkets.
- Continuous monitoring of the collectors/recyclers market and of the bids to take back recyclable waste.

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