"Some statistical data on urban waste collection in the city of Prizren and ways to evaluate them in useful products"

Sami Gashi  
*University for Business and Technology*, sami.gashi@outlook.com

Besa Veseli  
*University for Business and Technology*, besa.vaseli@ubt-uni.net

Vehebi Sofiu  
*University for Business and Technology*, vehebi.sofiu@ubt-uni.net

Follow this and additional works at: [https://knowledgecenter.ubt-uni.net/conference](https://knowledgecenter.ubt-uni.net/conference)

*Part of the Food Science Commons*

**Recommended Citation**
Gashi, Sami; Veseli, Besa; and Sofiu, Vehebi, "Some statistical data on urban waste collection in the city of Prizren and ways to evaluate them in useful products" (2020). *UBT International Conference*. 13.  
[https://knowledgecenter.ubt-uni.net/conference/2020/all_events/13](https://knowledgecenter.ubt-uni.net/conference/2020/all_events/13)

This Event is brought to you for free and open access by the Publication and Journals at UBT Knowledge Center. It has been accepted for inclusion in UBT International Conference by an authorized administrator of UBT Knowledge Center. For more information, please contact knowledge.center@ubt-uni.net.
Some statistical data on urban waste collection in the city of Prizren and ways to evaluate them in useful products

Sami Gashi¹ Besa Veseli² Vehebi Sofiu²

¹ Faculty of Food Science and Biotechnology
² Faculty of Efficient Engineering and Management

sami.gashi@ubt-uni.net; besa.veseli@ubt-uni.net; vehebi.sofiu@ubt-uni.net

Abstract: The development of society is related to the high consumption of a variety of food products, the use of electro-household appliances, furniture and its furnishing, clothing, plastic materials, etc. The increase of urban waste is considerable both from the social development and the increase of the population, for example: Prishtina 1,116,355 tons / year, Prizren 90,858 tons / year, Peja 41,748 tons / year, Mitrovica 64,663 tons / year. The increase of urban waste will affect in our environment (soil, water, and air). Even though our city is endangered by their lack of treatment, their quantity is constantly increasing. We need to change the concept that waste is worthless. On the contrary, urban waste contains value because every product obtained from them contains value. Product = raw material (monetary value) + energy + human labor. So through waste assessment, we reduce their volume, while through their treatment we obtain raw materials (for example from the treatment of waste paper waste, we will to protect forests, but in the meantime we will also protect the environment. Urban waste is of different natures organic nature (kitchen waste...) metal (tins ...) plastic (water and liquid bottles...) glass, paper, leather, textiles etc. This means that there are different ways and methods to assess urban waste. Among the most important methods of their assessment are: Recycling, Reuse and processing as a secondary material in other processes. Urban waste also has its specificity. Many of these urban waste can serve as raw material for many sectors of our city's economy (eg recycling of plastic waste, paper, and metal waste). But the assessment of urban waste cannot be realized successfully liquidated in case there is no organization for their selection from the beginning. This should be done by the collection company with a good treatment of the collection staff.

Keywords: Metals, Paper, Plastics, Glass, Organic Waste
Introduction

Prizren is a city in the southwestern part of Kosovo and the second largest in Kosovo in terms of size and population after Pristina. The city has a population of about 170,000, mostly Albanians. It is located near the Sharr Mountains in southern Kosovo. With the management of urban waste in the region of Prizren, the regional enterprise for waste collection Ekoregjioni’Sh.A.Prizren, is a Public Enterprise which as a joint stock company operates from 01.01.2008. Ecorregion”is a specialized and licensed enterprise with 50 years of working tradition in performing services of special social importance for the life of citizens - waste transfer and maintenance of cleanliness and public hygiene. Region where the Regional Waste Company serves "Ecorregion" includes about 20% of the total population of Kosovo. Therefore, based on the nature and character of the services provided by this enterprise and the conditions under which it operates, it results that the success rate in this municipal public activity is identified with the overall performance of works, actions and inactions of entities, relevant social, citizen awareness and the rule of law, which directly or indirectly, have an essential impact on the parameters of the results of the work of this enterprise.

Material and methods

Among the most important methods of their evaluation are: Recycling, Reuse and Processing as a secondary material in other processes, Waste disposal, Composting, for example (lawn and yard grass are some format reduction in the source), Incinerator method (thermal combustion of urban waste. Urban waste has its own specificity. For example. Waste from plastic materials cannot all be treated by the same method. Plastic or glass bottles can be recycled, while PVC cannot be recycled, but can be used successfully in construction; organic urban waste (kitchen waste, etc.), can be used for biogas production, electrical household appliances can be repaired, etc.
Sampling

Considering the seasonal impact of waste collection, monsters were harvested in January, February, March, April, May 2019, the same period but different year and January, February, March, April, May 2020, the reason and purpose of obtaining statistical data was that in the first months of this year we faced isolation as a cause of the spread of pandemics and we had to know the assessment of the generation rate based on samples collected from sources in the urban area households and commercial stores in our city. The paper presents only urban areas which are presented in our table. Since there was no data on population density, the number of samples was determined based on the density of houses and shops identified through observations in areas such as fig.1

![Figure 1. Map of sampling sites](image)

### Table 1. The amount of waste for 2019 in the city of Prizren (household only)

<table>
<thead>
<tr>
<th>Months</th>
<th>ZONE 1</th>
<th>ZONE 2</th>
<th>ZONE 3</th>
<th>ZONE 4</th>
<th>ZONE 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>154140</td>
<td>398820</td>
<td>299540</td>
<td>330760</td>
<td>226000</td>
</tr>
<tr>
<td>February</td>
<td>137240</td>
<td>284960</td>
<td>262100</td>
<td>261460</td>
<td>203440</td>
</tr>
<tr>
<td>March</td>
<td>170000</td>
<td>347420</td>
<td>323740</td>
<td>308520</td>
<td>221600</td>
</tr>
<tr>
<td>April</td>
<td>186320</td>
<td>366300</td>
<td>395240</td>
<td>330660</td>
<td>239560</td>
</tr>
<tr>
<td>Maj</td>
<td>201760</td>
<td>461780</td>
<td>294300</td>
<td>409420</td>
<td>312680</td>
</tr>
<tr>
<td>Total Kg</td>
<td>849460</td>
<td>1859280</td>
<td>1574920</td>
<td>1640820</td>
<td>1203280</td>
</tr>
</tbody>
</table>
Table 2. Amount of waste for 2020 in the city of Prizren (household only)

<table>
<thead>
<tr>
<th>Months</th>
<th>ZONE 1</th>
<th>ZONE 2</th>
<th>ZONE 3</th>
<th>ZONE 4</th>
<th>ZONE 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>159554</td>
<td>425702</td>
<td>320494</td>
<td>342456</td>
<td>236480</td>
</tr>
<tr>
<td>February</td>
<td>140964</td>
<td>301365</td>
<td>278310</td>
<td>277606</td>
<td>217365</td>
</tr>
<tr>
<td>March</td>
<td>181460</td>
<td>371956</td>
<td>350659</td>
<td>319487</td>
<td>233201</td>
</tr>
<tr>
<td>April</td>
<td>200952</td>
<td>393731</td>
<td>413963</td>
<td>349374</td>
<td>250396</td>
</tr>
<tr>
<td>May</td>
<td>214936</td>
<td>487958</td>
<td>308730</td>
<td>429362</td>
<td>333948</td>
</tr>
<tr>
<td>Total Kg</td>
<td>897866</td>
<td>1980712</td>
<td>1672156</td>
<td>1718285</td>
<td>1271390</td>
</tr>
</tbody>
</table>

Diagram 1. Comparisons in% for 2019-2020 (January-May)

Discussion of Results

Municipalities are responsible for waste management services as a result each municipalities has its own service enterprise. Responsibility for environmental policies at the national level belongs to the Ministry of Environment.

The responsibility of municipalities to provide urban waste disposal services in our country dates back to the twentieth century when infectious diseases were first associated with poor sewage and uncollected urban waste.
Any kind of material, solid, liquid or gaseous that is thrown down are undesirable by humans defined as waste.

The municipal waste for which this work is also focused is generated by families, small businesses, official buildings, and institutions (schools, hospitals, government buildings, municipalities).

The average recycling rate in over 20 cities of developing countries, transition is 29% while in our city meat 5.1%.

Based on the obtained statistical data and their final evaluation, they show that in the first period of 2020 we constantly have an increase in the amount of urban waste.

In percentage compared to the previous year but the same months, January, February, March, April, and May.

The accumulated amount of waste in the urban area is 84.0% of generation.

Illegal waste is 15.7% of the amount generated and removed by Ecoregion.

Recycling activity in urban areas is the collection of recyclable items from waste collectors and that amount is estimated at 5.1% of the amount generated.

This shows that there is very little waste minimization activity in waste management in the Municipality of Prizren.

**Recommendations**

The Government of Kosovo in general and local governments in particular work to implement programs aimed at preventing and minimizing waste at source.

That local governments create opportunities for waste reuse that are at the end of the life cycle such as electrical and electronic equipment including household appliances and other products offering opportunities for raw materials businesses and employment, as well as benefits for people with wages and low or no income.
We also recommend that local authorities create opportunities for waste recycling as the main way to give value to materials that are at the end of the life cycle.

We also recommend the possibility of recycling waste, such as generating energy as an additional benefit from conventional techniques such as burning mixed waste or using alternative technologies such as gasification.

We recommend the local government to finally carry out the safe disposal of waste at the hierarchy, which will extend to less than a third of the amount of waste in the landfill and utilize the remaining energy generation.

We strongly recommend that local government, before dumping waste in landfills, carry out the composting process as a kind of process that involves the biological decomposition of organic materials for the sustainable production of humus products.

We also recommend the possibility of recycling waste, such as generating energy as an additional benefit from conventional techniques such as burning mixed waste or using alternative technologies such as gasification.

We recommend the local government to finally carry out the safe disposal of waste at the hierarchy, which will extend to less than a third of the amount of waste in the landfill and utilize the remaining energy generation.

We strongly recommend that local government, before dumping waste in landfills, carry out the composting process as a kind of process that involves the biological decomposition of organic materials for the sustainable production of humus products.
Literature

2. Veseli Sabahidin (2011) “Sanitary protection of Lumbardhi bed from sewage pollution.” – Project of Municipality of Prizren, 2-4
3. Aulent Guri maj 2016 Menaxhimi i mbetjeve urbane dhe përfitimet ekonomike prej tyre 247 - 255