MINISTRY OF ENVIRONMENT
AND SPATIAL PLANNING

KOSOVO ENVIRONMENTAL
PROTECTION AGENCY

The state of waste and chemicals report

Prishtinë, 2014

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Preface

Preparation of the report on the state and waste management in Kosovo is the responsibility and duty of KEPA, regulated by the Law on Environmental Protection, and by the Waste Law. In this report chemicals are included also, because a significant part of chemicals end up as waste, and as in many other aspects, related issues are also relevant for chemicals.

The main purpose of the report is to inform the public on the state of waste and chemicals in Kosovo, but through this report, by informing the policy makers, is intended to contribute to improving the policies on waste and chemical management. This report can serve as a good guide for directing projects, and donor support in waste and chemicals sectors.

The report contains information on legal, strategic and institutional framework of waste and chemicals sector, data on the overall state of waste and chemicals including municipal waste generation and the state of landfills, then information on infrastructure, projects and investments in this sector. Conclusions and recommendations are important parts of the report.

Information introduced in this report is collected in the field by KEPA teams, data provided by regional companies, KLMC, WWRO, as well as data from other governmental and nongovernmental organizations. This report includes also information, definition and concepts that refer to the respective laws and administrative instructions, and data from projects and donors in this field. Also, relevant data published in other publications and reports are considered and included in this report.

The data presented in this report, mainly refers to the period 2009-2013, but in some cases, due to the lack of recent data and/or for comparative purposes, data from earlier periods are presented.

1. General characteristics of Kosovo

1.1. Geographical position

Kosovo is characterised with convenient geographical position. It lies in South-eastern Europe, and in the central part of the Balkan Peninsula, being so important crossroads splicing transit routes that connect different parts of Europe and beyond, since ancient times until today. In the ancient road network in Kosovo, two of them were the most important: northeast-southwest, respectively Naissus (Nish) - Lissus (Lezhë) and northwest-southeast linking Bosnia to Scup (Skopje).

Geographical position of Kosovo gained special importance after the construction of the railway Thessaloniki-Skopje-Fushë Kosovë-Mitrovicë in 1874, which linked the northern and southern parts of Balkans and Europe. The transitory function was further increased with the construction of the highway Ferizaj-Pristinë-Mitrovicë, which continued along the Ibri valley by creating links with Central and Western Europe, and south through the Kaçaniku Gorge linked with Southern Europe and the "Corridor 8" Durres-Skopje-Sofia-Varna.

Construction of the Adriatic highway (1971) further enhanced this transitory character, by linking Kosovo to the Adriatic coast and "Dalmatia" corridor, turning Kosovo into an important regional crossroads. Later construction of road and railway network was in function of increasing the importance of transitory role of Kosovo, especially the Durres-Morine-Merdare highway.

In geo-political and strategic terms, importance of the geographical position of Kosovo lies in the fact that Kosovo is a transit territory between: central and west Europe with southern Europe, Aegean, South-Western Asia and Eastern Mediterranean which in the historical aspect appear significant regional category. The geographical position of Kosovo has been important since past historical times, while the intensity of transit function depended on political and economic situation.

1.2. Relief

Kosovo is a mountain and lowlands country, consisted by Kosovo plane (510-570 m above sea level) and Dukagjini Plain (350-450 m above sea level). The average above sea level of Kosovo is 810m. The lowest point is 270m, while the highest 2656 m (Gjeravica). In terms of hypsometry the area below 300m above sea level includes only 16.4 km^2 (0.2%) to 1000 m are expanded 8754 km ^{2} (80.7%), from 1000 to 2000 m 1872.3 km ^{2} (17%) and over 2000 m to 250.6 km ^{2} (2.3%). The main forms in Kosovo landscape are: mountains with 63% and hollows 37%.

1.3. Climate

Kosovo's climate is influenced by the macro-climatic factors: geographic latitude, position to land and water massifs, position towards baric Azores maximum and minimum systems, and Iceland minimum, as well as from local factors: the position of geography, relief and altitude above sea level.

Based on the macro climate factors, Kosovo is characterized by a moderate continental climate, but local factors also affect the appearance of other climate types.

Depending on these factors: the eastern part (Kosovo plane) is characterized by a continental climate, while the western part (Dukagjini plane) is characterized by a moderate continental climate influenced significantly by the Mediterranean climate of the Adriatic Sea through the Drini valley. Mountainous and hilly areas (700-1000m) as transitional areas are characterized by subalpine climate, and mountainous areas (over 1000m) are characterized by alpine climate.

Average temperatures in Kosovo are about 10 0C, with minimum temperatures up to -27.2 0C, and maximum temperatures up to 39.2 0C. The annual average precipitation is 596mm (IHMK 2008).

Due to the influence of local factors, comparing to eastern part, the western part of Kosovo is characterized by higher temperatures (on average of 1 oC) and with higher annual average of precipitations (close to 100mm).

1.4. Population growth

The total number of population in Kosovo, despite the displacements and various pressures is constantly increased at different rates after the World War II period. During the 63 years period (1948-2011) the number of Kosovo population was increased by 138.2%, from 727820 (1948) to 1733872 [1].

Population growth impacts the environment in many aspects, of which the most important are: the impact on the level of production, the use of natural resources, land use, waste generation, and environmental pollution

Relationship between population and environmental impact at first glance is this: the higher number of population, the more products spent, more natural resources used, more damages caused and more waste generated.

1.5. Urbanisation

In comparison to 1948, the year 2004 [2], marks an increase of rural population by 110.0%, while the urban population shows an increase of 1430.8%. Regarding the share in the total population number, urban population has shown an increase from 9.7% (1948) to 46.7% (2004). This level is quite controversial as peripheral parts of Kosovo cities in most cases do not provide minimum conditions of urban life.

Although compared to rural areas, urban areas offer advantages in some aspects (are more compact, occupying less area per capita, more efficient in the delivery of water, electricity, roads, better waste collection services etc.), the negative environmental impact is much greater compared to rural areas. Especially, negative environmental impact increases by uncontrolled migrations that occur through: increasing the density (overpopulation) of urban areas, and depopulation of rural areas.

Also, the concentration of industrial facilities in and near urban areas, uncontrolled construction activities, lack of infrastructure, difficulties in housing and waste collection services, uncontrolled disposal of construction waste, increased quantity of untreated wastewater discharges into natural environments, affects significantly the deterioration of the environmental situation.

Traffic in urban areas is much denser and is a major source of environmental pollution. Consequently the state of urban air quality is poorer than in rural areas, which shows for the importance of immediate measures to resolve urban environmental problems. Trends of urbanization indicate that the number of population exposed to poor environmental conditions is steadily grown, which undoubtedly is followed by the increasing incidence of "environmental" diseases.

1 Results of population census - ASK 2011.

2 Assessment of prof. A. Pushka (2004). "Vital statistics", ASK. Prishtinë.

2. Legal, strategic, and institutional framework for waste and chemicals

2.1. Laws and administrative instructions on waste and chemicals

Waste management in Kosovo is regulated by the waste law (The law Nr. 04/L-060).

This law aims to: prevent and reduce as much as possible generation of waste, reuse of used components from waste, sustainable development through protection and preservation of human resources, prevention of negative effects of the waste in environment and in human health, final storage of waste in acceptable environmental manner.

For implementation of the waste law, the following administrative instructions are approved:

- Administrative Instruction No. 01/2009, on conditions for selecting the waste landfill location;
- Administrative Instruction No.12/2008, for treatment of the waste from medical products;
- Administrative Instruction No. 06/2008 on hazardous waste management;
- Administrative Instruction No. 05/2008 on medical waste management;.
- Administrative Instruction No.10/07 waste landfill management;
- Administrative Instruction No.02/2011 on management of wastes from fluorescent tubes containing mercury;
- Administrative Instruction No. 16/2010 on biodegradable waste management;
- Administrative Instruction No. 09/2009 on waste management licence;
- Administrative Instruction No. 07/2009 on management of waste containing asbestos;
- Administrative Instruction No. 06/2009 on waste tyres management;
- Administrative Instruction No. 04/2009 on mandatory fines penalties;
- Administrative Instruction No. 19/2012 on management of end of life vehicles and their components;
- Administrative Instruction No.20/2012 on waste export, import and transit;
- Administrative Instruction No. 81/07 used waste oils management;
- Administrative Instruction No. 80/07 on management of used batteries and accumulators;
- Administrative Instruction No. 39/07 on management of electrical and electronic waste;
- Administrative Instruction No. 37/07 on management of polychlorinated biphenyls and terphenyls.
- Administrative Instruction No. 36/07 on packaging waste.
- Administrative Instruction No. 35/07 on the competency of the waste owner and waste treatment operator.
- Administrative Instruction No. 05/07 on construction and demolition waste.
- Administrative Instruction on management of waste from extracting and mining industry.

The following Administrative Instructions are under the amendment process:

- Administrative Instruction No.10/07 waste landfill management;
- Administrative Instruction No. 01/2009 on waste export, import and transit;.
- Administrative Instruction No. 03/07 used waste oils management;
- Administrative Instruction No. 06/2009 on waste tyres management;.
- Administrative Instruction No. 02/2009 on management of end of life vehicles and their components;

Management of chemicals and biocides is regulated by the laws on chemicals (the Law No. 02/L-116), which is under the amendment process, and by the law on biocides (the Law No. 03/L-119)

The purpose of the Law on chemicals is to regulate management of dangerous chemicals, protection and reducing the potential risk from chemicals that can affect, and cause serious consequences for human health and the environment.

This law defines the conditions for placing on the market the dangerous substances and mixtures; determines the control of chemicals; determines the procedures for assessment of risks that can adversely affect human health and the environment; and determiners reviewing and issuing permits.

Also, this law regulates the treatment and use of chemicals, registry of chemicals, the registry of natural and legal persons that trade and use chemicals; the conditions for classification, labelling, packaging, import, export and transit of dangerous chemicals; and responsibilities of the competent authority for the implementation and monitoring of this Law.

Main goal of the law on biocides is to determine and regulate conditions for placing into the market and utilization of active substance(s) used for production of biocide products in the territory of Republic of Kosovo, and with this to protect human and animal health, and environment.

For implementation of the law on chemicals No. 02/L-116 the following Administrative Instructions are approved:

- Administrative Instruction No. 222/10 on Technical List of Chemical Safety and method to fill it.
- Administrative Instruction No. 21/2012 – Notification of new substances.
- Administrative instruction on classification, labelling, and packaging (CLP) of dangerous chemicals.

2.2. Waste Management Strategy 2013-2022

The main objective of the strategy is to create a framework of measures, within which the Republic of Kosovo will have to reduce the amount of waste currently generated, and to establish a sustainable waste management system.

Waste Management Strategy sets directions and goals in the field of waste management for the ten-year period 2013-2022, in accordance with the legislation on waste management and economic conditions, by focusing on:

- Reducing the waste generation quantity at source, and reducing the quantity of waste that must be disposed of;
- Development of infrastructure for establishing an integrated waste management system, by creating conditions for effective functioning of the system;
- Reducing the risk from waste;

- Contribute to the employment in the country;
- Capacity building for waste management;
- Improvement of waste collection services;
- Completion of legislation;

With regards to hazardous waste management, the following measures have to be implemented:

- Accurate inventory of hazardous waste;
- Management of hazardous waste inherited from the past, which are under the jurisdiction of the Government;
- Encourage the use of economic instruments;
- Increase the accountability of manufacturers which result with waste generation;
- Encourage consumers for consumption in favour of cleaner products and products which result with lesser waste quantity;

The strategy document addresses the role of central and local governments, as well as different governmental and non-governmental sectors, including water, mining, health, veterinary, spatial planning, construction, industry etc.

Considering the current situation, and the vision for creating a sustainable waste management system in our country, the strategy has set targets and measures aimed at implementation of waste management improvement.

2.3. National Waste Management Plan 2013-2017

The overall aim of the Waste Management Plan 2013 - 2017, is to improve waste management, environment and human health protection in the Republic of Kosovo.

The main objectives of this plan are:

- Strengthening the waste management system,
- Investing in the areas of significant problems, and on waste infrastructure,
- Raise the level of awareness, and information on waste management

Priority projects in the area of waste management for the five years period (2013-2017) are included in the Waste Management Plan, in accordance with the Waste Management Strategy and economic conditions.

2.4. Local Waste Management Action Plans

In addition to the National Waste Management Plan, in accordance with the waste law, the following 14 municipalities have developed their Local Waste Management action Plans: Prishtinë, Prizren, Hani i Elezit, Viti, Deçan, Junik, Pejë, Malishevë, Gracanicë, Kllokot, Ranillug, Partesh, Novobërdë and Kamenicë.

Whereas, the municipalities: Mitrovicë, Rahovec, Fushë Kosovë and Istog, are in the process of developing their Local Waste Management Plans.

2.5. EU waste and chemicals directives

At the European Union, waste management is regulated by Directives, and majority of them are transposed into Kosovo legislation.

- Waste Framework Directive 75/442/EEC & Amended Waste Framework Directive 91/156/EEC
- Directive on hazardous waste (Directive 91/689/EEC)
- Directive on waste oils (Directive 75/439/EEC)
- Directive on landfill of waste 99/31/EC
- Directive on Sewage Sludge (Directive 86/278/EEC)
- Directive on waste incineration 2000/76/EC
- Directive on end of life vehicles 2000/53/EC
- Draft directive on waste from electrical and electronic equipments
- Waste Shipments regulation 259/93/EEC
- Directive on packaging waste 94/137/EEC
- Directive on Integrated Pollution Prevention and Control EEC/96/61

Waste Framework Directive

The Waste Framework Directive sets down basic requirements for waste handling and defines what is meant by "waste". It provides that EU member States must:

- Ensure that the waste disposal and recovery of does not present a risk to water, air, soil, plants and animals
- Prohibit waste disposal that could constitute a public nuisance through excessive noise levels or unpleasant odours, or to degrade places of special natural interest
- Prohibit the dumping or uncontrolled waste disposal
- Establish an integrated and effective network of waste disposal plants, prepare waste management plans, ensure that those who store waste handle it properly, and ensure that waste treatment operators are licensed
- Require waste collectors to have special authorisation and to keep records
- Carry out inspections of companies involved in waste collection or disposal

Hazardous Waste Directive - defines hazardous waste and sets out rules for dealing with it.

The PCB/PCT Directive - deals with the disposal of certain hazardous chemicals which represent a particular threat to the environment and to human health. It provides that all companies involved in the decontamination and/or the disposal of PCBs, or that use PCBs or equipment containing PCBs, must first obtain a permit. It sets out requirements with regard to the decontamination or disposal of equipment containing PCBs and the disposal of used PCBs in order to ensure that they are completely eliminated.

Landfill Directive - sets out detailed rules on waste landfills. It provides that the operators of existing landfill sites must have an approved conditioning plan which indicates how the requirements of the

Directive are to be met within the required timeframe. These plans must help prevent the negative effects of landfill on surface water, groundwater, soil and air. The Directive also bans certain types of waste from landfill sites, for example used tyres, and requires member states to reduce the amount of biodegradable waste that they landfill to 35% of 1995 levels.

Sewage Sludge Directive - aims at protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture, and sets controls on the use of sewage sludge in agriculture.

Incineration of Waste Directive - aims to prevent or limit the negative effects of the incineration of waste. It imposes operational and technical requirements and sets emission limit values for waste incineration and co-incineration plants within the EU.

Waste Oil Directive - aims to create a harmonised system for the collection, treatment, storage and disposal of waste oils, such as lubricant oils for vehicles.

Packaging Waste Directive - sets targets for the recovery and recycling of packaging waste and requires member states to set up collection, recycling and recovery schemes for such waste.

End-of-Life Vehicles Directive - sets out measures which aim to prevent waste from motor vehicles and vehicle components that have reached the end of their life-cycle and to promote vehicle reuse, recycling and other forms of recovery. It requires that collection systems be set up to ensure that end-of-life vehicles are effectively and safely disposed of without damaging the environment.

Electric and Electronic Waste (WEEE) - aims to prevent the generation of electrical and electronic waste and to promote reuse, recycling and other forms of recovery in order to reduce the quantity of such waste to be eliminated through landfilling or incineration. It requires the collection of WEEE, recovery and reuse or recycling.

The Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment - the RoHS Directive - aims to reduce or eliminate certain substances in the manufacture of electrical and electronic equipment in order to facilitate waste management

EU Directives on Chemicals- At European Union level, management of chemicals is regulated by the directives and regulations, main of which are provided below:

- Directive 67/548/EEC on dangerous substances
- Directive 1999/45/EC on dangerous preparations
- Directive 2004/9/EC on the inspection and verification of good laboratory practice (GLP).
- Regulation (EC) 1272/2008 on classification, labelling and packaging of dangerous substances.
- Regulation (EC) 1907/2006– REACH on Registration, Evaluation, Authorisation and Restriction of Chemicals
- Regulation (EC) 689/2008 on export-import of dangerous chemicals.
- Regulation (EC) 648/2004 on detergents.

Also important tools in the management of chemicals are the European catalogues of dangerous substances such as EINECS, ELINCS, CAS.

2.6. Institutional Framework

2.6.1. Ministry of Environment and Spatial Planning

In the of waste administration sector, according to the waste law, the Ministry of Environment and Spatial Planning has the following responsibilities:

- Determines the waste management policies;
- Develops legal acts that regulate the waste management secto;r
- Develops the waste management strategy and National Waste Management Plan;

- Issues licences, and keep records on the companies that deal with waste management activities;
- Issues permits for waste import, export and transit shipment;
- Implementation of international agreements in the area of waste management;

By the entry into force of the new waste law (Nr.04/L-060), articles 82 and 83 of this law, several responsibilities that in the past were carried out by the Waste and Water Regulatory office, are transferred to the MESP.

2.6.2. Kosovo Environmental Protection Agency - KEPA

As an executive environmental institution, in the waste sector KEPA is responsible for the following tasks:

- Data collection and data processing in the waste sector;
- Develops and maintains the waste information system;
- Prepares the reports on the state of waste management;
- Monitoring of municipal, and regional sanitary landfills;
- Forecasting and informing on the waste related developments and consequences;

2.6.3. Local governments - Municipalities

According to the waste Law, the municipalities as local governments, in the sector of waste management have the following tasks and responsibilities:

- Establishment of waste management system, based on hierarchy principle for waste management on their municipality;
- Development of local waste management plan and creating conditions for its implementation;
- Compiles the annual report on waste management in the territory of respective municipality, and makes sure for proper public information;
- Sets out responsibilities and tasks for conducting the waste management services, their implementation, organization and waste management on their territory;
- Selects the licensed persons for collection, storage, and shipment of the following types of waste: inert, municipal, commercial, voluminous, as well as construction and demolition waste at their territory;
- Sets out the fees and the manner of collection of funds for municipal services;
- Identification of contaminated sites in their territory, the development of projects for their rehabilitation, with notes on location, spatial geometric characteristics, type of pollution, waste quantity, timelines for rehabilitation and other important notes for project implementation;

2.6.4. Kosovo Landfill Management Company- KLMC

The Kosovo Landfill Management Company is a publicly owned enterprise for management of sanitary waste landfills in the Republic of Kosovo. Management of sanitary landfills of solid waste is the primary activity of this company.

Established in December 2005, KLMC initially was under the responsibility of UNMIK, and reported to the KTA. By the adoption of the law on public enterprises (Nr. 03/L-087) in June 2008, the KLMC

becomes a responsibility of the government of the Republic of Kosovo, under the Ministry of Economic Development

The Kosovo Landfill Management Company provides its services by the following landfills:

- Sanitary landfill in Prishtinë
- Sanitary landfill in Podujevë
- Sanitary landfill in Prizren
- Sanitary landfill in Gjilan
- Transfer station in Ferizaj

The Kosovo Landfill Management Company is responsible for management of above mentioned regional sanitary landfills of municipal solid wastes. Whereas the municipal waste landfills in Mitrovicë and Pejë are managed by regional public enterprises of Mitrovicë and Pejë.

2.6.5. Regional companies

Regional waste companies have the statute of regional public enterprises. Their main activity is performing waste collection services and delivery of the collected waste at the sanitary landfills.

According to the law on public enterprises, in this category of enterprises belong:

- Regional Waste Company "Pastrimi", Prishtinë;
- Regional Waste Company "Ambienti", Pejë;
- Regional Waste Company "Pastërtia", Ferizaj;
- Regional Waste Company "Eco-Regjioni", Prizren;
- Regional Waste Company "EkoHigjiena", Gjilan;
- Regional Waste Company "Uniteti", Mitrovicë;
- Regional Waste Company "Çabrati" Gjakovë;
- Regional Waste Company "Standard", Mitrovicë,
- Waste Company "Zveçan", Zveçan,
- Water and waste company "Ibri", Zubin Potok,
- Water and waste company "24 Nëntori", Leposaviq

All the above listed enterprises are under the responsibility of (owned by) municipalities, and the percentage of ownership of each municipality is determined by the law on public enterprises.

2.6.6. Other entities

In waste law are defined duties and responsibilities for other public or private entities to deal with waste management including:

- Waste owners
- Waste importers
- Waste producers
- Waste transporters
- Waste treatment operators

- Waste collection operators
- Waste landfilling operators.

All these entities are obliged to obtain a license for their activities, to develop waste management plans, maintain records of their activities, to regularly report to the competent authorities, as well as to be compliant with the applicable laws that relate to these activities.

3. Waste generation

3.1. Municipal waste generation by regions

Data presented in tables 1, 2, 3, 4 and 5 show that during 2009, the largest waste quantity is disposed of in Pristina landfill (84,660.59 tonnes), whereas the smallest waste quantity in Landfill of Sharri (Dragash) (4807.00 tonnes). Same situation was in 2010 where the largest waste quantity was disposed of in Pristina landfill (83,742.23 tonnes), and the smallest quantity in Sharri landfill (5081.7 tonnes). In 2011 the largest quantity is disposed of in Pristina landfill (81,816.63 tonnes), and the smallest in Sharr (5248.00 tonnes). Also, in 2012 and 2013 the largest quantity is disposed of in the Pristina landfill (78,393.54 tonnes respectively 89,806.18 tonnes) and the smallest in Sharr (4,530.00 tonnes respectivly 5,161.50 tonnes).

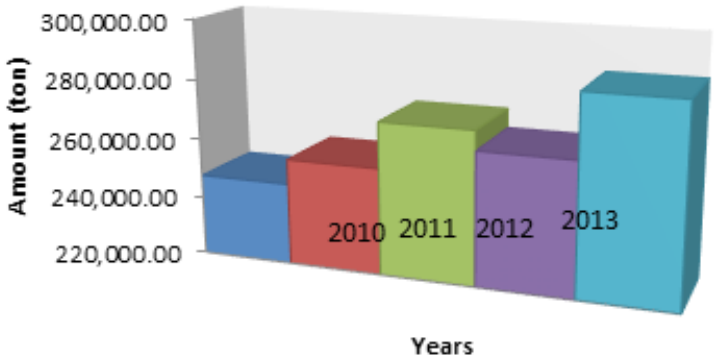

Fig. 1. Waste quantity disposed of in sanitary landfills 2009-2013

If we compare data on waste quantities landfilled in sanitary landfills in period 2009 – 2013 it is indicated that the waste quantity was at all regional and municipal landfills. The highest waste quantity generated is recorded in 2013.

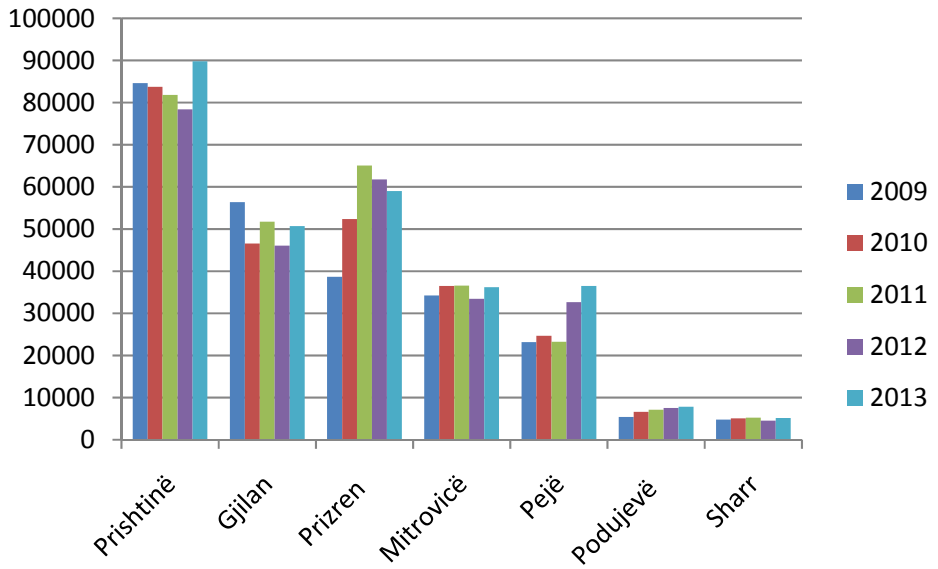

Fig.2. Waste quantity collected by regions 2009-2013

In 2012 there is a decreased rate of waste collection and disposal. There are two factors that may have influenced declining amount of waste collected: Increased amount of recycled waste, and increased efficiency of waste delivery in sanitary landfills by waste collection companies.

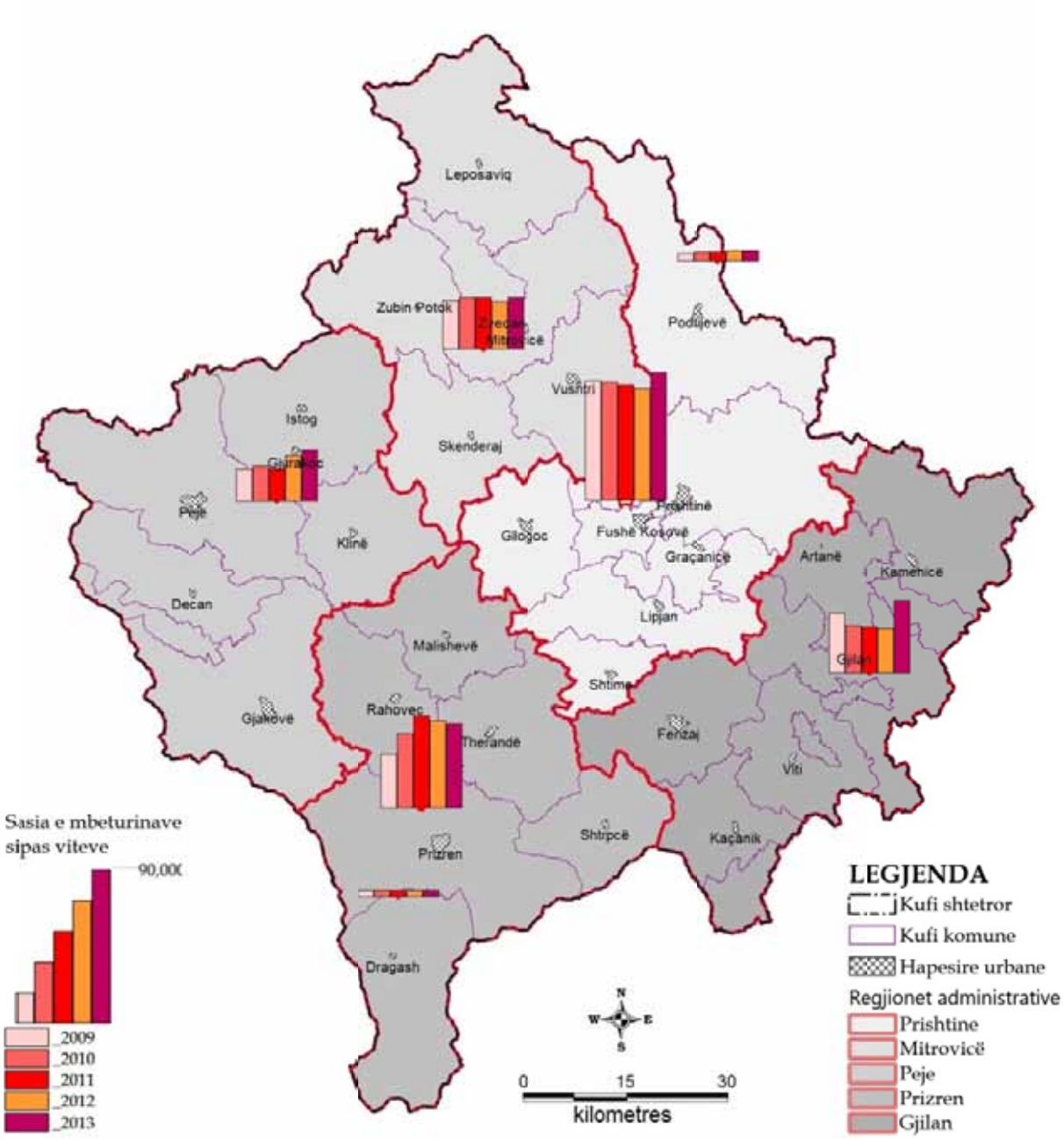

Table 1: Waste quantity in Kosovo regional and municipal sanitary landfills for 2009, in tonnes[3]

2009 9	Sanitary landfill	January	February	March	April	May	June	July	August	Sept	October	Nov	Dec	Total
1	Prishtinë*	6,967.45	6,060.84	7,794.76	8,539.91	8,299.89	8,588.45	4,383.72	6,335.95	7,264.75	7,831.62	5,206.45	7,386.80	84,660.59
2	Gjilan*	3,642.26	3,236.29	3,604.45	4,537.04	4,582.66	4,336.01	2,392.61	4,488.12	2,552.47	2,513.01	4,129.69	2,551.62	42,566.23
3	Prizren*	2,705.50	2,543.73	3,088.40	3,836.50	3,520.25	3,377.93	1,968.20	4,267.22	4,553.70	1,691.30	3,672.67	3,402.00	38,627.40
4	Podujevë*	360.33	358.84	463.06	610.02	509.86	503.32 T	353.05	448.96	496.45	589.86	589.17	618.93	5,398.53
6	Pejë**	1677	1480	1820	1899	1823	1930	2250	2370	2160	2040	1855	1873	23177
7	Sharr	314	296	331	415	426	366	534	573	450	419	359	324	4807.00
8	Mitrovicë**	2,302.64	1,927.15	2,888.88	3,308.14	3,045.8	3,031.27	3,378.98	2,903.9	3,014.58	3,099.68	2741.01	2,553.79	34,195.82
9	Ferizaj*	1,069.39	1,250.90	1,002.60	1,732.20	1,411.50	609.30	710.30	285.29	1,845.17	1,895.93	991.75	969.75	13,774.08
	Totali	19,038.57	17,153.75	20,993.15	24,877.81	23,618.96	22,238.96	15,970.86	21,672.44	22,337.12	20,080.40	19,544.7	19,679.8	247,206.65

Table 2: Waste quantity in Kosovo regional and municipal sanitary landfills for 2010, in tonnes[4]

2010	Sanitary landfill	January	February	March	April	May	June	July	August	Sept	October	Nov	Dec	Total
1	Prishtinë*	6,423.75	6,326.54	6,852.50	6,395.38	6,706.95	6,330.10	7,063.85	7,331.98	7,508.48	7,826.96	8,077.71	6,898.03	83,742.23
2	Gjilan*	2,093.95	2,231.51	3,070.35	3,695.06	3,176.08	2,577.95	3,658.85	3,088.35	2,716.37	2,573.78	2,260.79	1,951.08	33,094.12
3	Prizren*	2,855.10	2,772.46	3,507.78	3,912.80	3,966.40	4,067.30	4,645.91	5,380.65	5,098.00	5,538.78	5,958.34	4,685.90	52,389.42
4	Podujevë*	513.60	407.97	18.80	1,355.10	26.95	2,507.72	38.11	40.49	44.05	567.01	594.01	510.80	6,624.61
6	Pejë**	1,662	1,395	1,400	2,226	2,177	2,168	2,168	2,756	2,440	2,178	2,202	1,884	24,656
7	Sharr	282.5	292	301.2	415	408	409	457	628	628	420	421	420	5081.7
8	Mitrovicë**	2,275	2,307	2,992	2,707	2,708	2,763	3,502	3,555	3,950	3,569	3,231	2,909	36,469
9	Ferizaj*	988.75	357.90	643.10	667.40	569.10	1,294.59	1,061.55	1,672.30	1,608.00	1,608.60	1,496.50	1,521.40	13,489.19
	Totali	17,094.65	16,090.38	18,785.73	21,373.74	19,738.48	22,117.66	22,595.27	24,452.77	23,992.90	24,282.13	24,241.35	20,780.21	255,546.27

3 KLMC and WWRO, 2008

4 KLMC and WWRO, 2010

Table 3: Waste quantity in Kosovo regional and municipal sanitary landfills for 2011, in tonnes[5]

2011	Sanitary landfill	January	February	March	April	May	June	July	August	Sept	October	Nov	Dec	Total
1	Prishtinë*	6,129.63	5,503.53	6,663.36	6,898.88	6,868.26	6,811.13	7,111.31	7,293.80	7,572.41	7,090.16	6,845.34	7,028.82	81,816.63
2	Gjilan*	1,690.72	1,651.22	2,811.63	2,531.37	2,687.38	2,857.74	3,196.94	3,646.87	3,440.74	3,100.12	2,658.29	2,663.49	32,936.51
3	Prizren*	4,517.30	4,015.60	4,994.20	5,086.26	5,812.93	5,544.70	6,135.50	7,035.70	6,290.30	5,946.53	5,112.50	4,571.40	65,062.92
4	Podujevë*	399.89	391.09	903.84	522.36	651.86	345.00	648.98	691.07	711.45	698.47	602.11	548.99	7,115.11
6	Pejë**	1427	1316	1763	2182	2128	2152	2117	2398	2075	2099	1853	1740	23,250.00
7	Sharr	303	312	320	426	435	435	459	631	640	426	435	426	5248.00
8	Mitrovicë**	2416.22	2213.39	3161.5	3122.78	3196.14	3724.74	3776.18	3756.65	3344.42	2903.31	2520.9	2425.74	36,561.97
9	Ferizaj*	1,348.40	1,185.60	981.85	1,257.79	1,497.20	1,651.74	1,886.45	1,966.70	1,954.50	1,831.80	1,701.00	1,533.90	18,796.93
	Totali	18,232.16	16,588.43	21,599.38	22,027.44	23,276.77	23,522.05	25,331.36	27,419.79	26,028.82	24,095.39	21,728.14	20,938.34	270,788.07

Table 4: Waste quantity in Kosovo regional and municipal sanitary landfills for 2012, in tonnes[6]

2012	Sanitary landfill	January	February	March	April	May	June	July	August	Sept	October	Nov	Dec	Total
1	Prishtinë*	5287.08	5096.30	7592.91	6757.77	6371.67	6895.66	6996.11	7614.35	7097.02	6832.30	6092.71	5759.66	78,393.54
2	Gjilan*	1967.35	1933.20	2949.51	2455.28	2948.26	1968.33	1850.30	3324.31	2710.95	3517.97	3520.11	2608.01	31,753.58
3	Prizren*	4047.20	3246.60	6207.46	5378.50	6198.80	5070.90	5298.30	6950.20	5456.00	5245.90	5210.70	3438.60	61,749.16
4	Podujevë*	489.20	377.00	650.34	551.40	1166.70	652.55	581.75	644.70	674.00	701.30	540.70	498.45	7,528.09
6	Pejë**	2122.00	1189.00	2847.00	2472.00	3138.00	2754.00	2948.00	3855.00	2921.00	3121.00	2785.00	2471.00	32,623.00
7	Sharr	377.5	377.5	377.5	377.5	377.5	377.5	377.5	377.5	377.5	377.5	377.5	377.5	4,530.00
8	Mitrovicë**	2296.87	1847.29	3255.76	2839.98	3162.07	2562.78	3052.78	3278.53	2804.41	3133.40	2687.63	2536.51	33458.20
9	Ferizaj*	1326.60	947.48	2143.78	1759.03	1703.60	983.40	478.10	719.10	795.30	1459.09	1096.23	861.80	14,273.51
	Totali	17,913.8	15,014.37	26,024.26	22,591.46	25,066.6	21,265.12	21,582.84	26,763.69	22,836.18	24,388.46	22,310.58	18,551.53	264,309.08

5 KLMC and WWRO, 2011

6 KLMC and RWC, 2012

Table 5. Waste quantity in Kosovo regional and municipal sanitary landfills for 2012, in tonnes[7]

2013 9	Sanitary landfill	January	February	March	April	May	June	July	August	Sept	October	Nov	Dec	Total
1	Prishtinë*	5,878.35	6,504.57	6,865.15	7,462.23	7,676.87	6,860.37	8,325.22	8,473.64	8,139.62	8,883.08	7,278.74	7,458.34	89,806.18
2	Gjilan*	2,670.06	2,077.28	2,312.96	3,328.71	3,262.98	2,903.36	3,686.62	3,740.17	3,593.70	3,570.70	2,700.03	2,531.89	36,378.46
3	Prizren*	3,891.50	3,158.40	3,875.74	4,922.90	5,252.60	4,076.50	4,456.30	6,075.61	5,867.20	6,724.34	5,510.80	5,182.60	58,994.49
4	Podujevë*	518.5	481.8	504.3	581.5	619.03	291.03	790.24	822.2	786.97	861.9	781.52	819.1	7,858.09
6	Pejë**	2691	2255	2710	3040	2888	2661	3542	3873	3324	3638	2934	2919	36,475.00
7	Sharr	357.7	302.8	361.1	402.4	434.2	403.6	495.3	738.7	464.1	522.9	310.4	368.3	5,161.50
8	Mitrovicë**	2479.73	2146.52	2560.46	3270.46	3153.71	2945.03	3363.55	3496.61	3,117.84	3528.15	2965.42	3163.13	36,190.61
9	Ferizaj*	974.8	932.5	1,312.10	1,043.50	1,271.60	908.7	1,446.23	1,454.24	1,283.57	1,407.17	1,103.80	1,207.05	14,345.26
	Totali	19,461.64	17,858.87	20,501.81	24,051.70	24,558.99	21,049.59	26,105.46	28,674.17	26,577.00	29,136.24	23,584.71	23,649.41	285,209.59

7 KLMC and RWC, 2013

3.2. Municipal waste generation at national level

Waste quantity generated per person in Kosovo in 2008 was 167 kg, in 2009 - 193 kg, in 2010 - 297 kg, in 2011-335 kg, and in 2012 – 334 kg. This shows for significant increase of waste quantity per capita per year. Comparing to other regions, the largest annual quantity of waste per capita is generated in Prishtinë region.

Daily average of waste generated per person in Prishtinë is as follows:

2008 - 0.9 kg; 2009 - 1.2 kg; 2010 - 1.4 kg; 2011 - 1.3 kg; and 2012 - 1.4 kg. Whereas in other regions the daily average of waste generated in 2008 and 2009 is 0.3 kg, 2010 - 0.6 kg, 2011 - 0.8 kg and in 2012 - 0.7 kg.(Table 6).

Table 6. Municipal waste quantity collected in Kosovo, per capita (kg/year and kg/day) for 2008- 2012[8]

Collection place	2008			2009			2010			2011			2012		
	Collected quantity	Waste	Waste / capita / day	Collected quantity	Waste	Waste / capita / day	Collected quantity	Waste	Waste / capita / day	Collected quantity	Waste	Waste / capita / day	Collected quantity	Waste	Waste / capita / day
Njësia	1000/ Ton	kg/capita		1000/ Ton	kg/capita		1000/ Ton	kg/capita		1000/ Ton	kg/capita		1000/ Ton	kg/capita	
Pristina region	198	396	0.9	218	436	1.2	222	511	1.4	230	488	1.3	248	515	1.4
Other Kosovo regions	153	95	0.3	187	117	0.3	293	223	0.6	352	278	0.8	352	269	0.7
Kosovo total	351	167	0.5	405	193	0.5	515	297	0.8	582	335	0.9	606	334	0.9

Data presented in figures 3, 4 and 5, show that the largest waste quantity is collected according to the service "door to door", whereas the waste quantity collection service for collective housing is smaller. The difference of waste collection quantity by "door to door" and the collective housing is smaller in other Kosovo regions, comparing to Prishtinë region.

8 Municipal waste survey 2011, ASK

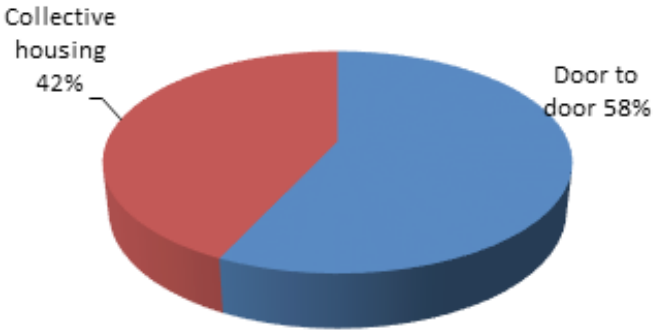

Fig.3: Waste % according to the collection type in Kosovo

Of total waste collection in Kosovo, waste collection door to door was 58 %, whereas collection from collective housing was 42 %.

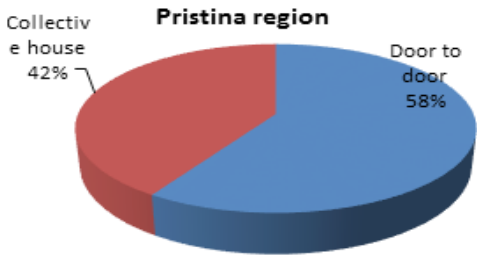

Fig.4: % of waste collection according the type of collection in Prishtina

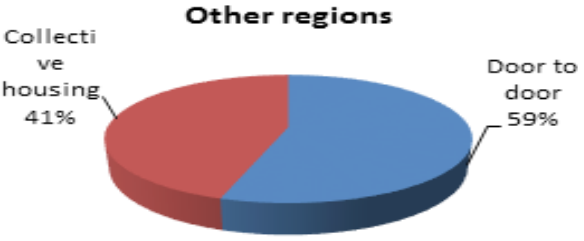

Fig.5: % of waste collection according the type of collection in other regions

In other Kosovo regions, municipal waste collection ratio was 41% collective housings and 59% door to door. Whereas, in Prishtinë region was 42% collective housing and 58% door to door.

Figure 6 shows the structure of waste in Kosovo level. The results were obtained by referring to the researches made in four Kosovo towns: Prishtinë, Prizren, Viti and Hani i Elezit. The researches were part of municipal waste management plans supported by GIZ, JICA and LOGOS.

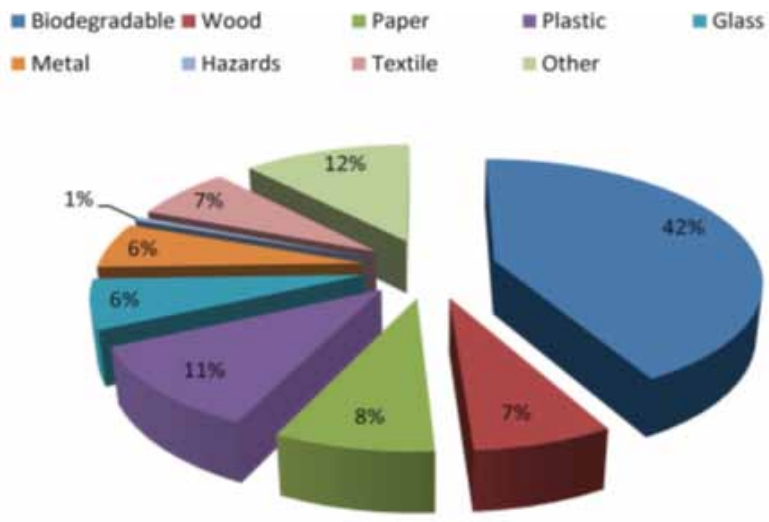

Fig.6: Waste according the type in Kosovo 2012

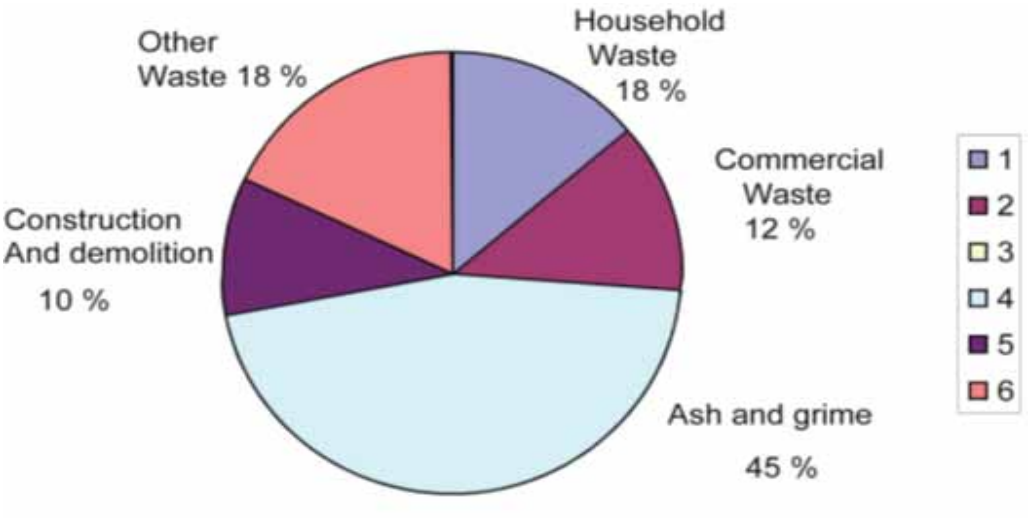

Fig.7: Waste according the type in Kosovo 2008 (%)[9]

Në tabelën 7 është paraqitur struktura sipas llojeve të mbeturinave në katër qytetet ku janë zhvilluar planet komunale për menaxhimin e mbeturinave: Prishtinë, Prizren, Viti dhe Hani i Elezit. Nëse e krahasojmë strukturën sipas llojeve të mbeturinave në Prishtinë në vitin 2003 dhe në vitin 2012, atëherë shihet qartë se struktura sipas llojeve të mbeturinave ka ndërruar mjaft (figura 7).

Table 7: Waste composition structure by percentage (%) in Prishtinë, Prizren, Viti and Han i Elezit[10]

Nr		Prishtinë %	Prizren %	Viti %	Hani i Elezit %
1	Biodegradable	41.00	41.00	49.50	35.78
2	wood	1.20	3.00	9.90	14.80
3	Paper	12.80	13	4.36	4.11
4	Plastics	14.80	10.70	9.90	9.37
5	Glass	4.50	4.60	8.54	11.82
6	Textile	3.50	1.20	8.89	13.51
7	Metal	1.20	1.30	8.49	11.14
8	Hazardous waste	0.40		0.35	0.09
9	Inert	7.20			
11	Other	7.60	12.80		

3.3. Industrial waste generation

According to the survey made by Kosovo Agency of Statistics, in 2010 the industrial waste quantity was 580,154 tonnes, of them 36,241 tonnes are hazardous wastes, and the rest non hazardous waste (Fig.8).

9 State of waste in Kosovo report 2008, KEPA

10 Municipal waste management plans.

Fig. 8: Industrial hazardous and non hazardous waste[11].

Below are presented tables with the industrial waste quantity from businesses with seven or more employees and those with less than seven employees. The highest amount of waste generated is in the sector of food products and beverages, 49% of industries with more than seven employees, and 69% of industries with less than seven workers (Tables 8 and 9). From these tables is showed that a large amount of waste is generated from mines. Mines also generate large amounts of hazardous waste.

Table 8: Quantities of waste generated, and hazardous waste from companies with seven or more employees[12]

Group	Type of industry	Non hazardous waste tonnes	Hazardous waste tonnes
14	Mines and quarries	172.686	35.500
15-16	Food beverages and tobacco production,	297.173	550
17-19	Production of Leather covers; luggage, handbags, footwear, harness	297	-
20-22	Publication and printing	445	85
23-25	Production of tires and plastic products	3451	-
26	Production of other non-metalic mineral products	94.490	34
27-29	Production of machineries and equipments	415	-
30-35	Production of transport equipments	-	-
36	Furniture production	47	30
37	Recycling	15.326	-
40	Supply of energy, gas, and heat water.	11	-
41	Water collection cleaning and distribution	244	-
Total		566.666	36.199

11 Industrial waste survey 2010, ESK

12 Survey on industrial waste 2010, KAS

Table 9: Quantities of waste generated, and hazardous waste from companies with less than seven employees [13].

Group	Type of industry	Non hazardous waste	Mbeturinat të rrezik-shme në Ton
14	Mines and quarries	2.654	1.0
15-16	Food beverages and tobacco production,	9.403	-
17-19	Production of Leather covers; luggage, handbags, footwear, harness	211	-
20-22	Publication and printing	37	-
23-25	Production of tires and plastic products	45	0.3
26	Production of other non-metalic mineral products	344	-
27-29	Production of machineries and equipments	16	0.2
30-35	Production of transport equipments	352	-
36	Furniture production	265	-
37	Recycling	226	40.0
40	Supply of energy, gas, and heat water.	-	-
41	Water collection cleaning and distribution	-	-
Total		13.588	41.5

The total quantity of industrial hazardous and non hazardous generated waste in tonnes is 580,154 tonnes, where 66% are treated.

Table 10: Quantities of generated waste, hazardous waste, and treated waste [14]

Type of Industry	Generated waste in tonnes	Generated waste in tonnes	Generated waste in tonnes
C, D and E	580,154	36,241	383,323

3.4. Waste generation from construction and demolition

KEPA does not have relevant data on the amount of construction waste. Also in Kosovo still there is not built any specific landfill to collect this type of waste. Also there is no data on the amount of the construction and demolition waste recycled. This is impacting further deterioration in the waste sector. Especially it is of concern dumping the construction waste in agriculture lands and along the rivers. Besides landscape damages, construction waste have adverse impacts on the environment in general, and especially in ecosystems. This is particularly the case when they are disposed of, mixed with other urban waste. So far, there is no relevant information on the amount of such waste and agricultural land surfaces, and other surfaces taken by construction waste. From the field visits of KEPA teams, it is noticed that these wastes are evident in many locations in Kosovo. It was found that these wastes are commonly used for filling various holes or levelling of surfaces. In some cases, construction wastes along with other urban waste are identified as illegal waste landfill. An example of such a landfill is presented in the following picture.

13 Survey on industrial waste 2010, KAS

14 Survey on industrial waste 2010, KAS

Illegal landfill of construction waste and urban waste.

3.5. Generation of specific wastes

Medical waste

Medical waste can be defined as waste generated as a result of diagnosis, treatment, and immunization of humans or animals. In some cases, medical waste can be considered as hazardous waste, that could cause or contribute to the appearance of serious or fatal illness, or when exposure to medical waste increases risk for human health or the environment, in particular if not properly managed or destroyed.

The following wastes are grouped into medical waste:

- Biological cultures and their residues, and stocks of contaminated substances and their bio logical components;
- Anatomical residues of body tissues, as organs part of the body, including tissue fluids taken during various surgical interventions, autopsies or medical procedures;
- Human blood and its products, materials contaminated with human blood;
- Sharp materials such as syringes, pipettes, tools and needles, broken and unbroken glass;
- Animal wastes, including body organs, body fluids and other biological animal organs;
- Materials for diseases isolation contaminated by blood, secretions, excretions, etc., by people isolated from other people to prevent the spread of diseases;
- Contaminated medical devices found in contact with infected material;
- Laboratory Residue in contact with biological material;

The quantity of medical waste treated in 7 hospital centres in Kosovo, is presented in the table below.

Table 11: Quantity of medical waste in hospital centres, in 2013

Year:2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Prishtine	11423.0	10942.2	12056.0	11640.0	11430.4	10625.0	12363.2	10730.0	11972.7	12080.3	11628.7	11602.8	138494.3
Prizren	8045.0	7100.0	7631.0	7595.0	7186.0	6899.0	7289.3	7463.3	7796.0	8470.2	7976.6	8274.9	91726.3
Ferizaj	-	-	-	-	677.0	2024.0	-	1348.0	787.0	-	-	-	4836.0
Gjilan	307.0	1706.0	1937.0	2714.0	3122.0	2672.5	2477.0	2749.0	2993.0	3150.0	2836.0	2763.0	29426.5
Mitrovice	4771.0	4690.0	6212.0	4249.0	5331.0	3616.0	3750.0	3504.0	3778.0	3561.0	3600.0	3403.0	50465.0

4. State of sanitary landfills

Efficient waste management is of great importance for the preservation of the environment and public health. Eliminating the waste disposal, and the advanced sanitary landfills management in general is of fundamental importance to each country. Implementation of systems, programs and projects for the prevention of waste generation, separation, recycling and reuse of waste is the best form for the effective management of waste.

Kosovo as a country that aspires to the process of European integration must not only make further progress in the field of waste landfills management, but also in all other segments of waste management in accordance with the relevant EU Directives.

In general, municipal and regional landfills managed by public enterprises since the beginning of their operation are faced with operational problems. There have been ongoing problems with the operation of sanitary landfills in non-compliance with waste disposal standards, which are often not respected by operators of public enterprises respectively.

Cases when management of landfills was followed by other operational problems are evidenced such as: collection of fees by RWC, mismanagement of their assets, inappropriate investments, and lack of supervision by the relevant authorities.

Despite these problems, currently in Kosovo, landfill closure would not be an alternative solution to the problem, because it would consequently create even greater illegal landfills.

4.1. Sanitary landfill in Podujevë

Construction of municipal landfill in Podujevë has started in 2004 and is funded by the European Commission, while it started to operate in 2005. Landfill is located in so called Upper Dumnice. Due to its geographical position, and because it is used only by Podujevë municipality, this landfill currently has municipal character.

The total landfill area is 5 hectares, while the total waste storage capacity of 925,000 m3, the lifespan of 20 years. Current capacity or daily waste amount for disposal in the landfill ranges from 15-20 tons.

In this landfill are disposed wastes of Podujevë municipality locations. Its size is 5 ha. The landfill is not in good condition, because there is no regular waste pressure and compacting. Even the flow of water from the landfill is frequent

Sanitary landfill in Podujevë

4.2. Sanitary landfill in Gjilan

The regional landfill of Gjilan is situated in the so called location Velekincë. Construction of the landfill is funded by the European Commission and it is constructed in 2002. Operation and storage of waste in the landfill began in 2003. In this landfill are disposed off waste collected in the municipalities of: Gjilan, Kamenicë, Viti, Novobërdë, Kaçanik, Shtime and Ferizaj. Surface of the landfill is 20.50 ha, and duration of its use is estimated up to 15 years. Total capacity is 1.222222 m3, while monthly capacity is 4000 t [15].

Waste sanitary landfill in Gjilan, although built by required standards, since the beginning of the function and to date has been associated with operating problems, and as a result, now it is turned into a potential environmental pollutant. In this landfill, occasionally occurs waste burning, which poses a permanent risk for air pollution and environment degradation in general. In a certain period, the water pumps were not functioning regularly, but an improvement is noticed in 2012.

Currently water pumps are working normally and no mixing of landfill waters with surface water is occurring. Years ago, in the area around the landfill, the landfill water flow was mixed with the surface and groundwater, which affected the waters of the area to be unusable for consumption.

Sanitary landfill in Gjilan

4.3. Sanitary landfill in Prizren

The sanitary landfill of Prizren region is constructed in 2003, in Landovicë, and it started the operation in 2004. Construction of the landfill is funded by the European Commission. It has an area of 14 ha. In this landfill are disposed of municipal waste collected by the municipalities: Gjakovë, Suharekë, Malishevë and Rahovec. The landfill has a capacity of 2.500.000 m3.

The most significant problem of this landfill is continuous landfill water flow, which causes pollution of surface and groundwater of the area. Another problem is insufficient waste coverage, and uncovered wastes are spread even up to the entrance of the landfill.

15 Report-State of waste in Kosovo, 2008

Sanitary landfill in Prizren

4.4. Sanitary landfill of Prishtinë region

Sanitary landfill of Prishtinë region is situated in Mirash location of Obiliq municipality. Its construction has started in 2004, and it started the operation in 2005. Construction of this landfill is financed by the European Commission funds as well. In this landfill are disposed of wastes collected by municipalities: Prishtinë, Obiliq, Lipjan, Fushë Kosovë and Drenas. Total surface of the landfill is about 40 ha. Landfill's lifespan is 15 years. Its total capacity is 3.500 000 m3, whereas monthly capacity is 6 000 T.

During the monitoring visits of KEPA teams to this landfill many problems were evidenced. The main concern is management of landfill wastewaters. Because the water pumps were not working, small wastewater reservoirs were created, which then are mixed with surface and groundwater. Also compressing and covering of the waste is not done properly, which caused the landfill space to be filled up more rapidly. Also the waste burning was often occurring, such was the case in 2012.

Sanitary landfill of Prishtinë region in Mirash

4.5. Sanitary landfill in Pejë

Sanitary landfill of Pejë region is situated in the location of Sferk i thatë. It is utilized by municipalities of Pejë, Deqan, Istog and Klinë. It has a surface of over 3.5 ha, with a capacity of over 1.500000 m3. This landfill was constructed in 2001, financed by COPI. At the beginning of operation, this landfill was properly managed, but later on, many problems were appeared, just like in other landfills, such as untreated wastewater, and flow of the landfill water out of the landfill area; problems with waste spread along the landfill, compress and coverage; and, there is no treatment of gases, therefore heavy odours are evident. Also, the landfill is almost filled up with the waste.

Sanitary landfill in Pejë

4.6. Sanitary Landfill in Dragash

The sanitary landfill in Dragash is constructed by the end of 2003, by European Union Donation. It has the capacity of 50.000 m3 and a surface of 1.2 ha. Due to its geographical conditions, the landfill is utilized from the Dragash municipality only. Since the beginning, many operational problems were present in this landfill. These include waste compacting and waste covering, landfill wastewater management, and landfill gases management. Also the water pump that turns the wastewater at the landfill was not operating. Because of the wastewater reservoir was fully filled in, the waste water leaked out, by mixing the landfill wastewater with the surface water of the area. Over half of the landfill is utilized so far. Despite the need for improving the conditions of the landfill, no investments are made in recent period.

Sanitary landfill in Dragash

4.7. Sanitary landfill in Mitrovicë

The sanitary landfill of Prizren region is located in the so called location Gërmovë. It is utilized to dispose of municipal waste from municipalities of Mitrovicë, Vushtrri and Skenderaj. The landfill has a surface of over 7 ha and capacity of over 2.000.000 m3. In this landfill, operational problems were appeared continuously as well. The ineffective operation resulted with uncovered waste and improper waste spreading and waste compacting. Also, other evidenced problems were landfill wastewater management and landfill gases management. Because the water pumps were not working regularly, this caused the landfill wastewater to leak in the surrounding areas. In order to improve the landfill operating conditions, some investments were made by DANIDA after the year 2001, but no significant improvements are made, and the landfill still remains in inadequate conditions

4.8. Sanitary landfill in Zveçan

Sanitary landfill in Zveçan was constructed in 2003. This landfill was constructed by the EU funds as well. It covers a usable area of 3.5 ha, or 35.000 m2, whereas the total landfill surface is over 4 ha. This landfill was planned to serve to the municipalities Leposaviq, Zveçan and Mitrovicë. Actually it is utilized only by Zveçan and Mitrovicë municipalities. The planned landfill lifespan is 12 years. It is managed by public enterprise of Zveçan municipality.

Landfill in Zveçan

4.9. Waste transfer station in Ferizaj

Municipal waste transfer station is located in so called location Gërlicë. The station was built in 2003, by EU donations. This transfer station is used by the municipalities Ferizaj, Shtime, and occasionally even by the municipality of Shtërpce. At this station are collected daily wastes from the above mentioned municipalities and then loaded at the container truck with large capacity, and sent for disposal at the regional landfill in Gjilan

4.10. Waste transfer station in Drenas

Transfer station of Drenas municipal waste is located in Çikatovë e Vjetër. Construction of this transfer station is financed by the MESP, and is constructed during 2010-2011. It started operation in 2012, where wastes collected daily at the Drenas municipality are temporarily stored in this station, and then loaded at the container truck with large capacity, and sent for disposal at the regional landfill in Prishtinë.

Waste transfer station in Drenas

4.11. Waste transfer station in Gjakovë

Municipal waste transfer station of Gjakovë, is located on the outskirts of Gjakovë town, close to the location of the Roma neighbourhood in Nakaradë. Construction of municipal waste transfer station in Gjakovë is funded by former Kosovo Trust Agency, in 2008. This station is intended for use only on the territory of the municipality of Gjakovë. At this station are collected daily municipal wastes and then loaded at the container truck with large capacity, and sent for disposal at the regional landfill in Prizren.

Waste transfer station in Gjakovë

5. Illegal waste landfills

During 2013, KEPA has made identifying of all illegal landfills in the territory of Kosovo. Identification was made in 34 Kosovo municipalities, excluding Leposaviq, Zubin Potok and Zveçan. In total there were identified 400 illegal landfills, with a total area of 301.18 hectares. Lipjan is the municipality with greatest surface area of illegal landfills, while the Municipalities of Gjilan and Mamushë have smallest surface area of illegal waste landfill.

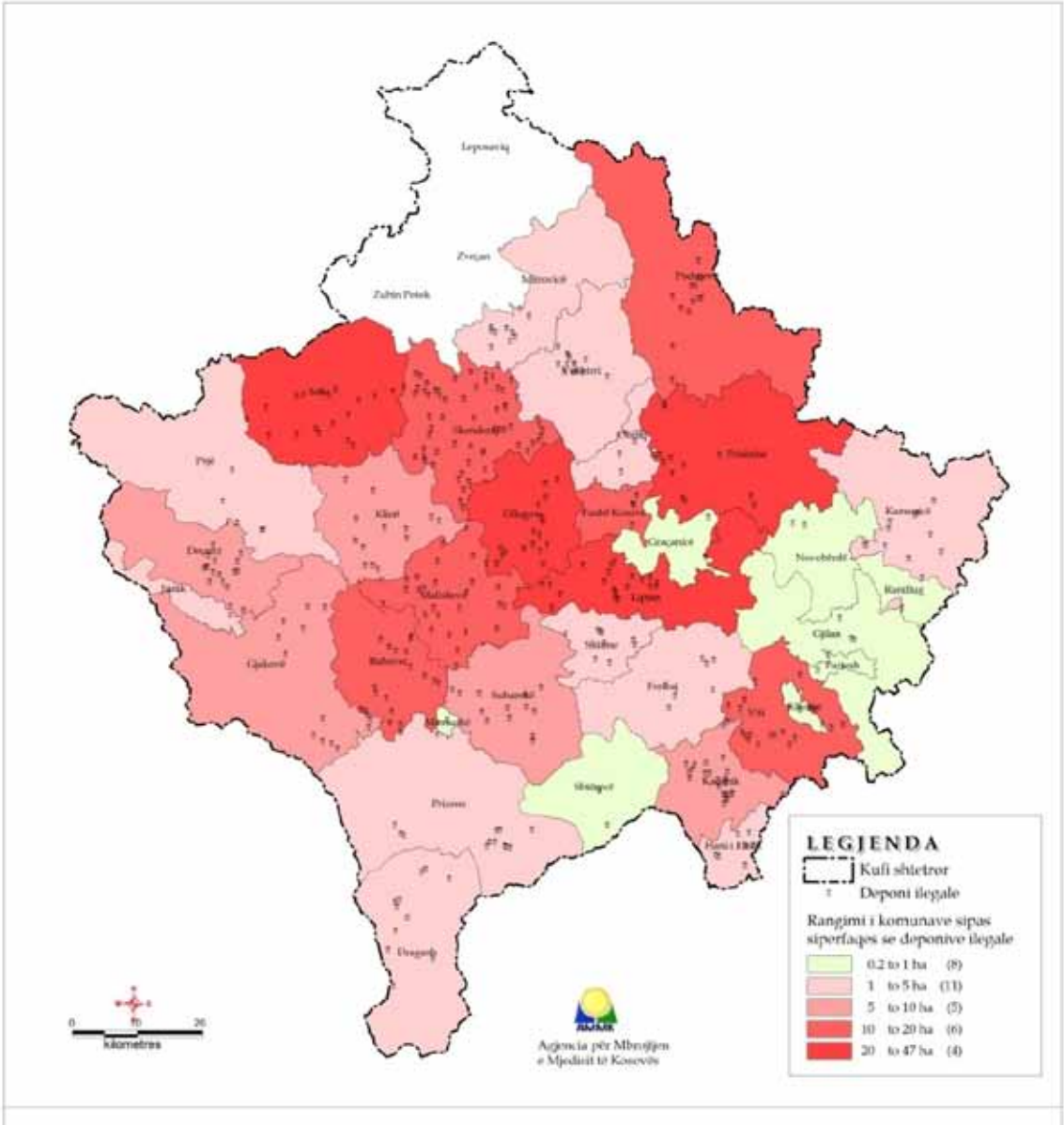

Fig. 9: Map of illegal landfills

6. Industrial landfills

Creation and the history of industrial landfills are different depending on the type of industrial activity or production type. Almost every industry in the past has inherited landfills or hazardous wastes which have negative effects on the environment. Also, besides these waste disposed in landfills, especially heavy metals, substances of various aggregate forms have remained for a long time without being used in facilities, warehouses, and industrial units. Over the time, some of these substances have been expired or degraded, by changing their composition, and becoming dangerous substances of high risk. Quantities of them are packed, but many of them are left unprotected and exposed to the environment.

In order to reduce the risk from these substances several enterprises have undertaken certain measures so far, mainly supported by KFPR and KSF donations and activities. As a result of industrial production, and other activities from the past, many dangerous substances have remained as well. Data on waste types, their quantity, and locations of storage are presented in the table below.

Table 12: Type and quantity of dangerous waste according to location and municipalities[16]

WASTE TYPE	QUANTITY/UNIT	LOCATION	MUNICIPALITY
Solid waste and chemical substances	49045 m^3	Kosova A	Obiliq
Solid waste and chemical substances	186 tonnes	Kosova A	Obiliq
Radioactive sources	34 unit	Kosova A	Obiliq
Solid waste and chemical substances	25505 m^3	Trepça Foundry	Mitrovicë
Calcium hypochlorite	6.5 tonnes	Shipol	Mitrovicë
Solid waste and chemical substances	6300 tonnes and 165 barrels	Metallurgy	Mitrovicë
Liquid waste and chemical substances	600 litre	Metallurgy	Mitrovicë
Liquid waste and chemical substances	2000 litre	Chemical industry	Mitrovicë
Solid waste and chemical substances	10 tonnes	First tunnel	Mitrovicë
Radioactive sources	3 barrels	First tunnel	Mitrovicë
Solid waste and chemical substances	8500 kg	Industrial Park	Mitrovicë
Liquid waste and chemical substances	42900 litre	Industrial Park	Mitrovicë
Oils / PCB	4 electricity transformers	Lead Plant	Zveçan
Solid waste chemical substances	136 tonnes	Lead Plant	Zveçan
Different dissolutions	2 tonnes	Metallic Janjevë	Lipjan
Solid waste chemical substances	7.0 m3	Metallic Janjevë	Lipjan
Waste of photo films	3000 kg	IMK-plant	Ferizaj
X-ray	3 pcs	IMK-plant	Ferizaj
Liquid waste with chemical substances	20 tonnes	Spare parts plant	Ferizaj
Waste of photo films	2.5 tonnes	Tools factory	Ferizaj
Textile paints, chemical substances	9100 kg	Sharr-Tex	Sharr
Solid waste chemical substances	4370 kg	Sharr-Tex	Sharr
Used oils	1200 litre	"Adi"	Lipjan
Radioactive waste	184 americium rings	Youth palace	Prishtinë

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Solid waste and chemical substances	85 tonnes	Flotation-Trepçë	Leposaviq
Solid chemical waste	22.2 tonnes	Leather and shoe factory	Pejë
Liquid waste and chemical substances	17340 litre	Auto-spare parts factory	Pejë
Solid waste and chemical substances	200 kg	Auto-spare parts factory	Pejë
Solid waste and chemical substances	6180 kg	Sharr-Tex	Sharr
Liquid waste and chemical substances	3265 litre	Sharr-Tex	Sharr
Solid chemical substances	231.8 kg	Laboratory in Kishnicë	Prishtinë
Plastic barrels with acid	9 barrels	Laboratory in Kishnicë	Prishtinë
Unknown plastic boxes	9 barrels	Laboratory in Kishnicë	Prishtinë
Bottled substances without label	15 pcs	Laboratory in Kishnicë	Prishtinë
Solid waste and chemical substances	5 tonnes	Textile plant	Gjakovë

7. Chemicals

7.1. Definitions and notions on chemicals and biocides

Chemicals in general are chemicals substances used in agriculture (pesticide, insecticide), for disinfecting (insecticide, rodenticide), for industrial and scientific purposes.

According to the level of hazard chemicals are grouped into: non hazardous and hazardous chemicals for human health and the environment.

Below are provided definitions and notions of more frequently used chemicals.

Chemicals - means chemicals substances and mixtures (preparations).

Substances-means substances, chemical elements and their compounds, or materials in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the products, and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition;

Mixture – means a mixture consisted of two or more chemical substances (the term "preparation" used to date has the same meaning and must be replaced with the term: mixture" according to the regulation EC 1272/2008).

Biocide products – means chemical preparation that contain one more active substances and used to destroy, eliminate, or prevent damaging organisms, without damaging other (unintended) organisms or the environment.

7.2. Production of chemicals

There are only few chemicals production facilities in the Republic of Kosovo such as factories for the production of paints and varnishes. Chemicals used in various activities in Kosovo are usually imported by the contracted companies. For importation of dangerous chemicals an import permit issued by the MESP is required.

7.3. Chemical hazard communication, TSL and labelling

Substances and mixtures classified as hazardous must be labelled and packaged in compliance with their classification, in order to ensure the necessary from the risks, and to provide the necessary information.

Communication of risk from the hazardous substances and mixtures is made through two means:

a) Labelling

b) Technical List on the chemical safety

"Label" which is attached at the package is the only means to communicate with the customer, and which serves to warn the users and direct them towards the comprehensive information on the given substance or mixture.

Fig. 10: Labelling of hazardous substances

A chemical substance or mixture classified as hazardous, on its package must contain the label, which should contain the following information:

- Name, address, telephone number of the legal or natural person which puts the dangerous substances into market in the Republic of Kosovo;
- Nominal amount of the substance or the mixture in the package, which is dedicated for end-users, except in cases when this amount is specified somewhere else in the package;
- Product identification;
- Hazard pictogram;
- Warning signs "Danger" or "Attention";
- Precautionary statements such as "Fire" or "Overall risk", "Fatal if eaten" etc;
- Respective declarations;
- A section for additional information.

"Technical list on the chemical safety" according to the AI No. 10/12 has to be used by any legal or natural person who produce, imports, or puts on the market hazardous chemicals, and the buyer or the next consequent user, has to be equipped for free with this list.

Fig. 11: Form of technical list on chemical safety

LTS on chemicals must contain:

- Identification of substances or mixtures and natural or legal persons;
- Identification of risk;
- Content/ ingredients information;
- First aid measures;
- Fire fighting measures;
- Measures in case of accidental spill;

- Use and storage;
- Monitoring of exposure/Personal protection;
- Physical and chemical characteristics;
- Stability and reactivity;
- Toxicological information;
- Ecological information;
- Waste use;
- Transportation data;
- Information on regulations;
- Other information.

Rules on packaging of hazardous substances and mixtures according to national and EU regulations

❖ Hazardous substances and mixtures (according to the Kosovo law on chemicals, and according to the EU regulation 1272/2008) may be placed on the market only if packaged with packages that meets the below requirements:

✓ The packaging shall be designed and constructed so that its contents cannot escape;

✓ The materials constituting the packaging and fastenings shall not be susceptible to damage by the contents;

✓ The packaging shall be strong and long-lasting;

✓ The packaging and fastenings shall be strong and solid throughout to ensure that they will not loosen and will safely meet the normal stresses and strains of handling;

✓ The packaging shall contain the label with the statements and all necessary data, according to the Administrative instruction;

❖ The packaging unit designed for retail market, which contains dangerous chemicals shell not have:

✓ either a shape or design likely to attract or arouse the active curiosity of children or to mislead consumers;

✓ Design used for foodstuff or animal feeding stuff or medicinal or cosmetic products, which would mislead consumers;

According to the regulation (EC) 1272/2008 on CLP (classification, labelling and packaging) on hazardous chemicals, all symbols that notify the hazard, shall gradually be replaced with pictograms.

Fig.12: Hazard signs (previous form)

Fig. 13: Pictograms (new form)

7.4. Export and import of chemicals

In the Republic of Kosovo, chemicals are mainly used for the needs of large companies such as KEC, and Trepça, but for other companies as well. The table below presents list of companies which have applied at MESP for the permit for import of chemicals and biocides, list of chemicals allowed for transport during 2012, and list of biocides notified and allowed for import during 2012.

Table 13: Companies which have applied for permit at MESP for import of hazardous chemicals and biocides

Company name	Permit requested for
Company "Renesanca Impex", Prishtinë	Hazardous chemicals
Sh.p.k."Ripten Engineering", Prishtinë	Hazardous chemicals
Sh.p.k. "Kosovatex"	Hazardous chemicals
N.T.SH. "BIZUN" , Prishtinë	Hazardous chemicals
Sh.p.k. "Kosovatex", Prishtinë	Hazardous chemicals
Sh.p.k. "Llamkos- Galva Steel"	Hazardous chemicals
N.t.p. "Eurolab"	Hazardous chemicals
NTSH. "Doktor Exterminator DDD" , Prishtinë	Biocide
NTP. "Eramed" , Prishtinë	Biocide
NTSH. ,, Fauna", Gjilan	Biocide
Sh.p.k ,, EKO-DDD" , Ferizaj	Biocide
Sh.p.k "EcoTech- Pest Controll", Suharekë	Biocide

Table 14: List of chemicals allowed for import during 2012

Chemical	Purpose	Quantity
Sodium Cyanide NaCN	Import for needs of "Trepça" flotation	39`600 kg.
Hydrochloric Acid HCL	Import for "KEC" needs	500 ton
Sodium Hydroxide NaOH	Import for "KEC" needs	400 ton
Activated Hydrazine N2H4xH2O (Levoxin 15).	Import for "KEC" needs	17,6 ton
Formaldehyde CH2O 35%	Import for "KEC" needs	300 kg
Dichlor-etan $C_2H_4Cl_2$	Import for "KEC" needs	10kg
Carbon tetrachlorur CCl_4	Import for "KEC" needs	10kg
Anhydric ammonia	Import for company needs	35 ton
Hydrochloric Acid HCL	Import for "KEC" needs	Up to 500.000
Sodium Hydroxide NaOH	Import for "KEC" needs	Up to 400.000

Table 15: List of biocide products notified and allowed for import during 2012

Active substance	Product	Type of biocide product (PT)	Quantity/ form
Deltamethrin	Aqua K-Othrine	Insecticide	1000 l
Deltamethrin	K-Obiol EC 25	Insecticide	30 L
Deltamethrin	K-Othrine SC 25	Insecticide	30 L
Deltamethrin	Crackdown	Insecticide	30 l -
Imidacloprid	MaxForce IC	Insecticide	300 pcs
Imidacloprid	MaxForce - white Cockroach gel	Insecticide	1000 pcs
Imidacloprid	MaxForce Quantum –liquid Ant Bait	Insecticide	50-l
Imidacloprid	Quick Bayt- Fly bait	Insecticide	50 kg
Fipronil	MaxForce FC – Profesional Insect control Roach Killer bait gel	Insecticide	2000 pcs
Fipronil	MaxForce FC –	Insekticid	1000 copë
Magnum-Roach killer bait gel	Insecticide	1000 pcs	1000 copë
Fipronil	MaxForce Gold- gel insecticide	Insecticide	1000 pcs
Fipronil	MaxForce Roach bait station	Insecticide	12000 pcs
Fipronil	MaxForce FC -ant killer bait gel	Insecticide	6000c pcs
Fipronil	MaxForce ffc –ant bait station	Insecticide	4800 pcs
Difethialone	Rodilon	Rodenticide	2000 kg
Brodifacoum	Glodacid plus	Rodenticide	2000 kg
Permethrin	Biotol 25 EC	Insecticide	300 l
Bromadialone	MAKI – Paraffin blocs	Rodenticide	1000 kg
Difethialone	Generation- Mini boks	Rodenticide	1000 kg
Difethialone	Blu Max	Rodenticide	1000 kg
Permethrin	Aqua –Kontrol	Insecticide	1000 l
Pyrethrins and Pyrethroid	P.I.	Insecticide	120
Pyrethrins and Pyrethroid	Pro control	Insecticide	120
Pyrethrins and Pyrethroid	ULD BP-100	Insecticide	150 l
Pyrethrins and Pyrethroid	ULD BP-300	Insecticide	150 l
Abamectin	PT Avert Cocroach Gel Bait	Insecticide	400 Syringe
Abamectin	Advance 375A	Insecticide	120 kg
Disodium Tetraborate	Terro- PCO	Insecticide	120 kg
Chlorophacinone	J.T. Eaton A-C Formula 90 –Rodenticide	Rodenticide	1000 kg
Polybutenes	4 The Bird- BIRDS Repellent Liquid	Repellent	375 kg
Polybutenes	Transparent 4 The Bird- Bird Repelent	Repellent	375 kg
Methyl Anthranilate	Fog Force- Bird Repelent	Repellent	375 kg
Sulphur and Naphthalene	Snake - a- WAY Snake RepelLin Granules	Repellent	120 kg
Block peper oil	Crit Ter Ridder	Repellent	60 kg
Permethrin	Sintores	Insecticide	200 kg
Permethrin	Permefum 14-P	Insecticide	100 pcs
Deltamethrin	Metradin Floë	Insecticide	30 kg
Cypermethryn	SEPRA CONTACT	Insecticide	420 kg
Imidaclopride	SEPRA GEL CAFARDS	Insecticide	420 kg
Imidaclopride	SEPRA GEL FOURMIS	Insecticide	420 kg
Bromadiolon	Brodilon Mamac	Rodenticide	204,000 kg
Bromadiolon	Brodilon Pelete	Rodenticide	500,000 kg
Alfa cipermetrin	Neopitroid Alfa	Insecticide	2016,000 pcs

Permetryn	Neopitroid prah	Insecticide	40012,000 pcs
Benz alkonij klorid	Sinald	Disinfectant	30,000 pcs
Didecildimetil amoni klorid	Vetodez	Disinfectant	30,000 pcs
Troklozen natri dihidrat	Chlormax	Disinfectant	2010,000 pcs
Troklozen natri dihidrat	Chlormax	Disinfectant	200,000 pcs
Klorheksidin diglukonat	D-V konc dezinf	Disinfectant	200,000 pcs
Bifenase	Bifenthrin	Insecticide	3600 ml
Rodexion	Bromadialone	Rodenticide	25 kg
Facorat Pelletes	Denatonium benzoate	Rodenticide	25 kg
Permethrin	SINTOREX	5.0 Kgx10	
Cypermethrin	Piretrox 714	Insekticid	30 l
(cis.tran40/60)	Deadyna	Insecticide	66 l
Piretrine naturali	Piretrox 714	Insecticide	30 l
Cyoermethrin (cis trans)	Permex 22	Insecticide	66 l
Cyoermethrin	Cipex 10	Insecticide	60 pc
Brodifakoum	Brodibleu wax Blocs	Rodenticide	200 kg
Bromadielone	Bromobleu pasta bait	Rodenticide	100 kg
Bromadielone	Bromobleu waks blocs	Rodenticide	150 kg
Bromadielone	Bromobleu fresh pasta	Rodenticide	100 kg
Sulfur+naftalinë	Snake away	Repellent	/
Cypermethrin	FOVAL CE	Insecticide	740 l
Tetramethrin	ANTIVESPE	Insecticide	384 l
Permethryn	GIAGUAR Mosche e Zenzare	Insecticide	384 l
Imidacloprid	FOVAL GRANULI Mosche milk	Insecticide	100 kg
Cypermethrin	EXIT DUST	Insecticide	100 kg
Permethryn	GEOTOX	Insecticide	240 l
Imidacloprid	Foval Gel Scarafaggi	Insecticide	129. 4 kg
Imidacloprid	Foval Gel Formiche	Insecticide	48 kg
Imidacloprid	Trap Kill Antiformiche	Insecticide	120 kg
Brodifacoum	Brody Blochi Parafinati	Rodenticide	600 kg
Brodifacoum	Brody Croccantini	Rodenticide	400 kg
Brodifacoum	Brody Esca Fresca	Rodenticide	400 kg
Difenacoum	Diferat Esca Fresca	Rodenticide	200 kg
Bromadiolone	Ratibbrom 2 Esca Fresca	Rodenticide	400 kg
Metaldehyde	Agrosan –B (metaqinque) snail bait	Molluscicides	4000 kg
Chlorophacinone	Arvyrat	Rodenticide	1920 kg
	Norat	Adhesive	121.5 kg
	Kolrat	Adhesive	80 kg
imidacloprid	Victor Gel gegen Schaben	Insecticide	700 pcs
Brodifacoum	Brodifacoum wax blocks	Rodenticide	1500 kg
Brodifacoum	Detia Rat Bait (Paste)	Rodenticide	700 pcs
Brodifacoum	Detia Mole –Free	Rodenticide	700 pcs
Aluminium phosphide 56 %	Vole Killer	Rodenticide	1500 pcs
Permethrin 05%	Ameisenmeittel	Insecticide	700 pcs
Calcium Oxside/carbide	Delu Wuhimaugas	Repellent	2000 pcs
Bendiocarb	Serpa Gel Plus	Insecticide	1008 kg
Plant oils and combined acids	Flock Buster	Repellent	200 L

8. Waste chemicals

8.1. Chemical waste storages

After 1999, in Kosovo, chemical wastes are storaged in various places such as storages, garages or other inadequate places.

Chemical wastes of different structures remained from the production processes, mainly from the past. The storages of chemical waste are monitored throughout the year, by KFOR, KSF, and environmental inspectorate of the MESP.

Tabela 15: Vend deponimet me mbeturinat e kimikateve industriale

Nr.	Municipality	Name of location	Activity
1	Lipjan	GC Metal	Metal processing
2	Obiliq	TC Kosova A	Electricity production
3	Obiliq	TC Kosova B	Electricity production
4	Graçanicë	Kishnicë/Trepça	Flotation concentrate
5	Fushë Kosovë	Sole Koral	Cooling machineries
6	Gllogoc	New co Ferronikeli Complex L.L.C	Foundry
7	Mitrovicë	Stariterg	Flotation concentrate
8	Mitrovicë	First tunnel	Radioactive sources
9	Leposaviq	Trepca	Flotation concentrate
10	Mitrovicë	PIM	Industrial park
11	Zveçan	Trepça	Concentrate
12	Pejë	Kombinati i lëkurëve	Leather processing
13	Pejë	Trepça	Production of batteries
14	Pejë	Eurostell	Production of spare parts for different equipments
15	Gjakovë	Jatex	Textile production
16	Gjakovë	Metaliku	Metal processing
17	Gjakovë	Devolli group	Textile processing

The exact structure, type and quantity of chemical wastes are not known. More detailed information is available at KFOR, which conducts their continuous monitoring. In general, chemical wastes storage in different places can have the following characteristics: explosive, oxidising, flammable, toxic, corrosive, irritant, carcinogenic, mutagenic and other forms of environmental hazards.

Their inappropriate storage, without any standard insulation and protection conditions may result with pollution of surface and ground water, air and soil pollution.

8.2. Expired drugs

In 2011, all the quantity of expired drugs was removed from Mazgit storage, and is destroyed through burning. The burning was not resulted with any energy use. The total quantity of expired drugs destroyed was 337.632 kg.

Also in 2011, all the medicine material, and expired drugs were collected from all Main Family Health Centres, and from all hospitals and other health service providers, and destroyed in total 150462 kg.

The current total quantity of drugs and medicine material kept in Prishtinë storages is 2358077 pieces. Of them 2226721 pieces are expired drugs, and 131356 pieces are expired medicine material.

8.3. Environmental Hot-spots from wastes and chemical

Environmental hotspots in Kosovo are created and inherited from the industrial activities from the past, resulted from mining activities, old and unmanaged landfills, chemicals storages, waste oils, expired pesticides etc.

Hotspots have different locations across the Kosovo territory, and represent permanent threat to the environment and population health. Locations of hotspots are presented in the below figure.

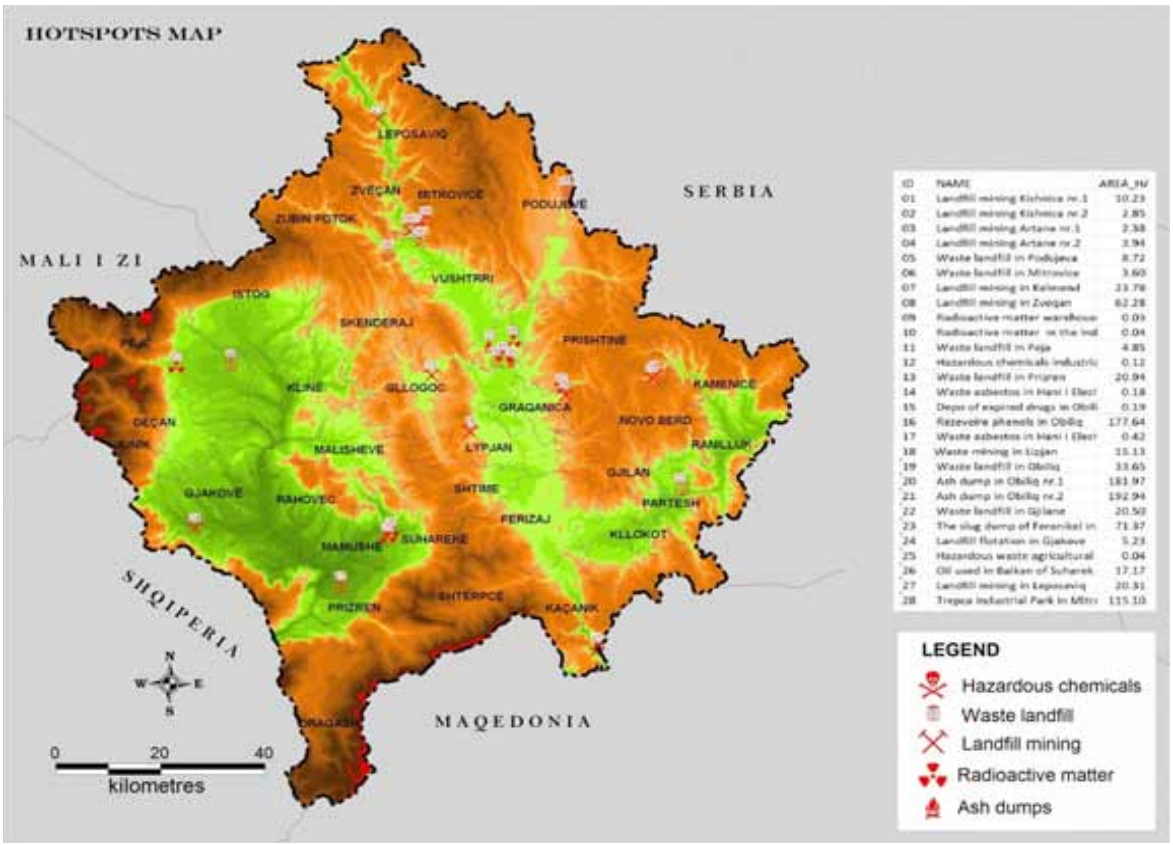

Figure 14. Map of hotspot locations in Kosovo

The table below provides more detailed data on environmental hotspots of waste and chemicals, including location, surface, and areas of potential pollution sources.

Table 17. Environmental hotspots according to location, activity, surface and potential pollution sources [17]

No.	Site	Activity in the past	Surface	Potential Pollution Sources				
				Heavy metals	Chemical substances	Oil products	Organic matters	Others
1.	The facility of ex Agriculture enterprise in Shirokë-Therandë	Storage of pesticides and fertilizers	0.04 ha	-	+	-	-	-
2.	The facility of ex factory of auto spare parts in Pejë	Storage of hazardous industrial chemicals	0.12 ha	-	+	+	-	-
3.	Municipal sanitary landfill in Podujeve	Waste landfill	8.72 ha	-	+	+	+	+
4.	Municipal sanitary landfill in Pejë	Waste landfill	4.85 ha	-	+	+	+	+
5.	Regional sanitary landfill in Gjilan	Waste landfill	20.50 ha	-	+	+	+	+
6.	Regional sanitary landfill in Prizren	Waste landfill	20.94 ha	-	+	+	+	+
7.	Regional sanitary landfill in Mirash-Obiliq	Waste landfill	33.65 ha	-	+	+	+	+
8.	Municipal sanitary landfill in Mitrovicë	Waste landfill	3.60 ha	-	+	+	+	+
9.	The tires and conveyor production plant-Suharekë	Waste oils and soil contamination	17.17 ha	-	+	+	-	-
11.	Industrial Park in Mitrovicë	Industrial landfill	115.10 ha	+	+	-	-	-
12.	South east part of Cikatove - Drenas	Waste from clinker of Feronickel	24 ha sip, zona e ndikimit 71.37 ha	+	-	-	-	-
13.	The mine landfill near the dam, Badovc	Landfill of heavy metals	2.85 ha	+	-	-	-	-
14.	Landfill of sterile material in Kishnicë	Landfill of heavy metals	10.23 ha	+	-	-	-	-
15.	Landfills Mareci 1 and Mareci 2, the water stream, Mine in Artanë	Landfill of heavy metals	2.38 ha	+	-	-	-	-
16.	Landfill in Kelmend-Mitrovicë	Landfill of heavy metals	23.78 ha	+	-	-	-	-
17.	Radioactive materials in the industrial complex Trepçe- Mitrovice	Storage of radioactive materials –thorium nitrate	0.04 ha	-	-	-	-	+
18.	Radioactive matters at "Tuneli i Parë", Mitrovicë	Storage of radioactive materials –Strontium, Thorium and Americium	0.03 ha	-	-	-	-	+
19.	Industrial landfill in Zveçan	Landfill of heavy metals	62.28 ha	+	-	-	-	-
20.	Industrial landfill in Leposaviq	Landfill of heavy metals	20.31 ha	+	-	-	-	-
21.	Ash dump in PPA	Industrial landfill	181.97 ha	+	+	+	-	+
22.	Ash dump in TPP B	Industrial landfill and the impact areal	192.94 ha	+	+	+	-	+
23.	Phenol tanks	Storage of phenol	177.64 ha	+	x	x	-	x
24.	Mine in Devë-Gjakovë	Landfill of heavy metals	5.23 ha	+	-	-	-	-
25.	Mine in Golesh-Municipality of Lipjan	Exploitation and processing of heavy metals	15.13 ha	+	-	+	-	-
26.	Two landfills of asbestos materials	Landfills of asbestos materials	0.60 ha	+	+	-	-	+

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9. Waste and chemical treatment

In Kosovo there are several companies that deal with the collection of specific types of wastes, such as paper, plastics, metals, batteries, cans, tires, oils etc.

In the absence of waste recycling and processing facilities, a considerable part of these companies, deals only with the collection and pressing (compacting) of the recyclable collected waste, and then export them to other countries in the region, which have facilities for recycling of such waste.

Companies that deal with collection of various waste types in Kosovo, although numerous, have small capacities, and many of them are not licensed to operate.

9.1 Waste recycling

Waste recycling is the process by which technical, economical, and ecological benefits are obtained. The importance of recycling is to reduce the amount of municipal and industrial waste sent to landfills, and it indirectly affects the increase of life expectancy of sanitary landfills. Waste treatment by recycling method creates the possibility for reuse of secondary materials, by creating new products, and also by reducing the use of natural resources for the same purpose.

In Kosovo, there are few recycling facilities. Mostly, the plastic and paper waste is recycled. Some plastic waste recycling companies have capacities to produce new products out of recycled material, mainly nylon or PVC

There are also several small companies which by using the recyclable paper processes, produce paper packaging for placement of eggs, other products packages, and toilet paper. Another example that can be mentioned in a positive context is the project for collecting and recycling water bottle caps to providing wheelchairs for people with disabilities.

The following table presents a list of licensed operators that deal with the waste collection, transportation and recycling.

Table 18: List of licensed operators that deal with the waste collection, transportation and recycling

Nr.	Name of operator/ Company	Place	Activity
1	N.t.p. Higjiena	Hani i Elezit	Collection and transportation of municipal waste
2	N.p.sh. Mbrotja e ambientit	Ferizaj	Collection and transportation of municipal waste
3	Sh.p.k.Mobile Sanitary Services	Prishtinë	Collection and transportation of municipal waste
4	N.t.sh. Krasniqi	Kaçanik	Collection and transportation of municipal waste
5	Sh.p.k. Toifor	Prishtinë	Collection and transportation of municipal waste
6	N.t.sh. Prestigj Media	Lipjan	Collection and transportation of municipal waste
7	Sh.p.k.. Kras	Hani i Elezit	Management of construction, demolition waste
8	N. sh. Shërbimi	Prizren	Collection and transportation of municipal waste
9	DCH Limitet	Prishtinë	Collection and transportation of municipal waste
10	Sh.p.k. "igani	Prishtinë	Collection and transportation of municipal waste
11	N.sh. Pastërtia	Hani i Elezit	Collection and transportation of municipal waste
12	Sh.p.k. EcoHigjiena	Gjilan	Collection and transportation of municipal waste
13	N.p.sh. Stagova	Ferizaj	Collection processing, recycling and storage of waste tires
14	K.r.m. Eko Regjioni Sh.A.	Prizren	Collection and transportation of municipal waste
15	N.p. Victoria Invest International sh.p.k	Suharekë	Collection and transportation of municipal waste

16	N.t.p. Autogoma	Ferizaj	Collection processing, recycling and storage of waste tires
17	Sh.p.k. Eko Drinia	Rahovec	Collection and transportation of municipal waste
18	Sh.p.k. Is-Company	Prizren	Collection and transportation of municipal waste
19	K.r.m. Pastrimi SH.A.	Prishtinë	Collection and transportation of municipal waste
20	N.t.sh. "Pastrimi"	Deqan	Collection and transportation of municipal waste
21	K.r.m. "Patërtia" SH.A.	Ferizaj	Collection and transportation of municipal waste
22	K.r.m. "Çabrati" SH.A.	Gjakovë	Collection and transportation of municipal waste
23	N.sh.t. Zahiri	Prishtinë	Collection and transportation of municipal waste
24	Sh.p.k. Euro Still	Pejë	Waste collection, transportation, and storage
25	Sh.p.k. Rec-Cos	Fushë Kosovë	Collection and recycling of metal and plastic waste.
26	Sh.p.k. Italy Recycling	Obiliq	Waste collection, transportation, and storage
27	Sh.p.k. G- Plus	Obiliq	Collection, transportation, and storage of metallic waste

9.2 Waste reuse in Kosovo

Some products are designed in a way that can be used several times. EU regulations on packaging, suggests producers to consider reuse of packaging.

In other cases, products may be processed for the same or similar purposes. Re-use of plastic bags or glass jars are common examples.

There are several reasons for the reuse of products:

- Savings in energy and raw materials,
- Reduced storage costs,
- Reduced costs for merchants and consumers;

The number of items reused, and the production time are of great importance.

In Kosovo there are cases of reuse of PET bottles for water reservation, but also for filling with milk and selling it in the market.

Peja brewery reuses beer bottles of 0.5 litters for refilling, by providing them with compensation.

Some strong plastic bags are reused by customer for disposal of waste and very little for purchase in the market.

There are increased initiatives to open stores of used products (second hand) including clothing, electrical and electronic equipment, used tires, and other items. In most of the cases, these products are imported from western countries, and in addition to the positive aspects of the recycling process, the negative effects are evident as well, because many of these products ends up as a waste, by increasing the waste amount.

9.3. Medical waste treatment

Medical wastes are generated by many medical subjects, which generate a significant amount of hazardous wastes as well. Treatment of these wastes in compliance with environmental criteria is professional and ethical duty of all medical operators. This treatment should eliminate the potential pathogens that this type of waste can contain, in order to reduce environmental pollution, and chemical and radiological toxicity

Medical waste if in contact with skin, eyes, air, mouth, or if penetrate in various forms in the human body, can cause infections. This waste must be treated only in places approved by the Ministry of Environment and Spatial Planning, and operators must be equipped with appropriate permission.

Medical waste treatment is regulated by the Administrative Instruction No. 12/2008 for the disposal of waste medicinal products, and the Administrative Instruction No 05/2008 on medical waste management.

MESP has established the medical waste sterilization facilities. This has contributed to some extent the problem of medical waste from regional hospitals in Kosovo to be resolved, but also in reducing the volume of waste disposed of in sanitary landfills.

Currently there are operational the medical waste treatment plants in Prishtinë, Mitrovicë, Gjilan, Prizren, Gjakovë and Ferizaj, while the one in Pejë is expected to start the function very soon.

Medical waste treatment plant in Prishtinë

This plant is located in the premises of the UCC. The capacity of this plant for the treatment of medical waste is 250 to 300 kg during a cycle, and within a day 5 to 6 cycles can be conducted.

In this plant are treated the medical waste from Health House of Prishtinë, and UCC, and smaller amounts of waste generated by private health entities, KFOR and EULEX.

The state of this plant is acceptable, and it works at full capacity. The monthly average amount of medical waste treated in this plant is about 11,000 kg.

Medical waste treatment plant in Prishtinë

Medical waste treatment plant in Mitrovicë

This plant is located in the premises of the Regional Hospital of Mitrovicë. Its capacity for medical waste treatment is 250 to 300 kg during a cycle, and 5 to 6 cycles can be developed within a day.

In this plant are treated the medical waste from the Centre of Family Medicine of Mitrovicë town, and from regional hospital of Mitrovicë.

The situation at the plant is good. The plant works with incomplete capacity. The monthly average amount of medical waste treated in this plant is approximately 4,700 kg.

Equipments for medical waste treatment

Medical waste treatment plant in Gjilan

This plant is located in the premises of the Regional Hospital of Gjilan. Its capacity for medical waste treatment is 250 to 300 kg during a cycle, and 5 to 6 cycles can be developed within a day. In this plant are treated the medical waste from the regional hospital of Gjilan only.

Although the plant is in good operational conditions, it works not in full capacity, because there is only one person employed, who same time is responsible for the hospital laundry as well.

The monthly average amount of medical waste treated in this plant is approximately 400 kg.

Medical wastes after treatment

Medical waste treatment plant in Pejë

It is situated in the premises of Pejë Regional Hospital. The plant has not yet started its operation, because its technical operational approval procedures.

Medical waste treatment plant in Gjakovë

This plant is located in the premises of the Regional Hospital of Gjakovë. Its capacity for medical waste treatment is 250 to 300 kg during a cycle, and 5 to 6 cycles can be developed within a day.

Currently the plant is operating only occasionally. Since the beginning of its work, only 40 treatment cycles were operated within 8 months period. Daily amount of waste that sent to the plant is very small, only about 10 kg per day.

Medical waste treatment plant in Gjakovë

Medical waste treatment plant in Prizren

The plant is located in the premises of the Regional Hospital in Prizren. Its medical waste treatment capacity is 250 to 300 kg per cycle, and 5 to 6 cycles per day. In this plant currently are treated wastes from Prizren Regional Hospital, and from vaccination centres. The plant works at full capacity, and it is in good operating conditions. The monthly average amount of medical waste treated is approximately 4,500 kg.

Medical waste treatment plant in Ferizaj

It is located near the Health Centre in Ferizaj. Its capacity is 250 to 300 kg per cycle. The plant has begun operations in July 2012. Plant is not working at full capacity. Only one cycle of medical waste treatment is performed per day. Currently, the medical wastes from regional hospital of Ferizaj, and wastes from family health centres are treated in this plant. Monthly amount of waste treated at the plant is about 1000 kg.

9.4 Waste incineration

Incineration is another form of waste treatment. Treatment of waste through incineration without generating energy is common in Kosovo. This is usually done by aiming at reducing the amount of infectious waste, or destroying specific types of wastes.

Frequent cases are burning of confiscated drugs by customs or the expired drugs, or even the burning of various items of goods confiscated by customs as goods of suspicious content, or false products. Burning is done in plants which have an environmental authorization by MESP, or in hospitals that have facilities for waste incineration.

There are also cases of waste oils burning, which are used mainly for obtaining heat energy, even though such action is not permitted. Also sometimes it happens open burning of wastes at different illegal waste landfills.

Municipal waste burning

9.5 Hazardous waste treatment

Among the most relevant hazardous wastes for kosovo are defined those substances that for a long time have remained unused in facilities, storages and industrial units. Over the time, these chemicals expired, and degraded by changing their composition and by becoming substances of high risk for the environment and human health.

In general hazardous wastes are considered the wastes that have at least one of the following characteristics: explosive, oxidising, flammable, toxic, carcinogenic, corrosive, irritant, harmful, infectious, teratogenic, mutagenic, those which in contact with water air or acidic substances release toxic gases. Also hazardous wastes are those that can be used to produce other dangerous or eco-toxic substances.

Industrial waste are those generated (remained) by industrial processes or industrial activities or other production activities.

Special wastes are defined the radioactive wastes, used containers of compressed gases, waste containing large concentrations of toxic heavy metals (arsenic, lead, etc.), or that contain expired chemical substances.

Chemical and pharmaceutical wastes are the pharmaceutical waste and chemical products within their packaging.

For hazardous waste treatment various physical, chemical, biological, and thermal processes are used, aimed at removing or reducing the hazardous properties and harmful effects to the environment and human health.

As an example of hazardous waste treatment In Kosovo may be mentioned phenol treatment. The process of treatment is done through tendering, won by the Greek company "Environmental Protection Engineering-SA". This company has exported hazardous waste phenols in some European countries, such as Sweden, Germany, Belgium, Poland and Bulgaria, where treatment and elimination of waste phenol is made.

Table 19: Types and quantity of hazardous waste exported for treatment

Type of exported substance	Quantity (ton)
LHOC (liquids with high organic substances concentration)	1195.6
Solvent	19.5
Diisopropylether	35.47
Tar sludge	3297.32
Tar condensate	192.82
Drums	35
Tar deposit	18.8

10. Investments in the waste sector

One of the most important investments of MESP in the waste sector can be considered the implementation of projects included within the Kosovo Environmental Action Plan. This includes establishment of medical waste treatment plant in seven Regional Hospitals: Prishtinë, Prizren, Gjakovë, Gjilan, Ferizaj, Mitrovicë and Pejë.

Other important projects in the waste sector implemented by the MESP during the two last years are:

- Construction of transfer station of municipal waste in Drenas
- Removing the asbestos waste from Lepenc River.
- Supply of containers for municipal waste, and support on municipal waste collection infrastructure.

Among the most important projects in the waste sector, supported by donors are:

- Supply of trucks and equipment for waste collection system for Prizren region and the municipality of Prishtinë by JICA.
- Local waste management plan for the municipality of Prishtinë by GIZ
- Local waste management plan for the municipality of Hani i Elezit by LOGOS.
- Feasibility study for the state of waste in the municipality of Pejë by USAID,
- Drafting the Law on Biocide Products, and Waste Management Strategy 2011 -2020, supported by TAIEX
- Twinning Project-Institutional support for MESP with the support of the European Commission.

Of total budget, 815,000.00 €, for environmental infrastructure in 2012, 700.000 € have been allocated in the waste sector.

In the table below are presented data on above mentioned project in the waste sector, and the amount of investments for period 2009-2011 is 5.208.700.00 €.

Table 20: Some of projects implemented in the waste sector 2009-2012 - in Euro

Nr.	Project title	2009	2010	2011	2012
1	Construction of facility for temporary storage of hazardous waste	341,000.00	341,000.00	300,000.00	
2	Construction of medical waste treatment plants	750,000.00	750,000.00	250,000.00	250,000.00
3	Rehabilitation of old waste landfill, across Kosovo municipalities	300,000.00	300,000.00		
4	Development of socio-economic project for Bistrica River – Prizren	300,000.00	300,000.00		
5	Removing asbestos waste from Lepenc River		176,700.00		250,000.00
6	Improvement of waste collection infrastructure				200,000.00

11. Waste management, social impacts and benefits

Wastes are products of economic activities, businesses, households, energy production, or other development sectors. Wastes are also considered as economic resource.

Reduction of waste since the production process up to the final customer has a particular importance for economic and environmental benefits. Environmental benefits are primarily considered the pollution reduction that comes from waste in the environment, but also reduction of the land needed for waste disposal.

Waste reduction in the production processes has a positive impact in terms of reducing greenhouse gas emissions, as well as saving resources for energy production. Waste prevention is also important to reduce costs for their treatment, and reduce the cost of waste transportation to the landfill, but also reduce the landfill maintenance costs, and increases landfill lifespan.

Economic benefits derived from waste prevention policies through recycling, reuse and treatment are manifold. These economic benefits are also associated with social benefits either through the possibility of creating new jobs, increased financial revenues, but also by creating better environmental and health conditions.

12. Waste and chemical environmental impacts

Environmental pollution from waste and chemicals is one of the most common environmental problems in many countries. Kosovo also has obvious environmental problems associated with waste management and chemicals. The environmental impacts of waste on the environment are of different ways and forms.

Lack of waste separation and classification system is one of the initial problems in the range of other problems in the waste sector. This is then followed by the problem of disposing of at the sanitary landfill not only municipal waste, but also other types of waste.

The low rate of waste treatment, recycling and reuse is another factor that contributes to the heavily situation in the waste sector and its impact on the environment.

Although the sanitary landfills are constructed according to standards, due to mismanagement, landfills are transformed into potential environmental pollutants with significant environmental and health impacts. Various researches show that humans and other living world, living in the area of 2 km from the landfill, are affected by the landfill.

Air and water emissions released from landfills are often unrecognized, not continuously monitored, and of potential environmental impacts. When considering the fact that in the sanitary landfills are disposed of various waste types, such as minerals, metals, plastics, paper, hazardous waste, glass, wood, biodegradable waste, etc., it also increases the possibility of more adverse environmental impacts.

Waste and waste chemicals are often the starting point for the causing of diseases and epidemics.

13. Conclusions and recommendations

13.1 Conclusions

- Legal and sub-legal framework for waste and chemicals is satisfactory;
- Waste strategies and waste management plans at central and local level are in the process of development and approval;
- Waste management system is not efficient and not accordingly developed;
- The organic (biodegradable) waste dominates in the overall structure of municipal waste;
- Daily average of municipal waste per capita in Kosovo is 0.9 kg;
- Mining and food industries are main generators of industrial waste;
- The situation of sanitary landfills is not good;
- Large number of illegal landfills is identified;
- There is no waste monitoring system in place;
- There is no waste selection / separation system in place;
- Lack of recycling projects;
- Insufficient treatment and reuse of waste and chemicals;
- Insufficient investments in the waste sector;
- Low collection of payment for waste collection services;
- Insufficient cooperation between the institutions.

13.2. Recommendations

- Strengthen the capacities of central, local institutions, and waste management companies;
- Increase the inter-institutional cooperation in the waste sector;
- Complete legal framework and effective implementation of laws in the waste and chemicals sector;
- Adoption of waste strategies and management plans at central and local levels;
- Development and implementation of projects, plans and programs for waste recycling, reuse and treatment;
- Awareness raising about waste disposal in appropriate locations and for payment of services;
- Prohibiting the disposal of waste in illegal landfills;
- Establish programs to reduce the risk from waste;
- Development of Waste Information System and data mapping;

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15. Annexes

15.1. ABBREVIATIONS

AI	Administrative Instruction
CLP	Classification, Labelling and Packaging
EC	European Commission
EU	European Union
EULEX	European Union Rule of Law Mission in Kosovo
KSF	Kosovo Security Force
GIZ	German Technical Cooperation
IPA	Instrument of Pre Accession
JICA	Japanese International Cooperation agency
KAS	Kosovo Agency of Statistics
KEAP	Kosovo Environmental Action Plan
KEC	Kosovo Energy Corporate
KEPA	Kosovo Environmental Protection Agency
KFOR	Peace keeping forces of NATO in Kosovo
KK	Municipal Assembly
KLMC	Kosovo Landfill Management Company
KRM	Regional Waste Company
LEAP	Local Environmental Action Plan
LST	Technical List of Chemicals
MAFRD	Ministry of Agriculture, Forestry and Rural Development
MED	Ministry of Economical Development
MESP	Ministry of Environment and Spatial Planning
MIP	Mitrovica Industrial Park
MTI	Ministry of Trade and Industry
NGO	Non Government Organization
NIPH	National Institute of Public Health of Kosovo
PCB	Poly Chlorine Biphenyl
PCT	Poly Chlorine Three phenyl
PET	Polyethylene Terephthalate
POE	Publicly Owned Enterprise
PP	Power Plant
PPA	Power Plant A

PPB	Power Plant B
SIDA	Swedish International Development Agency
TAIEX	Technical Assistance for Information Exchange
UCCK	University Clinical Centre of Kosovo
WHO	World Health Organisation
WWRO	Waste and Wastewater Regulatory Office

15.2. Index of tables

15.3. Index of figures

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Prepared by Kosovo environmental Protection Agency

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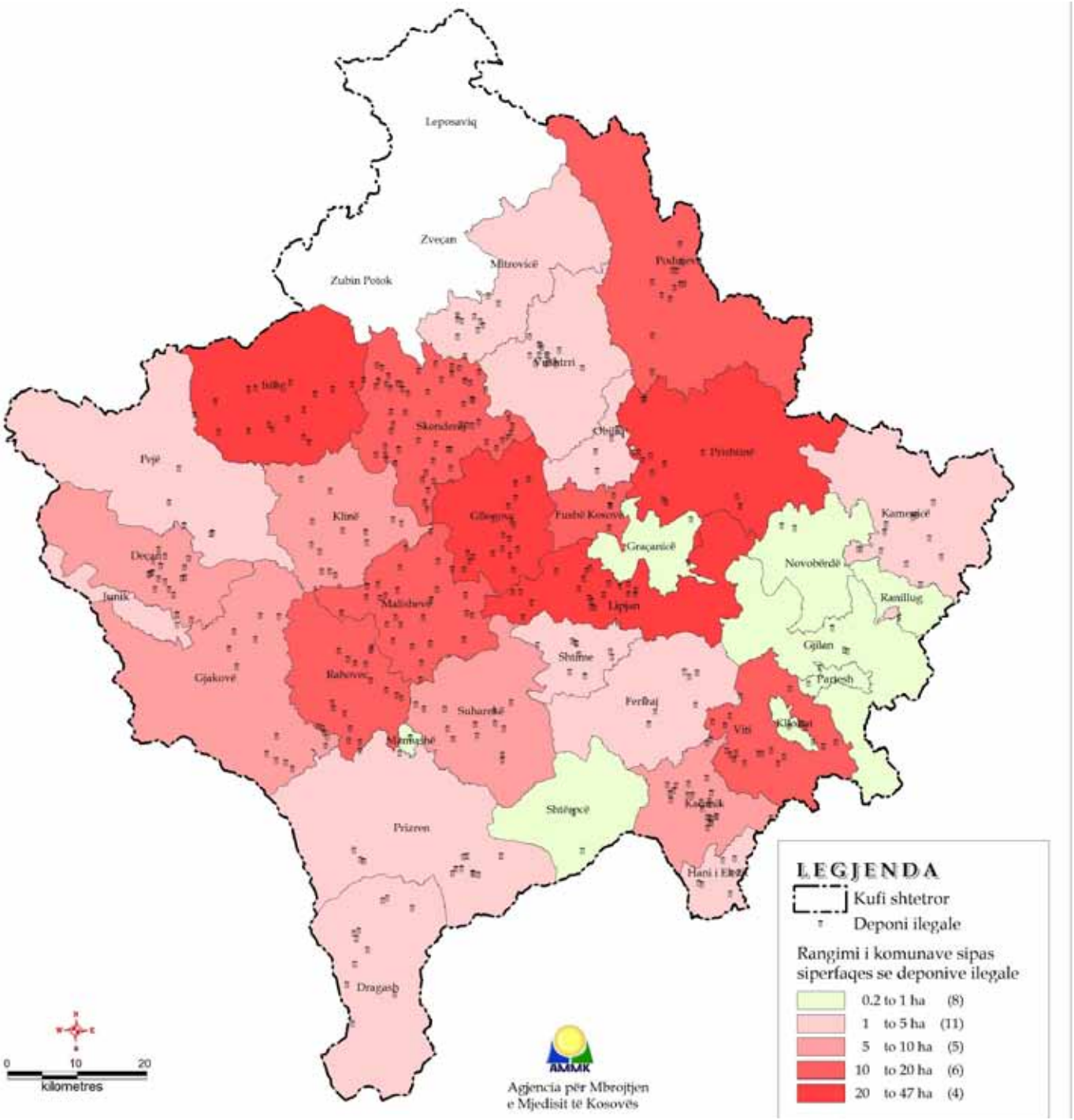
15.4. Map of illegal landfills



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