



## Waste Management as a Measure to Achieve Sustainable Development in Kosovo

Idriz Kovaçi<sup>1</sup>, Alberta Tahiri<sup>2\*</sup>, Adem Dreshaj<sup>2</sup>, Bedri Millaku<sup>2</sup>, Burbuqe Kurtaj-Bajrami<sup>3</sup>,  
Hekuran Sabedini<sup>4</sup>

<sup>1</sup> Faculty of Tourism and Environment, Tourism and Hotel Management, University of Applied Sciences in Ferizaj, Ferizaj 70000, Kosovo

<sup>2</sup> Faculty of Management in Tourism, Hospitality and Environment, University “Haxhi Zeka” Pejë, Pejë 30000, Kosovo

<sup>3</sup> College of Medical Sciences “Rezonanca”, Pristina 10000, Kosovo

<sup>4</sup> The State University of Tetova, Tetova 1200, The Republic of North Macedonia

Corresponding Author Email: [alberta.tahiri@unhz.eu](mailto:alberta.tahiri@unhz.eu)

Copyright: ©2023 IETA. This article is published by IETA and is licensed under the CC BY 4.0 license (<http://creativecommons.org/licenses/by/4.0/>).

<https://doi.org/10.18280/ijstdp.181227>

### ABSTRACT

**Received:** 4 September 2023

**Revised:** 6 November 2023

**Accepted:** 28 November 2023

**Available online:** 29 December 2023

#### **Keywords:**

*environmental policy, waste disposal, recycling, sustainability, public health, government policy*

Practicing the concept of sustainable development is the only viable solution to minimize the negative effects of economic development, aiming to preserve human health and increase the well-being of current and future generations, and simultaneously emphasizing the protection of the environment. In this context, one of the areas that should be given special attention is waste management. In order to protect human health and the environment from pollution and destruction, waste should be properly handled or managed. The term ‘waste management’ refers to the process of collecting, transporting, processing, recycling or depositing and monitoring waste materials. In order to protect people and the environment, waste management must meet sustainability criteria. When analyzing the situation in Kosovo from this aspect, it can be said that although efforts are being made to manage waste in Kosovo, the management is not sustainable at all. Therefore, numerous measures should be taken both by the central government and by the local authorities in order to introduce sustainable measures for waste management to achieve sustainable development in this sphere, preserve human health and protect the environment.

## 1. INTRODUCTION

Sustainable development is a relatively new and multidimensional concept that is gaining particular importance in modern lifestyles. It encompasses three interrelated dimensions: economic, environmental, and social. However, the latest scientific research also recognizes two additional dimensions of sustainable development, namely cultural and institutional.

Sustainable development means such development of society that meets the current needs of humans with the available resources without threatening natural systems and the environment, thus ensuring their long-term existence to meet the needs of future generations. Accordingly, the concept of sustainable development takes into account the carrying capacity of the environment and strives to use renewable resources to a degree that is lower than their natural rate of renewal (so that they can be present and available indefinitely) and to use non-renewable resources rationally so that they can be preserved for as long as possible.

The goal of the social aspect of sustainable development is to strengthen community identity, achieve demographic balance, and eradicate poverty.

The goal of the economic aspect of sustainable development is the achievement of economically efficient and equitable development both within current generations and between future generations.

The aspect of sustainable development that pays particular attention to measures and activities to preserve the environment for the benefit of current and future generations is called ecological sustainability, or the ecological aspect of sustainable development. Environmental sustainability requires that development be compatible with the maintenance of ecological processes, biodiversity, and the natural resource base. In fact, the primary and fundamental goal of sustainable development is the sustainable use of natural resources at all levels: local, regional, national, and international.

One of the aspects of environmental sustainability, which is of great importance for the preservation of the environment, is waste management.

With the increase in the level of economic development of societies and the growth in the world population, the amount of generated waste (solid, liquid, hazardous, communal, industrial, etc.) is constantly increasing, contributing to the pollution of all components of the environment (water, air, soil) and negatively affecting human health.

## 2. LITERATURE REVIEW

### 2.1 Social influences

Social and Cultural influences on Tourism need to be analyzed with intense care, as they can pose either a positive or negative impact on the presiding community. The influx of tourists brings different benefits to the community and an influence of family life. Furthermore, individuals and the community can attempt to satisfy the needs of customers or even attempt to mimic tourist behavior. Interactions between locals and tourists may result in the creation of new opportunities or destinations of individuality. Visitor interest and enjoyment of the community can also cause the locals to be more grateful of local resources. Tourist Activities have a tendency to make the tourists live in a more interesting and emotional place [1].

### 2.2 Environmental impact of tourism

The development of tourism must be sustainable, and effective energy-wise. It must give priority to energy efficient transport and tourism infrastructure, in lowering waste and pollution levels, and promote biodiversity in the advancement of technology and to reduce greenhouse gases. Naturally Formed Landscapes, the ecosystem of wild animals that attract tourists, Natural Resources consumed by tourists and those that serve as tourist attractions, The Microenvironment of farms that develop agrotourism, Manmade Ecosystems that serve as significant tourist attractions, or the foundation of a tour product and tourism infrastructure. On the impact of tourism on the environment, Middleton & Hawkins accentuate that tourism is the only industry with natural landscapes with less influence than other similar industries such as Agriculture, Mining, Forestry, Hunting, etc. [2].

### 2.3 Economic impact of tourism

Over time, the economic weight of tourism began to be realized by more and more countries. The tourism industry is turning into a tool to promote economic welfare. Many nations and tour destinations have seen success by rapidly increasing the number of visitors. The positive impact of the development of tourism is apparent when considering a considerable increase in jobs and income via the exchange of foreign currency. According to Tosun & Jenkins, marketing is also a key tool to be used in increasing positive economic effects. Today, marketing techniques remain dominant in tourism planning. In time, the marketing techniques used become more and more complicated, as they include consideration into understanding tourist behavior, and segmenting and choosing consumer bases [3].

Tourism planning focuses on the manner with which to maximize positive effects and minimize or at least marginally decrease the negative impacts. Furthermore, Butler suggests an import concept in the stimulation of the considerations of tourist destinations, so both marketers and planner cooperate in planning and marketing. In the Marketing aspect, attention is focused to overcoming growth obstacles. Meanwhile the planning aspectis focused not only in directing how to prolong the growth phase, but also in the evaluation of tourism resources in order to identify viable norms and acceptable

forms of changing the ecosystem, as well as the perception of the locals on the development of tourism [4].

Tourism is a multidimensional activity of today's contemporary society. Tourism has now been affirmed as a typical phenomenon of contemporary civilization, which is predicted to grow and become more massive in the future. Tourism was not born with industrial civilization but has progressed alongside the development of humanity and civilization. This sector after the agriculture and energy sector should be accepted as one of the sectors that should be given priority in the future development of Kosovo's economy [5].

In recent years, the trend is the visit of visitors to tourist villages. An increase in the interest of people from urban settlements to stay and spend time in rural settlements is investigated, i.e., to escape from the noisy and boring daily life in large urban centers. Rural tourism has a specific clientele of its own. These are people who are passionate about natural beauty, people who are fans of pets, fans of horseback riding, fans of agricultural work, such as fruit picking, people who prefer fresh agricultural products (cheese, wine, fruit) as indigenous specialties. A special clientele of rural tourism is the category of hunting tourists, this clientele is passionate about wildlife hunting. This activity is related to the hunting season so these are tourists with seasonal activity. Other users of rural tourism are also winter sports tourists. Kosovo has great potentials for the development of rural tourism, therefore these potentials should be used for the development of tourism in general and rural tourism in particular [6].

It is related to the development of tourism based on large areas of land types, water resources, favorable climatic conditions, which go in favor of cultivating crops and keeping animals, were with their products can serve tourists in different parts of Kosovo, with agricultural and livestock products, which would meet the tourist consumption [7].

## 3. WASTE AND TYPES OF WASTE

In the literature, different definitions of the term 'waste' can be found, which are given by various authors, organizations, or by the legislation of different countries.

One method of defining waste is by listing activities or substances that come within the range of the definition. An alternative technique would be to define waste by reference to the purpose of the regulation. Most regulatory systems adopt a mixture of the two techniques [8].

The Organization for Economic Cooperation and Development (OECD) defines waste as: "materials that are not prime products (i.e., products produced for the market) for which the generator has no further use regarding his/her own purposes of production, transformation, or consumption, and of which he/she wants to dispose" [9].

According to the EU Waste Framework Directive, 'waste' means any substance or object which the holder discards or intends or is required to discard; 'waste holder' means the waste producer or the natural or legal person who is in possession of the waste [10].

Michael-Agwuoke defines waste as: residual materials which are the result of human activities and cannot be reused or recovered as a resource, recycled into material production processes, or thermally/biologically utilized for energy

production [11].

According to Mubaslat, waste is any solid, liquid, or contained gaseous material that is being discarded by disposal, recycling, burning, or incineration. It can be a byproduct of a manufacturing process or an obsolete commercial product that can no longer be used for its intended purpose and requires disposal [12].

Waste can be classified according to different criteria.

Some common characteristics used in the classification of waste include the physical state, physical properties, reusable potential, biodegradable potential, source of production, and the degree of environmental impact [13]. According to the physical properties, waste can be solid, liquid, or gaseous; according to the biological properties, it can be biodegradable or non-biodegradable; according to the effects it can have on human health and the environment, waste can be hazardous or non-hazardous; and according to the creator of the waste (source of waste), it can be industrial, municipal, agricultural, or biomedical.

Defining and classifying waste is of great importance for the national economy of every country. Namely, the type of waste determines the regulatory and environmental criteria for its management, the financial effects that arise for all parties involved in the management process (waste generators, carriers, processors, and disposal operators), as well as the creation and implementation of waste legislation and regulation in the national economy. Also, understanding the concept, type, and characteristics of waste enables correct and appropriate management in a way that will protect human health and the environment.

#### 4. SUSTAINABLE WASTE MANAGEMENT

In order to protect human health and the environment from pollution and destruction, waste should be properly handled or managed. The term waste management refers to the process of collecting, transporting, processing, recycling or depositing and monitoring waste materials. In order to protect people and the environment, waste management must meet sustainability criteria. Sustainable waste management encompasses management of all processes and resources for proper handling of waste materials and dumping facilities to compliance with health codes and environmental regulations.

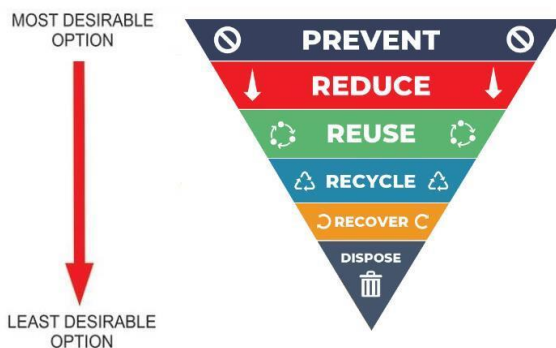


Figure 1. Waste hierarchy management

The goals of sustainable waste management are: protection of human health, protection of natural ecosystems and the environment, conservation of valuable natural resources,

prevention of additional creation of greenhouse gases.

In order to achieve these goals, it is necessary to take appropriate measures called the waste hierarchy, which are presented in the literature through the image of an inverted pyramid. This hierarchy represents a systematic sequence of measures that need to be taken in order for sustainable waste management to exist and is guided by what is best for the environment. At the same time, the most important and most desirable measures are located at the top of the pyramid, that is, the hierarchy, and the least desirable at the bottom of the pyramid, that is, hierarchy (Figure 1).

#### 5. METHODOLOGY

The research in this paper is a desk research, using numerous sources of literature - works by renowned authors, as well as data from numerous institutions in Kosovo and international institutions: Ministry of Environment and Spatial Planning of Kosovo, Statistics Agency of Kosovo, European Environment Agency, Institute for development policy (INDEP) etc. The works of renowned authors served as a basis for explaining the concept, definition, types and management of waste, while data from institutions in Kosovo and Europe were used to understand the current state of waste management in Kosovo, as well as the efforts made by institutions in Kosovo are doing towards achieving the goals of sustainable development. During the preparation of this paper, the author faced numerous problems in terms of lack of papers dealing with the situation and problems with waste management in Kosovo, as well as with insufficient, incomplete, outdated data from the institutions in Kosovo.

In addition to trying to capture the current situation with the treatment and management of waste in Kosovo, as well as determining whether and to what extent the institutions in Kosovo undertake efforts for sustainable waste management, the author in this paper also provides suggestions on how to improve the situation in Kosovo from the point of view of waste management and achieving the goals of sustainable development in order to protect human health and the environment.

#### 6. WASTE MANAGEMENT IN KOSOVO

Kosovo has a total area of 10,905.25 km<sup>2</sup>, and the number of inhabitants is 1,907.620, so it is one of the most densely populated countries. The average population density in Kosovo is 175.22 inhabitants/km<sup>2</sup>. Kosovo is organized into 38 municipalities with 1,469 settlements (according to the data of the Agency of Statistics of Kosovo).

Almost half of the population in Kosovo lives in rural areas, but the trend of people leaving these areas and migrating to cities is increasing. Cities in Kosovo cover only 2% of the total land area in Kosovo, and generate as much as 70% of waste, and emit 70% of the gases that create the greenhouse effect (greenhouse gases) [14].

As a result of increased migration, urbanization and economic development, there is an increase in waste. The amount of waste in Kosovo is constantly increasing from year to year. For example, in 2014, the amount of municipal waste in Kosovo was 247,000 tons, the annual amount of waste generated per person was 140 kg, while the daily amount of waste per person was 0.4 kg. In just 7 years, the amount of

generated waste in Kosovo has increased by as much as 96.36%. Thus, in 2021, the amount of municipal waste generated in Kosovo is 485,000 tons, the amount of waste generated per person per year is 273 kg, while the amount of waste generated per person per day is 0.7 kg (Table 1).

**Table 1.** Municipal waste in Kosovo, 2014 – 2021

Year	In 1000 Tons	In kg/Inhabitants, Year	In kg/Inhabitants, Day
2014	247	140	0.4
2015	319	177	0.5
2016	395	223	0.6
2017	409	228	0.6
2018	407	227	0.6
2019	452	253	0.7
2020	456	253	0.7
2021	485	273	0.7

Source: ASK – Kosovo, 2023

Apart from municipal waste, industrial waste in Kosovo is constantly increasing. Thus, in 2021, the total quantity of industrial waste generated in Kosovo is 2,214,928 tons, which compared to 2020, when 2,137,015 tons of industrial waste was generated, an increase of 3.6% (Table 2).

**Table 2.** Total quantity of industrial waste generated in Kosovo 2016 – 2021

Year	Total Industrial Generated Waste, in Tons
2016	2,329,539
2017	2,606,203
2018	2,554,308
2019	2,096,118
2020	2,137,015
2021	2,214,928

There are no specific data for generating the hazardous waste in Kosovo, but since most industrial waste is hazardous, then the data related to industrial waste are somewhat relevant for this indicator as well.

The waste management system in Kosovo does not yet provide complete data on waste generation, treatment and disposal. About 90-95% of the urban population of Kosovo use the services of the waste collection system, but these services have a low level of standard due to the lack of adequate equipment and facilities.

Municipal waste collection in Kosovo is carried out through seven regional public enterprises organized in Kosovo municipalities through operational units. In addition to them, there are a large number of private companies operating throughout Kosovo. As of 2018, there are a total of 76 licensed enterprises engaged in the collection, transportation, and treatment of various types of waste.

If we analyze the treatment of waste in Kosovo, it can be noted that the largest amount of waste is deposited in landfills, although it is the most undesirable and worst variant that is at the bottom of the hierarchy of waste management. There are 7 licensed sanitary landfills for waste in Kosovo: in Pristina, Ferizaj, Gjilan, Mitrovica, Peja, Prizren and Podujevo (Table 3). They receive less than 40% of municipal waste in Kosovo. Of these seven sanitary landfills, almost all have reached their maximum capacity, so they have to be closed urgently. They are also not completely operating according to the conditions defined in the EU [15]. Their infrastructure is in a very bad state and there are no investments to improve their work and

modernize them. The fee they charge only covers the basic costs of managing the landfills without the possibility of modernizing and upgrading them.

Most of the municipal waste is disposed of in non - sanitary landfills that are not well designed, managed and do not work properly. In these landfills, the incoming waste is not inspected and measured, it is not pre-treated, and no record is kept of the deposits. Such unsanitary landfills are the landfill in Istog, the landfill in Zvečan, the landfill in Zubin Potok and the landfill in Leposavic.

The quantity of waste disposed in licensed landfills in Kosovo in 2021 is 483,777 tons, which is an increase of 8.6% compared to the data from 2020 (Table 3). Compared by region, the largest amount of disposed waste is in the sanitary landfill in the region of Prishtina (Miraş, 167,371 tons, that is 35% of the total waste disposed in the official landfills). The quantity of waste disposed in licensed sanitary landfills in 2020 was 445,449 tons. Compared to 2019 data, there is a slight decrease by (-0.02%).

Municipal waste is collected by public and private operators and then deposited in sanitary or unsanitary landfills. But since more than 50% of the population in Kosovo lives in rural areas, only about 40% of the waste generated in rural areas is accumulated and properly disposed of in landfills.

**Table 3.** Municipal waste disposed in licensed sanitary landfills for 2020 and 2021

	2020		2021	
	Tons	%	Tons	%
DS / Pristina	153,481	34	167,371	35
DS / Ferizaj	26,520	6	27,965	6
DS / Gjilan	41,170	9	45,166	9
DS / Mitrovica	48,468	11	49,902	10
DS / Peja	53,918	12	57,257	12
DS / Prizren	105,397	24	118,323	4
DS / Podujevo	16,195	4	17,793	4
Total	445,449	100	483,777	100

Source: Waste Treatment Surveys 2021 and 2022, Kosovo Agency of Statistics, Pristina, 2022

**Table 4.** Waste treatment in Kosovo, in tons, 2019 - 2021

	2019	2020	2021
Disposed	445,547.0	445,449.0	483,777.1
Recycled	3,374.0	4,850.0	21,307.0
Sterilized	874.0	968.4	959.5
Total	450,175.0	448,896.4	506,043.6

Source: Kosovo Agency of Statistics, 2023

From the Table 4, it can be seen that over the years, the quantity of waste deposited in landfills in Kosovo has been increasing, instead of decreasing. Thus, the quantity of waste deposited in landfills in Kosovo in 2020 is 445,449 tons, and in 2021, 483,777.1 tons.

Recycled waste comes in second place in terms of quantity, followed by sterilized waste. The total amount of recycled waste in 2021 is 21 307 tons, the amount of sterilized waste 1 (medical waste) is 959.5 tons, and the total amount of deposited waste is 483,777.1 tons. Therefore, the total amount of treated and deposited waste in 2021 is 506,043.6 tons. Compared to the data from 2020, an increase in treated waste in 2021 by 12.73% was observed. The amount of treated waste, according to the type of waste and the type of treatment, expressed in percentage for 2021, is as follows: Plastic waste 31%, Metal waste 14%, Medical-hospital waste 4% Paper and

cardboard waste 51%. In 2020, the quantity of waste treated, by type of waste and type of treatment, expressed as a percentage was as follows: metals (27%), plastic waste (47%), hospital waste (20%), paper waste and cardboard (6%).

In Kosovo, there is no organized system for waste recycling, although in some municipalities there are initiatives for waste separation at the source. There are several licensed companies engaged in the business of waste treatment and recycling.

Regarding the composition of recycled waste, 69% of them are waste from ferrous metals and other metals, 13% from plastic waste and 14% from paper and cardboard waste. In 2019, several glass waste recycling initiatives were launched. The amount of recycled waste represents only about 5% of the

total amount of waste generated at the national level. A significant amount of recyclable waste (waste that can undergo a recycling process) is also exported abroad.

When analyzing industrial waste, it is noted that disposal is again the most common option, with the amount of industrial waste deposited being substantial. In 2017, the deposited industrial waste totaled 1,674,327 tons; in 2018, it was 1,567,872 tons; in 2019, the figure stood at 1,519,488 tons; in 2020, it significantly increased to 1,918,457 tons; and in 2021, it decreased to 1,220,962 tons. The second most common waste treatment method is exporting to other locations (abroad), which is waste sent elsewhere. The third is recycling, and the fourth is incineration of waste (as shown in Table 5).

**Table 5.** Total quantity of industrial waste generated and processed, in 000 tons, 2016 – 2021

	2016	2017	2018	2019	2020	2021
Waste generated	2,329.5	2,606.2	2,554.3	2,096.1	2,137.0	2,214.93
Waste treatment by generating companies/Burnt waste	1.160	0.232	1.030	0.299	0.453	1.446
Waste treatment by generating companies/ Recycled	21.672	3.193	40.585	9.223	180.02	159.602
Waste treatment by generating/deposited company	593.07	1,674.3	1,567.8	1,519.5	1,918.4	1,220.96
Remittances sent elsewhere	1,074.4	967.5	945.31	567.08	38.163	830.917
Total processed wastes	1,690.3	2,605.1	2,554.8	2,096.1	2,137.1	2,212.927

Source: Kosovo Agency of Statistics, 2023

In 2021, the quantity of waste exported was 830,917 tons, the amount landfilled was 1,220,962 tons, the recycled waste totaled 159,602 tons, the incinerated waste was 1,446 tons, and the total waste processed amounted to 2,212,927 tons [8].

In Kosovo, there are no special landfills for the disposal of hazardous waste such as: construction and demolition waste, medical waste, remains and bodies of animals, bulky waste, etc. These types of waste end up in municipal waste landfills or are simply thrown away where possible, i.e., they end up in the so-called illegal (wild) dumps. Illegal disposal of waste is a common problem in Kosovo and affects all municipalities. In 2018, 2246 illegal landfills were registered in Kosovo. In 2019, their number decreased to 1489, in 2020 to 1189, and in 2021 the number of illegal landfills is 763 (Table 6).

**Table 6.** The number of illegal landfills over the year by region

Region	2018	2019	2020	2021
Region of Pristina	582	313	277	150
Region of Mitrovica	221	222	101	118
Region of Peja	342	141	156	68
Region of Prizren	448	298	256	187
Region of Ferizaj	158	127	118	99
Region of Gjilan	377	325	242	111
Region of Gajkovo	118	63	39	30
Kosovo total	2246	1489	1189	763

Source: AMMK, 2023

Although the number of illegal landfills in Kosovo is decreasing year by year, this number is still huge and poses a danger to both human health and the environment.

The largest number of illegal landfills in 2021 was recorded in the region of Prizren (187), followed by the region of Pristina (150), the region of Mitrovica (118), the region of Gjilan (111), the region of Ferizaj (99), the region of Peja (68), while the lowest number of illegal landfills was registered in the region of Djakovo (30).

In the illegal landfills in Kosovo, landfills of different sizes

and different composition are registered. Thus, according to the size, the most represented are the small landfills (270), and when it comes to the composition of the illegal landfills, “other” landfills dominate with a share of 40% of the total number of illegal landfills in Kosovo (Table 7).

Currently, hazardous waste in Kosovo is stored in closed rooms. It is found in various types and packaging, and it is about organic solvents, paints, various plasters, glues, metal or decorative solvents, chemical solvents (with acidic or alkaline properties), but also other unknown substances. Industrially developed zones in Kosovo have a high concentration of hazardous materials. A large concentration of these dangerous substances is present in Mitrovica (Trepča), Kisnica (Trepča) and KEK-Obilić, not neglecting other places such as Ferronickel company, IBG-batteries in Gnjilane, auto parts factory in Pec, IMK-Uroševac, Pharmakos - Prizren, etc. There is still no repository or exclusive facility for the processing or storage of hazardous waste in compliance with EU standards in Kosovo [7].

Medical waste in Kosovo is processed in eight facilities established within hospital centers in major cities across Kosovo. Of these eight facilities, seven were built with funding from the Ministry of Environment and Spatial Planning in Kosovo, and the facility located within the hospital in Vuchitrn was funded by the Red Crescent of the United Arab Emirates. From the data collected by the Ministry of Health, it can be seen that there is a constant increase in the treatment of this waste from year to year, however, all health institutions and activities do not send waste for processing to these plants, otherwise there would be a significant increase in the amount of this waste. The plant located in Pristina processes the largest amount of medical waste, followed by the plant in Prizren, while the smallest amount of medical waste is processed at the plant in Vucitrn.

There are not enough waste inspections in Kosovo. The reason for that lies in insufficient financial resources, as well as in the lack of specialized personnel.

**Table 7. Illegal landfills according to composition, 2021**

Region	Municipal Waste	Construction and Demolition Waste	Industrial and Hazardous Waste	Bulky Waste	Other Waste
Region of Pristina	27.0	41.1	0.0	0.6	31.3
Region of Mitrovica	46.4	19.5	1.2	1.4	31.5
Region of Peja	46.3	19.3	0.3	0.0	34.0
Region of Prizren	8.2	33.5	0.4	0.0	57.9
Region of Ferizaj	27.3	37.2	0.0	1.1	34.3
Region of Gjilan	28.8	24.3	0.0	0.9	46.1
Region of Gajkovo	5.0	27.5	0.0	0.0	67.5
Kosovo total	28.0	30.8	0.3	0.8	40.1

In Kosovo, there is no system for the separation of special types of waste, an indicator that is of great importance for the preservation of the environment and public health. Informal waste collectors play a major role in collecting recyclable waste throughout Kosovo. They collect a certain type of waste: metal, plastic, paper, waste electrical and electronic equipment, etc. and mostly sell them to licensed export companies. There are no data on the quantities of waste collected in this way.

The municipalities have also not yet started taking initiatives to start implementing the measure - separation of waste at the source, which is the key to the beginning of integrated waste management and developing a sustainable waste recycling system.

In Kosovo, the Law on waste aims to transpose the EU waste legislation, providing a comprehensive framework for the development of waste management. The new integrated waste management strategy for 2021-2030 and the new action plan for integrated waste management for 2020-2023 were adopted in May 2021. The targets set in EU directives are widely transposed into national law, but the implementation is lacking. The Law on waste still has to be further aligned with the Waste Framework Directive. Extended producer responsibility (EPR) and the 'polluter pays' principle need to be included. As waste can still be disposed of in landfills not compliant with the EU Landfill Directive at low cost, it is hard for other waste management options to compete [15].

**7. RECOMMENDATIONS FOR ACHIEVING SUSTAINABLE WASTE MANAGEMENT IN KOSOVO**

In order to achieve sustainability in the area of waste management in Kosovo, it is necessary to take a series of measures.

Some of those measures would be the following:

- (1) reducing the amount of waste,
- (2) improving the quality of municipal waste collection services,
- (3) introduction of regulations, standards and creation of appropriate sanitary landfills for hazardous waste management,
- (4) increasing the amount of treated waste (recycling, reuse, etc.),
- (5) construction of a national station for the selection and treatment of waste in Kosovo,
- (6) introduction of an incinerator for animal waste in Kosovo, in order to prevent this type of waste from being dumped in landfills,
- (7) introduction of appropriate and modern equipment and infrastructure for treating different types of waste,
- (8) increasing investments in the field of waste

management,

- (9) introduction of the necessary standards for arranging landfills according to EU standards,
- (10) increasing cooperation between institutions in the field of waste management at the local, regional and national level,
- (11) undertaking activities that will influence the increase of awareness among the population, legal entities and institutions for sustainable waste management and sustainable development, etc.

**8. CONCLUSIONS**

One of the areas that should be given special attention when it comes to realizing the concept of sustainable development is waste management. In order to protect human health and the environment, waste management must meet sustainability criteria and create sustainable practices.

But, when analyzing the situation in Kosovo from this aspect, it can be said that although efforts are being made to manage waste in Kosovo, that management is not sustainable at all. Therefore, numerous measures should be taken both by the central government and by the local authorities in order to introduce sustainable measures for waste management in order to achieve sustainable development in this sphere, preserve human health and protect the environment.

**REFERENCES**

- [1] Bull, A. (2002). *The Economics of Travel and Tourism*. Longman Publishing Group.
- [2] Gashi, M. (1988). *Basics of Tourism*. Pristina.
- [3] Staka, K. (2004). *Tourism Policies*. Tirana.
- [4] Aguayo, E. (2011). *Impact of Tourism on Employment, an Econometric Model of 50 CEEB Regions*. London.
- [5] Gashi, M. (1987). *Basics of Tourism - Tourism and Hospitality for High Schools*. Pristina.
- [6] Bottomley, R. (2000). *The Travel Agent*. Sunderland, Business Education Publishers.
- [7] Gratton, C., Taylor, P. (1988). *Economics of Leisure Services Management*. Harlow, Longman.
- [8] Cheyne, I., Purdue, M. (1995). Fitting definition to purpose: The search for a satisfactory definition of waste. *Journal of Environmental Law*, 7(2): 149-168.
- [9] OECD. (2003). *Glossary of Statistical Terms: Waste*.
- [10] EU. (2008). Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain directives. OJ L 312, 3-30.
- [11] Michael-Agwuoke, M.U. (2012). Is waste-to-energy changing the definition of waste? In 3rd International

- Chemical and Environment Conference ICEEC, Kuala Lumpur. Malaysia.
- [12] Mubaslat, A. (2021). Introduction to Waste Management. First edition. Jordan.
- [13] AMMK (Kosovo Environmental Protection Agency). Report of Municipal Waste Management in Kosovo - Reporting year 2021, Priština 2023.
- [14] AMMK (Kosovska agencija za zaštitu životne sredine). 2020. Životna sredina Kosova 2020 - Izveštaj o indikatorima životne sredine. Priština.
- [15] AMMK (Kosovska agencija za zaštitu životne sredine). 2019. Izveštaj o opasnom industriskom otpadu na Kosovo. Priština.