MINISTRIA E EKONOMISË DHE AMBIENTIT
MINISTARSTVO EKONOMIJE I OKOLISA
MINISTRY OF ECONOMY AND ENVIRONMENT

AMMK

AGJENCIONI PER MBROJTJEN E MJEDISIT TE KOSOVES

KOSOVSKA AGENCIJA ZA ZAŠTITU SREDINE

KOSOVO ENVIRONMENTAL PROTECTION AGENCY



Report on the State of Environment in Kosovo 2018-2019

Republika e Kosovës
Republika Kosova-Republic of Kosovo

Qeveria - Vlada - Government

MINISTRIA E ZHVILLIMIT EKONOMIK DHE AMBIENTIT
MINISTARSTVO EKONOMSKOG RAZVOJA I AMBIJENTA
MINISTRY OF ECONOMIC DEVELOPMENT AND AMBIENT

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Report on the State of Environment in Kosovo 2018-2019

Prishtina, August 2020

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Introduction

Drafting of the Report on the State of Environment in Kosovo is based on the Law on Environmental Protection[1]. Pursuant to Article 25 of this Law, the Government of Kosovo, upon the proposal of the Ministry of Environment and Spatial Planning, submits to the Assembly the Report on the State of the Environment.

The report should contain information on:

- the state of the environment and changes in the environment to the previous report,
- environmental impacts on the health of the population,
- the situation of endangered environments,
- implementation of the Environmental Strategy, Action Plan,
- measures taken to protect the environment,
- development of environmental institutions, and
- financing of the environmental protection system.

In accordance with the duties and responsibilities of governmental institutions, the Kosovo Environmental Protection Agency is the responsible institution for drafting this report.
This Report presents the state of environment for the period 2018-2019, but previous information is available as well for comparison purposes.

For drafting the report, KEPA has collected environmental data from monitoring institutions, companies, operators, various enterprises, publications, reports and from other sources. The collected data are processed on qualitative environmental information, which have been presented now in this report.

Presentation of the state in some sectors is not sufficiently covered due to the lack of data on many important issues, the lack of integrated environmental monitoring, legal basis and other institutional and management weaknesses.

The quality of this report, to a certain extent, is a reflection of the quality of monitoring implemented at the national level and at the level of organization of the environmental information system. These two environmental systems are still at the stage of development and strengthening, thus there is still lack of complete and reliable data.

The purpose of this report is to inform about the state of the environment in Kosovo, but its data are a good basis for drafting adequate environmental policies and for orienting strategic development, planning and investment in sectors that have an impact on the environment, such as: economy, industry, energy, transport, agriculture, etc.

[1] *Law No. 03/L-025*

ACKNOWLEDGEMENT



Dear readers!

Kosovo Environmental Protection Agency is pleased to share with you the Report on the state of the environment in Kosovo for 2018 and 2019.

This Report has been prepared in the framework of the activities for the fulfillment of legal duties and responsibilities arising from Law No. 03 / L-025 on Environmental Protection and KEPA Work Plan for regular reporting on the state of the environment, which also provides appropriate information for the administration, the Government, and the Assembly of the Republic of Kosovo for the implementation of environmental policies and the public.

We hope that this report will help the administration bodies in developing new forms of environmental protection policy and monitoring the implementation of plans and programs for environmental protection.

The general public, the media, environmental NGOs and environmentalists are welcome to use this data and look forward to their cooperation in improving the state of the environment in general.

On this occasion, KEPA expresses a special acknowledgment not only to the KEPA staff, who have worked diligently to implement this report in exceptional pandemic conditions, but also to all governmental and non-governmental institutions that have contributed through providing of necessary data.

We are also grateful to other institutions and international organizations for environmental protection, who in any way have contributed that KEPA reach to publish this report in a professional manner.

Dr.sc. Ilir Morina, Executive Director of KEPA

1. The state of environment

1.1. Air

Background of the air quality monitoring in Kosovo

The automatic air quality monitoring started by the end of 2009, in the monitoring stations located in Prishtina (Former "Rilindja" building and HMIK).
In 2010, MESP/DEM/HMIK has conducted a preliminary study to determine the locations for monitoring the air quality, supported by EC-TAIEX.
According to the study, it is proposed to conduct **zoning**, that Kosovo will have an **Agglomerate - AKS1** (including Prishtina and Obiliq), while other parts of the country will create a Monitoring Area - **ZKS1** (Gjilan, Peja, Prizren, Drenas, Mitrovica and Hani i Elezit)[2] , (Table nr.1 and 2).
The number of air quality monitoring stations in Kosovo is determined based on the criteria set forth by Directive 2008/50/EC. According to this, the air quality monitoring network in Kosovo should have 9 automatic monitoring stations. However, at the end of December 2012 MESP/KEPA signed a memorandum of understanding with MED (financed by the World Bank) that three automatic air quality monitoring stations located in the KEK area, (financed by the World Bank), to be transferred into ownership of MESP/KEPA. Therefore, currently the national air quality monitoring network in Kosovo has 11 fixed stations and one (1) mobile automatic air quality monitoring station. (Tables 1 and 2, and Figure 1)

Table 1: Air quality monitoring stations – Agglomeration AKS 1

Agglomeration/Area		Name of the monitoring station	Code of the station	Location	Measured parameters	Type of the area/agglomeration	Date of functionalization
AGGLOMERATION AKS 1	1	HMIK	KS0101	Prishtina	PM10,PM2.5,SO_2, NO_x,O_3,CO	Urban background	09.01.2009
	2	Rilindja	KS0102	Backyard of Rilindja, Prishtina	PM10,PM2.5,03,SO_2,CO,NO_2	Urban background	06.05.2010
	3	Obiliq	KS0110	FMC	PM10,PM2.5,SO_2,NO_x, O_3,CO	Urban background	01.03.2013
	4	Dardhishtë	KS0111	Primary School	PM10,PM2.5,SO_2,NO_x, O_3,CO	Urban/Industrial background	01.03.2013
	5	Palaj	KS0112	Kosova Mont	PM10,PM2.5,SO_2,NO_x, O_3,CO	Industrial background	01.03.2013

Table 2: Air quality monitoring stations – Area ZKS 1

[2]*Explanation: Brezovica monitoring station has been activated on 03.09.2013, but the same is not operational since 2016.*

Agglomeration/Area		Name of the monitoring station	Code of the station	Location	Measured parameters	Type of the area/agglomeration	Date of functionalization
AREA ZKS 1	1	Peja	KS0305	Primary School "Lidhja e Prizrenit"	PM10, PM2.5	Urban background	04.04.2012
	2	Prizren	KS0406	Municipal building	PM10,PM2.5,SO_2,CO,NO_2,O_3	Urban background	01.04.2012
	3	Hani i Elezit	KS0508	Primary School "Ilaz Hallaqi"	PM10,PM2.5,SO_2,NO_x,O_3,CO	Urban/Industrial background	05.04.2012
	4	Gjilan	KS0609	Municipal building	PM10,PM2.5,SO_2,NO_x,O_3,CO	Urban background	01.04.2012
	5	Drenas	KS0103	Primary School "Selami Hallaqi"	PM10,PM2.5. SO_2,NO_x,CO,O	Urban background	05.04.2011
	6	Mitrovica	KS0204	Meteorology station	NO_2,CO,O_3, PM10, PM2.5	Urban background	06.2013



Fig. 1: Location of the air quality monitoring stations

Online Air Quality Data System

Kosovo Environmental Protection Agency, in early 2018 has launched the Online Air Quality Data System for online reporting of air quality results monitored by the Kosovo Hydrometeorological Institute (HMIK). The finalization of the software was supported by the European Commission, as a testing phase for 8 monitoring stations, in addition to the stations in Obiliq, Dardhishtë and Palaj, which are expected to be connected to the online network through JICA and MCC projects. The online system enables accurate and real-time information of the public on air quality in some municipalities of Kosovo.

The air quality data reporting software is compatible with the European Air Quality Index (AQI) and provides monitoring data of 5 key indicators at 8 air quality monitoring stations.

Access to the online air quality data system is enabled by clicking directly on the data system link on the website of the Kosovo Hydrometeorological Institute (**http://HMIK-rks.com/t/?page=1,5**), through the website of the Kosovo Environmental Protection Agency (**http://KEPA-rks.net/**) through the web application: **http://www.kosovo-airquality.com/secure/index2.html.**

Investments in improving the air quality monitoring and reporting system will continue by an additional support from the US Government through the Millennium Challenge Corporation (MCC) Program and from the Japanese Government through the Japan International Cooperation Agency (JICA). Table 3 shows the air quality norms according to the Administrative Instruction No.02/2011.

Table 3: Air quality norms under Administrative Instruction No. 02/2011

Parameter	Limit value	Measuring unit	Limit value (threshold) µg/m³	Exceedances allowed during the year
NO_2	Limit value per 1 hour, for the protection of human health	µg/m³	200	18
	Annual limit value, for the protection of human health	µg/m³	40	Not foreseen
	Annual limit value, for the protection of vegetation	µg/m³	30	Not foreseen
SO_2	Limit value per 1 hour, for the protection of human health	µg/m³	350	24
	Limit value per 24 hours, for the protection of human health	µg/m³	125	3
CO	Limit value for the maximum daily 8-hour mean, for the protection of human health	mg/m³	10	Not foreseen
PM_{10}	Limit value per 24 hours, for the protection of human health	µg/m³	50	35
	Annual limit value, for the protection of human health	µg/m³	40	Not foreseen
$PM_{2.5}$	Annual limit value, for the protection of human health	µg/m³	25	Not foreseen
O_3	Long-term objective, for the protection of human health	µg/m³	120	Not foreseen

Air quality during the years 2018 and 2019

The years 2018 and 2019 are characterized by significant advances in the provision of data from monitoring stations under the management of HMIK. During 2017, it was achieved full functioning of all monitoring stations (11 monitoring stations) and parameters provided for continuous monitoring.

Although the monitoring stations in Obiliq, Dardhishtë and Palaj are not yet introduced in the online system, the data are presented every 24 hours and the same are published on the KEPA website. Timely coverage of monitoring results is good, except in certain cases,

where due to objective circumstances there may be interruptions in the operation of equipment.
The autumn-winter season of each year marks an increase in air pollution values. Even during 2018, the dust recorded very high values in the concentration of PM_{10} and $PM_{2.5}$ in some places of the country. Significant exceedances of the Maximum Allowed Value (MAV) were present in almost all monitoring stations during January, February, October, November and December 2018.
In essence, the level of air pollution in the entire territory of Kosovo during 2018 does not differ from the level of air pollution in previous years.

Meteorological conditions in the mentioned months were unfavourable, which affected the accumulation of pollutants in the air without the possibility of distribution. Movements of the air masses were of low intensity (less than 2 m/sec), variable temperatures (2-15), high atmospheric pressure (1013-1016 hPa) and no precipitation. With these atmospheric conditions in urban parts, where there is a heavy traffic, movement of old vehicles, heating of buildings with coal, wood and pellet, etc., have contributed to the increase in the level of air pollution.

At the beginning of December 2018 we had a deteriorating situation, where for 3 consecutive days there were exceedances of the concentration of PM_{10}. KEPA has raised concerns about this situation, notifying the policy makers in MESP, the Government and Municipality of Prishtina. The Law on Air Protection defines the obligation of MESP to notify the government, which upon the proposal of MESP, drafts an Action Plan for the measures to be taken to overcome such pollution. This was the first confrontation for this year with a situation of exceeding PM_{10} values for 3 consecutive days.

Exceedances of PM_{10} values were marked in Prishtina-HMIK, Obiliq, Dardhishtë, Drenas and Gjilan. (Table 4)

Table 4: Exceedances of PM_{10} for 3 consecutive days, 2018

Date	Prishtina-HMIK	Obiliq	Dardhishtë	Drenas	Gjilan
	PM_{10} µg/m³	PM_{10} µg/m³	PM_{10} µg/m³	PM_{10} µg/m3	PM_{10} µg/m3
01.12.2018	150	149	132	141	126
02.12.2018	153	186	161	129	173
03.12.2018	168	160	165	177	157

As regards to parameters SO_2, CO and Ozone no exceedances of MAV was recorded during 2018-2019. Increased (occasionally) NO_2 concentration values were present in the Agglomeration - AKS1, in the monitoring stations at the HMIK, Rilindja, Obiliq, Dardhishte and Palaj.
In the following are presented the monthly average values for each parameter. Based on the EU Air Quality Directives and according to Administrative Instruction No. 15/2010 on Criteria for Defining Air Quality Monitoring Points, the Number and Frequency of Measurements, the Classification of Monitored Pollutants, work methodology; and the

Form and Timing of Data Reporting, Agglomeration - AKS1 (Prishtina and Obiliq) is treated separately from the Area - ZKS1 (Drenas, Mitrovica, Gjilan, Hani i Elezit, Peja and Prizren).

Air quality at AKS1 (Agglomeration of Prishtina)

Agglomeration of Prishtina includes 5 air quality monitoring points. Two monitoring points are located in Prishtina: one in the backyard of the former "Rilindja" building and the other in the backyard of the HMIK. Three other monitoring points are located in: Obiliq (FMC), Dardhishtë (Primary School) and one in Palaj (KEK Kosovo Mont Facility).

In 2018, in terms of annual average, there were exceedances of the MAV of **PM_{10}** (40 $\mu g/m^3$), at the monitoring station HMIK, Rilindja, Dardhishtë and Obiliq. Exceedances were more pronounced during the months January, February, November and December and December of 2018 (Table 5). In 2019, the most polluted months were January, February, March and December. If we compare the same time periods for the two years, in 2019 we notice a reduction in pollution with PM_{10}.

Table 5: Average Monthly Values of PM_{10}, through the months of 2018/2019 in AKS 1

Months	Years	HMIK	Rilindja	Palaj	Obiliq	Dardhishtë
January	2018	96.6	79.6	40	106.9	91
	2019	57.8	41.1	34.9	75.9	61.4
February	2018	37.1	43.1	17	42.5	37
	2019	33.2	24.6	20.1	43.6	33.9
March	2018	29.7	36.3	14	35.8	30
	2019	24	18.4	15	28.8	22.4
April	2018	37.6	41.1	19	41.1	31.3
	2019	16.7	13.1	11.7	19.8	28.3
May	2018	20.4	26.5	11.9	23.4	16
	2019	8.2	8	4.3	8.5	4.9
June	2018	19.6	22.9	10.5	20.7	8.7
	2019	10.9	8.7	6.6	9.5	6.4
July	2018	23	22.9	*	19.7	17
	2019	9.5	7.5	6.4	8.9	6.3
August	2018	25	23.7	*	21.2	24.2
	2019	10.2	7.9	7.3	9.8	10.1
September	2018	26.9	24.2	16.9	28.2	33.6
	2019	11	8.9	7.7	11.3	11.6
October	2018	39	35.6	22.2	40	39
	2019	22.6	15.6	23.8	26.9	31.1
November	2018	51.1	35	27.8	53.3	53
	2019	16.9	14.3	12.8	24.4	18.8
December	2018	78.4	53.3	44.9	85.3	70.6
	2019	27	27.5	18.2	34.6	34.2
Averages	2018	40.36	37.01	22.42	43.17	37.61
	2019	20.6	16.3	14.1	25.1	22.4

With regards to **$PM_{2.5}$** parameter, exceedances were recorded during the months of January, February, October, November and December for the years 2018/2020. Except in

Palaj, where there were slight exceedances, in other stations (HMIK, Rilindja, Obiliq and Dardhishtë) there were significant exceedances of MAV (25 μg/m^3). (Table 6)

Table 6: Average Monthly Values of $PM_{2.5}$ for the years 2018/2019 in AKS 1

Months	Years	HMIK	Rilindja	Palaj	Obiliq	Dardhishtë
January	2018	87	69.2	38.9	97.8	87.5
	2019	57.8	41.1	34.9	75.9	61.4
February	2018	29.8	33.7	13.1	37.2	32.9
	2019	33.2	24.6	20.1	43.6	33.9
March	2018	22	25	9.1	28.1	23.8
	2019	24	18.4	15	28.8	22.4
April	2018	17.5	19.9	7.8	17.3	13
	2019	16.7	13.1	11.7	19.8	28.3
May	2018	11.3	12.3	5.1	10.4	8.6
	2019	8.2	8	4.3	8.5	4.9
June	2018	11.7	12.7	5.1	9.2	3.7
	2019	10.9	8.7	6.6	9.5	6.4
July	2018	14.7	14.1	*	10.7	9
	2019	9.5	7.5	6.4	8.9	6.3
August	2018	15	14.1	*	11.5	10.6
	2019	10.2	7.9	7.3	9.8	10.1
September	2018	15.6	14.2	7.8	16.5	14.1
	2019	11	8.9	7.7	11.3	11.6
October	2018	25.5	23.1	13.5	26.5	22.4
	2019	22.6	15.6	23.8	26.9	31.1
November	2018	37.7	26	19.9	43.3	37.6
	2019	16.9	14.3	12.8	24.4	18.8
December	2018	63.9	45.4	34	75.7	60.8
	2019	27	27.5	18.2	34.6	34.2
Averages	2018	29.30	25.80	15.43	32.01	27
	2019	20.6	16.3	14.1	25.1	22.4

Ozone at the Area - AKS1 did not exceed the MAV (120 μg/m^3). In Obiliq, Dardhishtë and Palaj, there were higher values compared to ozone values in other monitoring stations for 2018. During 2019 ozone values were considered as lower compared to the same time periods of the previous year. (Table 7)

Table 7: Average Monthly Values of Ozone during the years 2018/2019 in AKS 1

Months	Years	HMIK	Rilindja	Palaj	Obiliq	Dardhishtë
January	2018	19.3	3.14	51.8	24.7	53.1
	2019	1.4	2.1	*	2	3.3
February	2018	33.2	3	74.9	40.4	67.8
	2019	1.4	1.8	*	1.2	3.9
March	2018	4	52.2	77.8	52.2	75.9
	2019	1.5	1.6	*	0.8	3.8
April	2018	36	12.3	51.5	49.8	66.8
	2019	1.6	1.6	0	0.7	0.2
May	2018	26.3	27.7	44.6	60.3	70.4
	2019	1.6	1	0.3	0.3	0.1

June	2018	*	52.4	47.8	113.8	66.1
	2019	0.5	0.3	0.2	0.4	1
July	2018	70.2	*	*	77.5	64.2
	2019	0.8	0.5	0.4	1.9	1.7
August	2018	*	57.1	*	69.8	64.9
	2019	0.7	0.7	0.2	2.8	2.7
September	2018	*	62	58.9	71.2	67.1
	2019	1.1	0.9	0.1	0.4	3.7
October	2018	*	45.2	47.5	58.2	55.9
	2019	1.6	1	0.2	0.6	4.6
November	2018	37.7	26	19.9	43.3	37.6
	2019	2	1.4	0.1	0.5	5.9
December	2018	63.9	45.4	34	75.7	60.8
	2019	2.4	3.2	0.3	1.9	6.2
Averages	2018	36.32	35.13	50.87	61.40	62.55
	2019	1.3	1.3	0.2	1.1	3.1

With regards to **NO_2** parameter, some annual exceedances of MAV were recorded (40 µg/m^3). At the monitoring station Rilindja, HMIK, Obiliq and Dardhishtë in some cases there were exceedances for both years. The highest values were recorded during the months of January, February, March, October, November and December. (Table 8)

Table 8: Average Monthly Values of NO_2 during the years 2018/2019 in AKS 1

Months	Years	HMIK	Rilindja	Palaj	Obiliq	Dardhishtë
January	2018	26.1	51.7	20.8	35.2	42.9
	2019	53	65.2	37	59	68.5
February	2018	18.8	52.6	8.2	19.5	20.1
	2019	39.7	41.8	18.2	32.3	27.3
March	2018	20.8	65.8	5.4	16.3	16.1
	2019	43.5	47.8	14.3	24.4	27.4
April	2018	54.5	30.6	2.7	12.8	13.7
	2019	34.6	39.7	11.2	18.4	12
May	2018	33.1	46.4	2.2	12.8	9.5
	2019	23.9	31.8	5.3	10.7	13.8
June	2018	32.2	27.2	4.4	10.3	12.3
	2019	22.6	32.7	6.4	8.3	10.3
July	2018	26	*	*	11.1	8.1
	2019	25.9	43.2	7.2	14.5	11.2
August	2018	*	30.5	*	16.1	13.6
	2019	31	*	8.2	21.1	13.3
September	2018	31.2	31.9	5.9	12.8	9.5
	2019	26.3	*	7.3	84	12.9
October	2018	43.5	34.5	8.4	15.2	11.2
	2019	36.7	56.7	12.3	28.1	18.4
November	2018	51.3	35.1	15.7	19	15.7
	2019	18.6	40.4	9.8	21.8	15.2
December	2018	59.8	49.8	32.9	33.7	35.6
	2019	23.7	39.9	12.6	21.9	17.3
Averages	2018	36.11	41.44	10.66	17.9	17.35
	2019	31.6	43.9	12.4	28.7	20.6

With regards to **SO_2** parameter, during 2018/2019 there were no exceedances of MAV (120μg/m³) in any of the monitoring stations. However in Obiliq were marked higher values compared to other monitoring stations of AKS1. (Table 9)

Table 9: Average Monthly Values of SO_2 during the years 2018/2019 in AKS 1

Months	Years	HMIK	Rilindja	Palaj	Obiliq	Dardhishtë
January	2018	4.1	8.6	31.1	82.9	*
	2019	6.2	18.2	19.7	2.4	*
February	2018	3.9	10.7	26.4	79.3	*
	2019	3.1	19.6	12.9	10.6	*
March	2018	3	13.6	5.6	63.8	*
	2019	3.2	28.1	0	7	9.4
April	2018	2	5.5	2.9	50.3	*
	2019	2.7	31.4	6.8	6.8	0
May	2018	1.4	20.8	2.4	37.3	*
	2019	3.7	4.6	9.6	6.6	4.9
June	2018	0.95	35	7	48.8	*
	2019	6.6	8.6	10.1	3.2	10.2
July	2018	38.2	53.8	*	53.7	*
	2019	8	12.1	10.3	26	21.1
August	2018	41.9	50.1	*	59.5	*
	2019	7.4	10.7	10.6	35.2	31.3
September	2018	42.2	68.2	11.5	64.5	*
	2019	8.1	9.5	9.8	3.8	9.4
October	2018	43.3	65.6	12.4	70.3	*
	2019	11.2	11	9.5	7.5	16.5
November	2018	44.2	77	21.6	82.5	*
	2019	6.8	10.4	5.1	5.9	10.3
December	2018	26.7	12.4	37.2	73	*
	2019	11.1	12.4	5.3	8.7	13.5
Averages	2018	20.98	35.10	15.81	63.82	*
	2019	6.5	14.7	9.9	10.3	14.1

The **CO** parameter had no exceedances on limit values (10 mg/m³) in any of the air quality monitoring stations of the AKS1. (Table 10)

Table 10: Average Monthly Values of CO during the years 2018/2019 in AKS 1

Months	Years	HMIK	Rilindja	Palaj	Obiliq	Dardhishtë
January	2018	4.2	1.4	*	1.4	3.3
	2019	1.4	2.1	*	2	3.3
February	2018	3.8	2.8	*	1	3.9
	2019	1.4	1.8	*	1.2	3.9
March	2018	1	3.4	*	0.98	2.3
	2019	1.5	1.6	*	0.8	3.8
April	2018	6.5	3.3	*	0.68	0.8
	2019	1.6	1.6	0	0.7	0.2

May	2018	2.2	3.1	*	0.7	1
	2019	1.3	1	0.3	0.3	0.1
June	2018	2	1.4	*	0.49	0.54
	2019	0.5	0.3	0.2	0.4	1
July	2018	1.4	1	*	0.6	1
	2019	0.8	0.5	0.4	1.9	1.7
August	2018	1.5	2	*	0.7	1.5
	2019	0.7	0.7	0.2	2.8	2.7
September	2018	1.3	1.3	1.8	0.8	2.3
	2019	1.1	0.9	0.1	0.4	3.7
October	2018	1.1	2.4	1.9	*	3.1
	2019	1.6	1	0.2	0.6	4.6
November	2018	1.8	3.8	*	1.4	4.9
	2019	2	1.4	0.1	0.5	5.9
December	2018	2.6	5.5	*	2	4.1
	2019	2.4	3.2	0.3	1.9	6.2
Averages	2018	2.45	2.61	1.85	0.97	2.39
	2019	1.3	1.3	0.2	1.1	3.1

Days with exceedances[3] in PM_{10}, during the years 2018/2019, have been shown in Table 11. The table shows that during 2018 exceedances were recorded in all monitoring stations, while in 2019, exceedances were recorded in all monitoring stations, with exception of stations at Rilindja and Palaj.

Table 11: Days with exceedances in PM_{10} during the years 2018/2019

Months	Years	HMIK	Rilindja	Palaj	Obiliq	Dardhishtë
January	2018	21	21	11	23	13
	2019	15	8	7	22	13
February	2018	5	8	1	6	7
	2019	11	4	4	12	9
March	2018	3	4	0	3	4
	2019	7	1	1	10	6
April	2018	4	2	0	8	0
	2019	3	2	2	8	8
May	2018	0	0	22	0	0
	2019	0	0	0	0	0
June	2018	0	0	0	0	0
	2019	0	0	0	0	0
July	2018	0	0	0	0	0
	2019	0	0	0	0	0
August	2018	0	0	0	0	0
	2019	0	0	0	0	0
September	2018	1	1	0	1	1
	2019	0	0	0	0	0
October	2018	7	2	0	6	7

[3] *Limit Value for PM_{10}, according to AI No.02/2011 on Air Quality Assessment ,is up to 35 days exceedance during a calendar year.*

	2019	8	3	5	10	8
November	2018	13	5	4	17	14
	2019	1	0	0	0	0
December	2018	21	14	6	22	18
	2019	6	11	1	10	9
Averages	2018	75	57	44	86	64
	2019	51	29	20	72	53

Air quality in ZKS1 area

ZKS1 Area includes the territory monitored for air quality in the following centres: Drenas, Mitrovica, Peja, Prizren, Hani i Elezit, and Gjilan. The air quality monitoring station in Brezovica has the role of a comparative indicative station. During 2018, the highest values of PM_{10} were recorded in Drenas, Mitrovica, Hani i Elezit and Gjilan. In 2019, the highest values of PM_{10} were recorded in Mitrovica, Peja, Prizren and Gjilan. (Table 12)

Table 12: Average Monthly Values of PM_{10} during the years 2018/2019 in ZKS 1

Months	***Years***	**Drenas**	**Mitrovica**	**Peje**	**Prizren**	**Hani i Elezit**	**Gjilan**	**Brezovica**
January	2018	64.6	78.8	*	59.8	72.7	129.4	*
	2019	71	66.3	76.9	68	46.5	87.5	*
February	2018	34.6	46.2	*	33.5	66.6	*85.2*	*
	2019	12.7	36.7	48.5	42	40.1	*79.8*	*
March	2018	31.8	46.5	*	29.2	98.8	83.7	*
	2019	16.9	35.2	35.4	28.8	44.6	35.4	*
April	2018	43.3	48.8	22.3	22.3	121	65.7	*
	2019	19.3	31.8	16.5	26.1	28.4	16.1	*
May	2018	25.5	22.4	14.1	18.6	66.6	42.8	*
	2019	9	17.8	9.6	13.3	13.1	7.5	*
June	2018	21.3	19	18.1	4.4	74.5	37.1	*
	2019	15.4	21.5	11	13.8	8.9	5.3	*
July	2018	22	23.8	24.5	18.5	48	41.9	*
	2019	15.1	16.6	10.7	15.3	7.6	4.4	*
August	2018	29.1	26.3	*16.3*	18.8	50.6	*36.1*	*
	2019	18.1	19.1	7.8	16.9	7.7	*4.2*	*
September	2018	33.8	26.4	*	13.4	59	40.3	*
	2019	15.8	18.3	0	17.3	11.9	4.3	*
October	2018	48.1	37.9	*	*	56.3	56.5	*
	2019	25.1	33.4	*	30.1	29.7	28.2	*
November	2018	63.1	47.2	*	*	98	8	*
	2019	22.9	38.4	54.3	40.5	31.3	45.2	2.5
December	2018	69.4	58.6	80.1	70.3	49	108.1	*
	2019	43.6	45.5	58.7	58.5	35	*49.5*	*1.8*
Average	2018	40.55	40.15	29.23	28.88	71.71	*61.23*	*
	2019	*23.7*	31.7	32.9	*30.8*	*25.4*	*30.6*	*2.1*

With regards to **$PM_{2.5}$** parameter, exceedances of MAV (25 μg/m^3) were recorded in all monitoring stations, except the station in Brezovica. The exceedances during the spring-autumn-winter season were significant. (Table 13)

Table 13: Average Monthly Values of $PM_{2.5}$ during the years 2018/2019 in ZKS 1

Months	*Years*	Drenas	Mitrovica	Peje	Prizren	Hani i Elezit	Gjilan	Brezovica
January	2018	54.6	55.6	*	41.2	53.9	29.8	
	2019	59.8	58.2	71.6	62.2	40.4	78.1	*
February	2018	26.3	33.8	*	25.8	31	21.2	
	2019	12.2	26.8	38.3	31.8	25.2	51.3	*
March	2018	17.5	31.2	*	23.5	26.3	17	
	2019	11.7	22.1	25.6	17.5	21.1	26.1	*
April	2018	14.5	18.5	14.6	12.2	32	5.6	
	2019	12.3	21.5	12.3	16.3	14.9	11.6	*
May	2018	12.2	10.2	6.4	8.2	36.3	20.2	
	2019	6.2	11.8	7.2	8.1	7.5	5.3	*
June	2018	10.3	12	10.7	4.1	13.9	15.5	
	2019	9	14	7.5	7.9	6.2	4	*
July	2018	11.3	17	*	*	11.2	*	
	2019	8.6	10.8	7.5	8.9	5.4	3.3	*
August	2018	14	17.3	9.4	11	14.2	18.5	
	2019	9.7	12	5.7	9.5	5.5	3.4	*
September	2018	15.7	15.5	*	8.9	17.5	19.7	
	2019	9.8	11.9	*	10.1	7.6	3.8	*
October	2018	25.5	26.5	*	*	15.3	33.6	
	2019	18.7	22	*	19.6	17.9	22.3	*
November	2018	39.7	37.2	*	*	37.4	46.1	
	2019	17.8	28.3	47.9	30.5	20.3	26.1	2.1
December	2018	51.4	48.1	68.7	60.4	36	82.8	
	2019	33.9	36.9	47.2	47.5	26.9	40	1.8
Average	2018	24.41	26.9	21.96	21.7	27.08	28.18	
	2019	17.4	23.1	27.1	22.5	16.5	22.9	1.9

Ozone appears to have normal values and there were no exceedances of MAV (120 μg/m3) in any of the stations for the years 2018/2019. (Table 14)

Table 14: Average Monthly Values of Ozone during the years 2018/2019 in ZKS 1

Months	*Years*	Drenas	Mitrovica	Peje	Prizren	Hani i Elezit	Gjilan	Brezovica
January	2018	*	44	*	38.2	14.6	10.4	
	2019	*	53.1	*	35.7	37.8	23.8	*
February	2018	*	49	*	38	66.3	14.2	
	2019	*	52.8	*	54.7	44.6	26.1	*
March	2018	*	54	*	26	63	18	
	2019	*	58.9	*	71.7	48.8	40.3	*
April	2018	*	36.6	*	72	52.2	24	

	2019	*	52.6	*	72.1	51.2	53.2	*
May	2018	*	30.9	*	72.1	67.7	21.2	
	2019	*	41.1	*	54	43.6	53	*
June	2018	*	32.6	*	87.3	68.5	89.3	
	2019	*	33.1	*	60.6	31.4	60.7	*
July	2018	*	35.3	*	70.2	50	9	
	2019	*	35.4	*	67.4	38.2	69.6	*
August	2018	*	42.6	*	79	50.3	8.7	
	2019	*	34.6	*	75.9	46.5	68	*
September	2018	*	43.7	*	80	39.4	8.8	
	2019	*	32.9	*	59.2	50.8	46.7	*
October	2018	*	30.9	*	60.1	37.7	13.2	
	2019	28.7	24	25.7	39	41.4	29.2	41.6
November	2018	*	23.8	*	34.2	21.9	5.3	
	2019	39.1	17	11	31.1	21.3	29.9	73.9
December	2018	*	39.4	*	30.3	26.5	11	
	2019	32	23.6	14.6	29	23.4	30.8	74
Average	2018	*	38.56	*	57.28	46.50	19.42	
	2019	33.2	38.2	17.1	54.2	39.9	44.2	63.1

As regards to **NO_2**, some values were recorded with continuous exceedances of MAV (40 µg/m3) in Hani i Elezit and less exceedances in Gjilan and Prizren. (Table 15)

Table 15: Average Monthly Values of NO_2 during the years 2018/2019 in ZKS 1

Months	***Years***	**Drenas**	**Mitrovica**	**Peje**	**Prizren**	**Hani i Elezit**	**Gjilan**	**Brezovica**
January	2018	24.2	18.6	*	31.9	67.4	45.1	
	2019	39.3	31.1	*	29.1	38	67.7	*
February	2018	14.8	13.5	*	25.9	45.6	36.8	
	2019	21.3	14.5	*	17.9	55.2	51.2	*
March	2018	12.5	12.9	*	52.6	46.2	43	
	2019	16.7	15.9	*	9	61.3	35.2	*
April	2018	10.5	7.8	*	16.5	56.3	33.8	
	2019	16.6	13	*	9.6	57.4	24.3	*
May	2018	8.8	3.1	*	35.2	49.2	28.8	
	2019	11.1	9.4	*	12.8	42.6	17.9	*
June	2018	6.7	16.8	*	13.6	63.6	28.3	
	2019	10.8	9.8	*	9.3	22.4	16	*
July	2018	5	2	*	16.5	*	33.3	
	2019	12.7	16	*	7.2	26.3	19.2	*
August	2018	8.4	5.6	*	18.6	58.2	32.6	
	2019	16.1	18.7	*	10.1	34.8	23.4	*
September	2018	10.2	5	*	14.9	66.5	33.8	
	2019	13.4	15.5	*	6.8	36.3	20.8	*
October	2018	13.4	7.5	*	20.1	69.3	33.8	
	2019	16.2	17.2	15.7	15.4	40.5	28.6	2.3

November	2018	14.2	6.1	*	25.9	37.6	29.6	
	2019	14.5	13.9	10.4	26.5		22.2	1.2
December	2018	23.6	16.4	*	26.3	54.2	58.8	
	2019	17.5	15.6	13.4	15.6		21.3	1.4
Average	2018	12.69	9.60	*	24.83	55.82	36.47	
	2019	17.1	15.8	13.1	14.1	36.4	28.9	1.6

With regards to **SO_2** parameter, no exceedances of MAV (125 μg/m3) were recorded in the monitoring stations within ZKS1 area. A single case was recorded at the Prizren station in January 2018. In Mitrovica higher values were recorded during the summer season. (Table 16)

Table 16: Average Monthly Values of SO_2 during the years 2018/2019 in ZKS 1

Months	***Years***	**Drenas**	**Mitrovica**	**Peje**	**Prizren**	**Hani i Elezit**	**Gjilan**	**Brezovica**
January	2018	119.4	29.3	*	138.8	10.4	10.4	
	2019	12.3	3.2	*	*	4	9.8	*
February	2018	115.2	31.4	*	36.5	18.3	6.5	
	2019	6.8	3.9	*	6.8	3.5	9.1	*
March	2018	94.3	34	*	36.6	60.2	13.6	
	2019	6.9	3.5	0	0	3.5	10.4	*
April	2018	41.9	36.6	*	20.1	51.2	15.7	
	2019	17.5	6.1	0	22.1	5.1	10.9	*
May	2018	12.4	10.2	*	8.2	45.2	22.7	
	2019	33.3	11.1	0	8	7.5	11	*
June	2018	4.8	9.2	*	38.2	74	25.3	
	2019	33	15.5	0	12.8	9.1	11	*
July	2018	2.3	79.6	*	*	8.7	27.6	
	2019	32.3	15.7	0	15.5	13.5	14.3	*
August	2018	2.6	83.9	*	*	10.2	28.8	
	2019	30.8	16.7	0	7.6	15	17.5	*
September	2018	5.7	83.1	*	16.7	13.9	31.9	
	2019	28.6	16.8	0	11.7	17.3	18.5	*
October	2018	5.6	80.4	*	22.7	48.9	31.9	
	2019	15.3	12.5	1.2	10.1	13	25.5	0.8
November	2018	9.4	78.9	*	16.6	15.7	34.3	
	2019	2.2	28.9	1.9	5.9	1.4	4.6	1.3
December	2018	15.6	49.2	*	*	2.8	25	
	2019	5.5	46.8	1.5	5.1	0.8	2.2	1.3
Average	2018	35.76	50.48	*	37.15	29.95	22.80	
	2019	18.7	15.1	1.5	10.5	7.8	12.0	1.1

In terms of **CO** parameter, no exceedances of MAV (10 mg/m^3) were recorded in any of the ZKS1 area monitoring stations. (Table 17)

Table 17: Average Monthly Values of CO during the years 2018/2019 in ZKS 1

Months	Years	Drenas	Mitrovica	Peje	Prizren	Hani i Elezit	Gjilan	Brezovica
January	2018	*	*	*	*	1.9	2.3	*
	2019	1	1.5	*	1.5	0.9	1.8	1.5
February	2018	*	*	*	*	0.2	2.5	*
	2019	0.5	0.8	*	0.9	0.8		*
March	2018	*	*	*	*	2.9	2.2	*
	2019	0.8	0.7	*	1.1	1.2	0.8	0.5
April	2018	0.5	0.4	*	*	4.1	*	*
	2019	0.7	0.5	*	1.4	0.9		*
May	2018	0.49	0.8	*	*	3.2	*	*
	2019	1	0.2	*	0.2	1.1	0.6	0.8
June	2018	0.7	1	*	1.8	2.1	1.8	*
	2019	1.2	0.2	*	0.3	0.7		*
July	2018	0.9	1.4	*	0.5	*	*	*
	2019	1	0.3	*	0.3	1.3	1	0.7
August	2018	0.89	1.7	*	0.5	*	*	*
	2019	0.4	0.1	*	0.9	0.4		*
September	2018	0.76	2	*	0.4	2.9	1.9	*
	2019	0.6	0.1	*	0.9	0.3	0.4	0.4
October	2018	5.6	2.3	*	0.6	2.7	2.9	*
	2019	0.8	0.1	0.7	1	0.2		0.1
November	2018	1.1	2.8	*	1.4	2	2.1	*
	2019	0.5	0.4	0.6	o.6	0.3	0.5	0.80.4
December	2018	1.6	2.7	*	1.8	2.6	3.1	*
	2019	0.8	0.6	0.9	0.9	0.4		0.6
Average	2018	1.39	1.67	*	1	2.46	2.35	*
	2019	0.7	0.4	0.7	0.8	0.7	0.8	0.3

Days with exceedances in PM_{10} during the years 2018/2019 have been shown in Table 18. The table shows that during 2018 exceedances were recorded only at the monitoring stations of Peja and Prizren, while during 2019, exceedances were recorded in all monitoring stations, with exception of the station in Drenas.

Table 18: Days with exceedances in PM_{10} during the years 2018/2019 in ZKS 1

Months	Years	Drenas	Mitrovica	Peje	Prizren	Hani i Elezit	Gjilan	Brezovica
January	2018	14	17	0	8	10	20	
	2019	14	17	22	21	13	27	*
February	2018	4	11	0	3	8	13	
	2019	4	8	12	7	7	20	*
March	2018	3	0	10	1	15	20	
	2019	0	1	5	0	10	5	*
April	2018	11	13	0	0	18	25	

	2019	0	4	0	2	1	0	*
May	2018	0	0	0	0	15	7	
	2019	0	0	0	0	0	0	*
June	2018	0	0	0	0	18	1	
	2019	0	0	0	0	0	0	*
July	2018	0	0	0	1	0	0	
	2019	0	0	0	0	0	0	*
August	2018	0	0	0	0	10	0	
	2019	0	0	0	0	0	0	*
September	2018	3	2	0	0	19	2	
	2019	0	0	0	0	0	0	*
October	2018	12	4	0	0	14	17	
	2019	3	6	0	4	3	0	*
November	2018	17	13	0	0	11	20	
	2019	0	0	10	9	2	7	*
December	2018	18	15	19	17	10	28	
	2019	12	12	14	16	6	6	*
Average	2018	82	75	29	30	148	153	
	2019	33	48	63	59	42	65	*

From the assessment of the air quality state for the years 2018/2019, and analysing the monthly means for the PM_{10} and $PM_{2.5}$ parameters, we can conclude that we have exceedances of MAV. Norms above the maximum allowed values are considered to be higher, especially during the autumn-winter season, as well as in those locations where there have been intense infrastructure works. The causes of increased pollution during the winter months are the same, such as: heavy traffic of old vehicles, heating with fuels such as coal, wood, pellets, fuels such as petroleum products, pollution from power generation, industrial operators and industrial waste etc. The impact of mutual cross-border pollution with the countries of the region is not excluded.

Air quality trend 2013-2019

According to the data provided by the HMIK air quality monitoring network, during the years 2013-2019 have been calculated the annual averages for SO_2, NO_2, O_3, CO, PM_{10} and $PM_{2.5}$ at the national level. The trend presented in graphical form highlights the increasing trends of SO_2 and NO_2, while PM_{10} and $PM_{2.5}$ parameters and other parameters show a downward trend of average values (Fig.2 - Fig.7). It is difficult to explain the causes of these trends, because in 2013, 2015, 2016 and 2017 there was no continuous measurement of all mentioned parameters. The year 2018 was characterized by a satisfactory monitoring coverage (over 75%), while other years have not covered the minimum time coverage-over 75%.

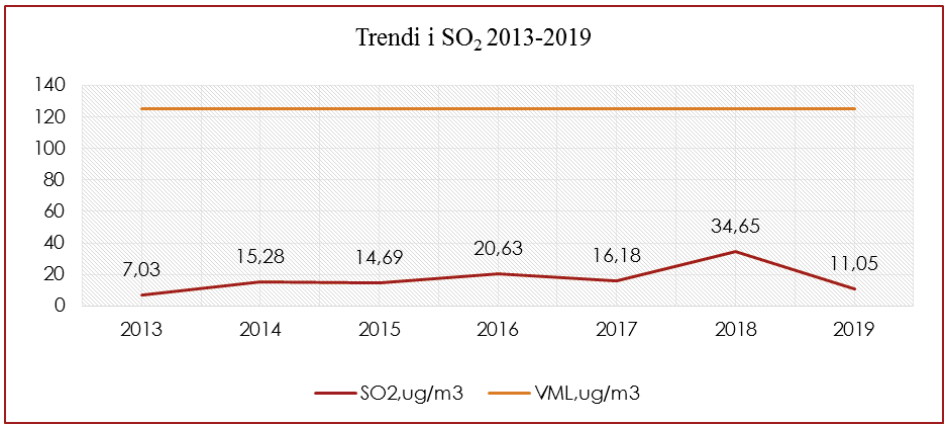


Figure 2: The trend of average annual values of SO_2 for the years 2013-2019

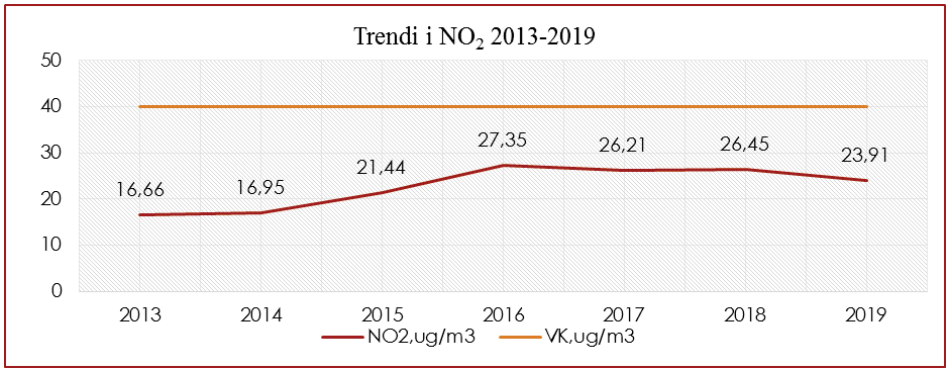


Figure 3: The trend of average annual values of NO_2 for the years 2013-2019

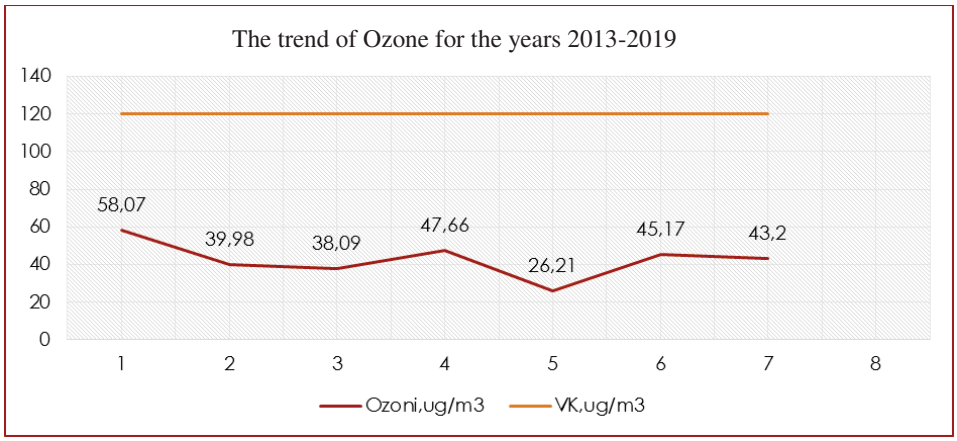


Figure 4: The trend of average annual values of O_3 for the years 2013-2019

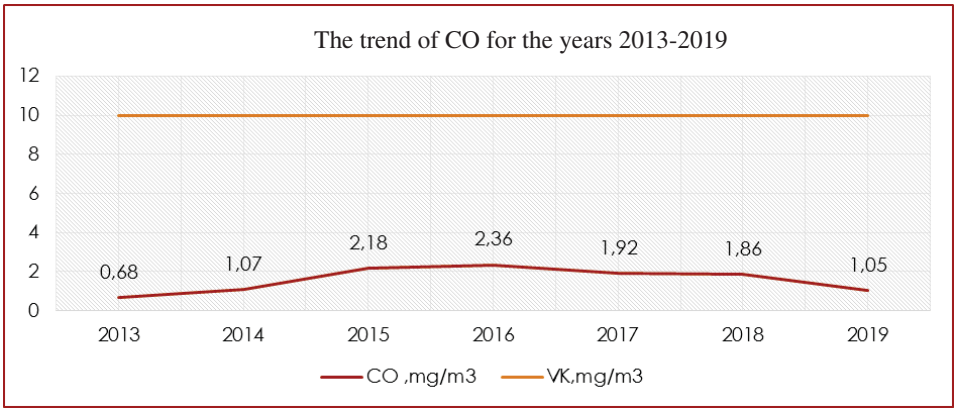


Figure 5: The trend of average annual values of CO for the years 2013-2019

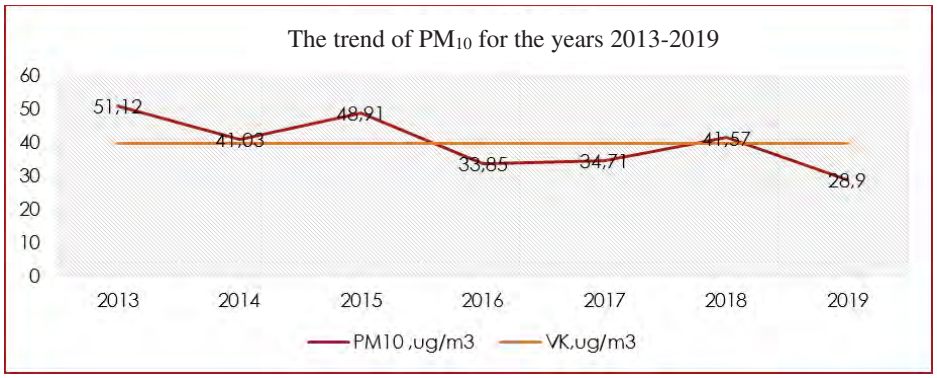


Figure 6: The trend of average annual values of PM_{10} for the years 2013-2019

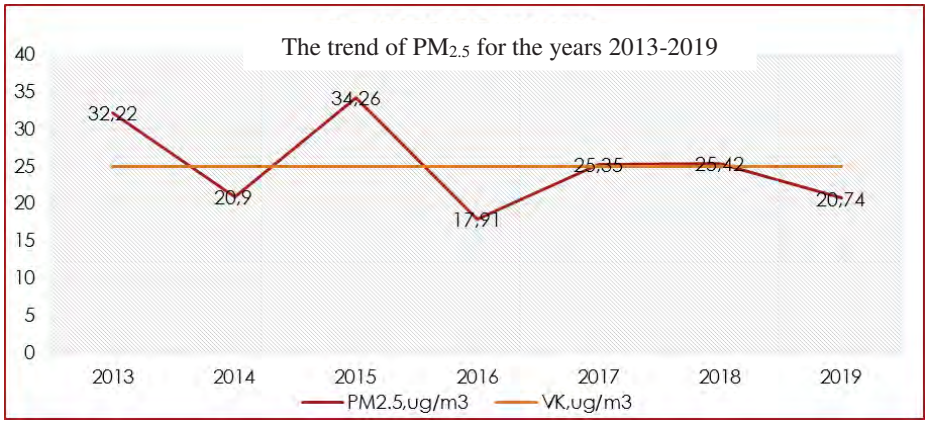


Figure 7: The trend of average annual values of $PM_{2.5}$ for the years 2013-2019

1.2. Water

Industrial development, urbanization and intensive agriculture are just some of the factors that affect water pollution. Despite continued engagement, the uncontrolled use of water resources and damage to river beds still remains one of the forms of degradation of our water resources.

Pressures in the water come mainly as a result of increased volume of discharged wastewater without proper physical, chemical and biological treatment. All of this has an impact on the increase of values in physical, chemical and microbiological parameters in water bodies. Other precipitation pressures are the runoff of agricultural lands and other pollution surfaces, which leads to the growth of suspended matter, inorganic materials (fertilizers-N, P, K, NH4+ etc.) and organic ones (PCB, Herbicides etc.). Among the biggest pressures on water bodies are industrial discharges of various activities.

Monitoring of surface water quality

River waters in the territory of the Republic of Kosovo are monitored by the Hydrometeorology Institute of Kosovo. The quality of these rivers is determined on the basis of physical, chemical and heavy metal analyses. The monitoring network has a total of 54 sampling sites (monitoring stations). The physical parameters currently being monitored are 10 physical parameters (measured 11 times a year), 39 chemical parameters (measured 11 times a year) and 8 heavy metals (2 times a year).

River monitoring stations, monitored parameters and frequency of measurements have been presented in Annex 1 and 2 of the report.

In this report, the state of the water is reflected through these indicators (parameters): Dissolved oxygen (mg/l O_2); Biochemical Oxygen Demand - BOD (mg/l O_2), Chemical Oxygen Demand - COD (mg/l O_2); Total Organic Carbon-C (mg/l); Total phosphorus – P (mg/l), Total Suspended Matter-TSM (mg/L). The values presented in the charts are as average values for 2018 and 2019.

Parameters such as dissolved oxygen (O_2), Biochemical Oxygen Demand for 5 days (BOD), Chemical Oxygen Demand (COD), show the level of organic and bacteriological pollution of water, and belong to the set of parameters expected to have pressures from the above mentioned phenomena. The presence of phosphorus (P_{tot}) causes eutrophication in the waters.

The Drini i Bardhë Basin - In this basin the selection is made for two rivers, namely Drini i Bardhë and Ereniku river, where as annual average value is presented the Chemical Oxygen Demand/mg/l O_2 (COD) and that in both rivers of the monitoring stations along the flow excluding referent stations (sources).

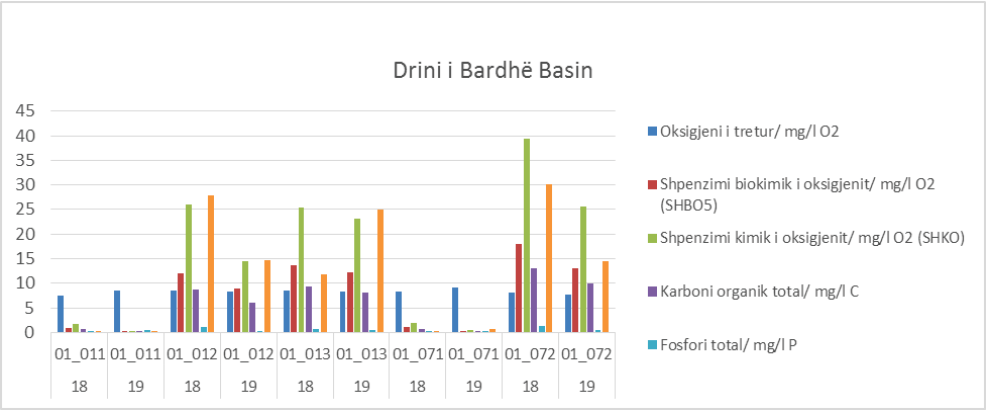


Figure 8: Indicators selected by river water quality monitoring - HMIK 2018-2019 (Drini i Bardhë Basin)

Iber River Basin - In this basin the selection has been made for these rivers: Ibri, Sitnica, Prishtevka, Graqanka and Drenica (Figure 9), where it can be seen that the river Prishtevka/Bresje, with almost all the presented parameters shows higher values, because the river stretches itself is along the most populous area and includes also industrial areas.

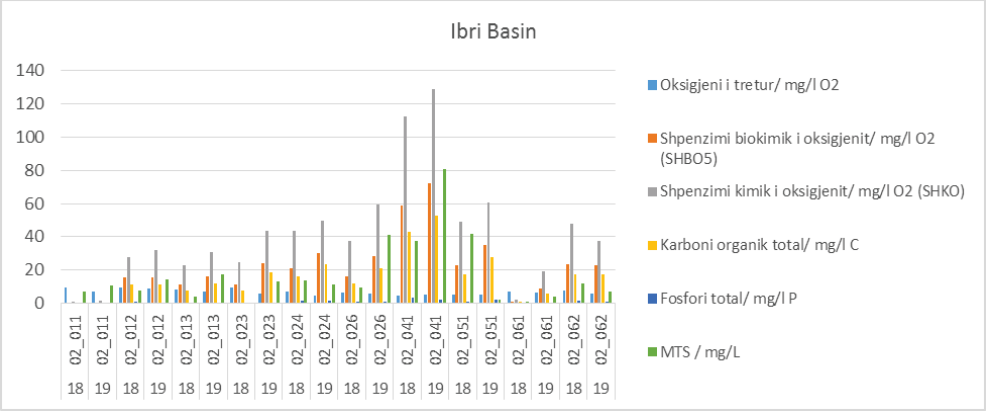


Figure 9: Indicators selected by river water quality monitoring - HMIK 2018-2019 (Iber River Basin)

Morava e Binçes and Lepenc Basin- In the Morava e Binçes Basin, the Morava e Binçes River has been selected with four monitoring stations in total (Figure 10), where almost in all its monitoring stations there is increase of these six parameters. While in the Lepenci Basin, two rivers have been selected: Lepenci and Nerodimja.

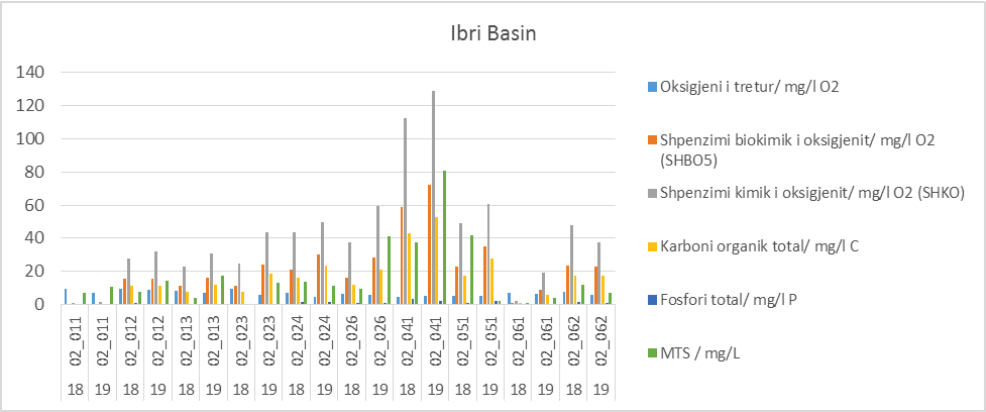


Figure 10: Indicators selected by river water quality monitoring - HMIK 2018-2019 (Morava e Binçes and Lepenc Basin)

Based on these three charts (territorial stretches of all basins), where the presence of total quantity of total phosphorus/mg/l P, based on the analyses conducted during this period, in the river waters will not have expressed impact on the surface waters, because its values shown in the 2018 chart range between 0.05 mg/l P (Ibri/ Kushtova) and 3.35 mg/l P (Prishtevka/Bresje), while in 2019 this value dropped to 2.30 mg/l P. Based on that, we can conclude that surface waters in Kosovo are not endangered by eutrophication.

Also, the indicator Biochemical Oxygen Demand (BOD_5), during the monitoring period for 2018, shows that the estimated values range between 0.33 mg O_2/l (Lepenci/ Prevalla Subain) and 59.03 mg O_2/l, in Prishtevka/Bresje river, according to which 2019 records an increase of 72.30 mg 0_2/l, which indicates the highest annual average water pollution of the rivers Prishtevka/Bresje. Even though in natural conditions clean waters do not have at all BOD quantity, this pollution is justified by the fact that surface waters are always and all around increasingly exposed to discharges of polluted waters through which are created optimal conditions for increase of BOD values.

The trend of changing water status for 2018 and 2019, for the respective monitoring stations for the indicators included in this assessment is shown in Table 19.

Table 19: The trend of river water quality 2018-2019

Monitoring stations	Dissolved oxygen/ mg/l O_2	Biochemical Oxygen Demand/ mg/l O_2 (BOD)	Chemical Oxygen Demand/ mg/l O_2 (COD)	Total Organic Carbon/ mg/l C	Total Phosphorus/ mg/l P	Total Suspended Matter/ mg/L (TSM)
RV01_011	↑	↓	↓	↓	↑	↔
RV01_012	↓	↓	↓	↓	↓	↓
RV01_013	↓	↓	↓	↓	↓	↑
RV01_071	↑	↓	↓	↓	↓	↑
RV01_072	↓	↓	↓	↓	↓	↓
RV02_011	↓	↑	↑	↑	↑	↑
RV02_012	↓	↓	↑	↑	↓	↑
RV02_013	↓	↑	↑	↑	↑	↑
RV02_023	↓	↑	↑	↑	↑	↑
RV02_024	↓	↑	↑	↑	↑	↓
RV02_026	↓	↑	↑	↑	↑	↑
RV02_041	↑	↑	↑	↑	↓	↑
RV02_051	↓	↑	↑	↑	↑	↓
RV02_061	↓	↑	↑	↑	↑	↑
RV02_062	↓	↓	↓	↑	↓	↓
RV03_011	↓	↑	↑	↑	↓	↓
RV03_012	↑	↑	↑	↑	↓	↑
RV03_013	↑	↓	↓	↓	↓	↓
RV03_014	↓	↓	↑	↓	↓	↓
RV04_011	↓	↓	↓	↓	↓	↔
RV04_012	↑	↓	↓	↓	↓	↓
RV04_013	↓	↓	↓	↓	↓	↓
RV04_021	↓	↓	↓	↓	↓	↑
RV04_023	↓	↑	↓	↓	↓	↓
RV04_024	↓	↑	↑	↑	↓	↓

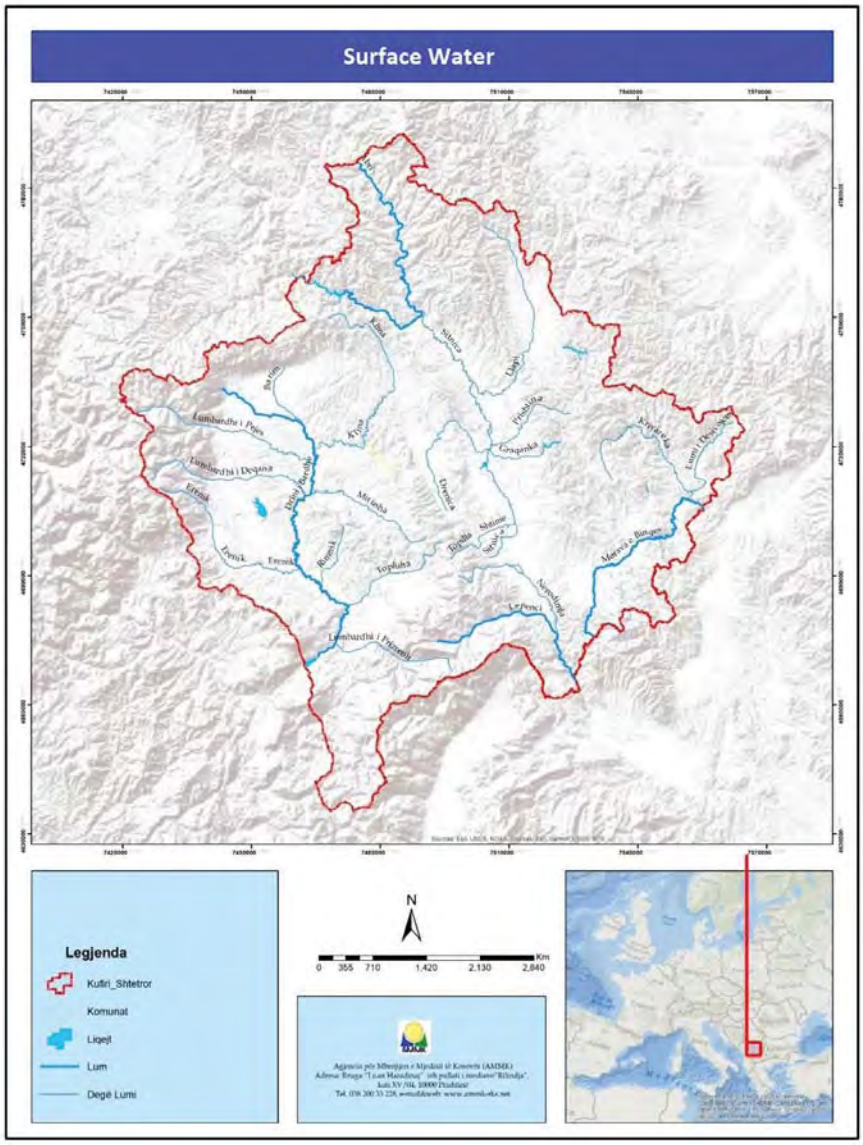


Figure 11: Surface water network in Kosovo

Monitoring the amount of water

In addition to water quality, HMIK also monitors the amount of waters. The amount of water is monitored through the hydrometric network, which consists of a number of measuring stations in the rivers where the measurements for the amount of water are taken. These stations measure the Level (h) and Feed (Q). The following Table 20 presents the data for the water Level H (cm), while Table 21 the data on Feed Q (m^3/sec), for the respective hydrometric stations, carried out in 2018 and 2019.

Table 20: Average annual values of H (cm) by metering stations 2018 - 2019[4]

Station	Avg. (cm)		Max. (cm)		Min. (cm)	
Viti	2018	2019	2018	2019	2018	2019
Gjonaj	328	191	632	325	151	143
Këpuz	132	107	446	269	71	64
Gjakova	83	130	351	364	34	79
Deçan	40	37	108	102	28	29
Gryka	80	72	170	150	43	47
Vllashnje	62	78	151	158	34	41
Prizren	53	51	143	134	32	29
Pirana	124	106	406	211	97	86
Mirusha	*[5]	52	*	113	*	33
Klina	68	66	211	130	52	50
Berkova	102	91	187	186	79	71
Leposaviç	178	148	448	242	120	119
Vragoli	86	53	250	104	50	38
Nedakovc	166	176	340	215	135	157
Drenas	*	95	*	197	*	37
Millosheva	170	125	423	207	98	98
Lluzhan	109	83	441	160	64	69
Lipjan	*	28	*	79	*	12
Konçul	255	217	560	377	186	172
Viti	36	41	107	96	23	24
Domorovc	50	102	146	170	28	80
Kaçanik	*	42	*	76	*	29
Mlika	90	86	145	137	60	61

*Table 21: Average annual values of Feed Q (*m³/sec*) by metering stations 2018-2019*[6]

Station	Avg.(m³/sec)		Max.(m³/se)		Min.(m³/sec)	
Viti	2018	2019	2018	2019	2018	2019
Deçan	1.212	0.846	10.623	9.229	0.383	0.418
Gryka	12.42	9.3	73.807	53.617	2.207	2.77
Drelaj	9.975	-	49.751	-	2.77	-
Gjonaj	-	34.097	-	209.032	-	9.576
Prizren	3.06	2.863	33.434	28.319	0.73	0.568
Lluzhan	5.135	1.811	89.829	8.176	0.937	1.12
Kaçanik	1.327	1.02	5.822	2.322	0.569	0.598
Mlika	2.558	2.3	7.737	6.762	0.953	0.991

[4] *Hydrometeorology Institute of Kosovo*

[5] *Explanatory information: Stations: Mirushë, Drenas, Lipjan, Kaçanik are re-functionalized stations in 2019, therefore for 2018 there is no data from these stations.*

[6] *Hydrometeorology Institute of Kosovo*

1.3. Land (soil)

Land is a natural resource that must be protected. Moreover, the degree of human civilization is considered to depend on the land management and treatment. All the necessary resources for humans are used from the land. Appropriate land management remains a major challenge. The entire ecological system depends on the treatment done to the land.

The land in Kosovo is used for various purposes, and in most cases, it has been used without any prior planning. Land degradation and its irreversible consumption are one of the biggest problems in the country. The loss of usable land surfaces is not only reducing the surface areas for food reproduction, but at the same time it contributes to the loss of many habitats and biological diversity. Land contamination in many parts of the country, which are also known as environmental hotspots, is another form of land loss as a result of wastes generated by industry, mining, transportation, radioactive materials and urban waste.

Data management for degraded and consumed lands is not yet at the required level. This lack of data is as a result of an inconsistent communication between the community, local and central institutions. In order to have a proper planning for land use such as for agricultural products, construction or economic activities, we need to have a database with accurate data.

Land use

Land use is characterized by different forms and uses for vital interests. Land surface used whether in terms of infrastructure or even for agricultural use refers to the total land surface area consumed, including arable land, meadows and pastures, perennial crops and gardens used by agricultural households, regardless of the type of ownership.

According to forest inventory, forests and forest lands represent the main category of land use with around 47%, agricultural lands 29%, meadows and pastures 15%, settlements with about 4.5%, water and wetlands 0.6%, while other lands with about 3.9%.

According to the data of the Agricultural Households Survey, the total utilized surface area of agricultural land is 416 thousand ha (2017), most of which consists of meadows and pastures (including common land) 218.3 thousand ha or 52.5%,

while arable land (excluding vegetables) is 186.9 thousand ha or 44.9%[7]. In 2018, the utilized surface area of agricultural land is 419 thousand ha. Of these, 218,152 ha are meadows, pastures and 188 thousand ha of arable land.

In this context, land degradation also comes from deforestation. Only in 2018, the forest damage is estimated to be 14019 m^3. Intentional forest fires in the entire territory of the country are estimated to be 949 ha, while 296 ha are afforested. Also there is a limited progress in the revitalization of forest lands, where the rehabilitation only from the use of aggregates has been done only with a surface area of over 10 ha. From this, it is noticed that there has been a bad trend in terms of the revitalization of forest lands.[8]

Land cover - According to the 2018 data from satellite images, which were processed by the Kosovo Environmental Protection Agency within the project Implementation of CLC[9] 2018 in the Western Balkans, supported by the European Environment Agency, in Kosovo 30 land coverage classes have been identified out of 44 in the total CORINE nomenclature[10].

These classes are grouped into 5 main classes, where forests and semi-natural zones dominate with about 57% and agricultural lands with about 38%, while artificial surface areas are represented with over 4.6% of the total. About 0.3% of the covered lands are classified in the class of water bodies and wetlands[11]. These land classes utilized in ha during the years 2000-2018, are presented in Table 22, while in Figure 12 it is shown the map of land utilisation categories for 2018, by CLC categories.

Table 22: Land utilisation (ha) by categories 2000, 2006, 2012 and 2018[12]

Type	ha 2000	ha 2006	ha 2012	ha 2018
Artificial surface areas (construction zone)	24978.47	32919.39	50597.97	51057.52
Agricultural zone	444320.72	439971.2	416336.95	416168.22
Forests and semi-natural zones	618895.06	614290.59	621110.61	620819.78
Wetlands	0	985.101	131.348	131.348
Water bodies	2323.47	2351.43	2340.84	2340.84
Total	1090517.7	1090517.7	1090517.7	1090517.7

[7] *Green Report, 2018/MAFRD*
[8] *Green Report, 2019 / MAFRD*
[9] *CLC - CORNIE Land Cover (Land coverage according to CORNIE methodology)*
[10] *Coordination of environment data*
[11] *Implementation of CLC2012 in the West Balkan Countries/EEA 2014*
[12] *Kosovo Forest Inventory 2012 / KFA*

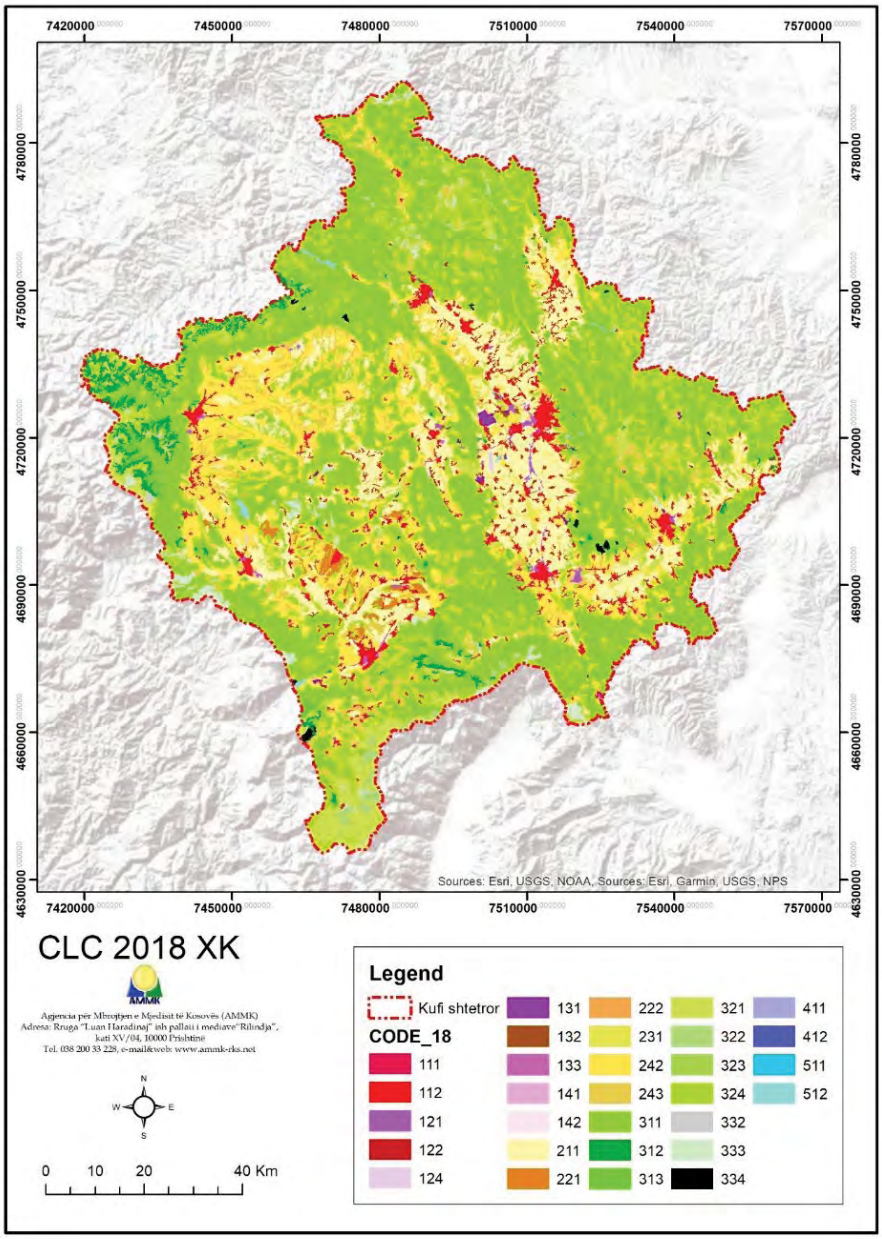


Figure 12: Map of land cover by CLC categories

Land monitoring

The institutions responsible for land monitoring are: Kosovo Agricultural Institute and Kosovo Hydrometeorological Institute. Both of these institutions operate within the respective ministries. In addition to the competencies for monitoring agricultural inputs, food and preservation of the living environment, soil fertility, the Agricultural Institute of Peja also performs many technical and scientific activities related to soil analysis.[13]

The Law on Land Regulation (No. 04/L-040, date 2012), defines the institutions responsible for land regulation, such as; Ministry, Municipalities, Kosovo Cadastral Agency and Municipal Cadastral Office.

A study on agricultural land pollution has been conducted thanks to the EU funds and was implemented by GIZ and NIRAS. The project was implemented within 2 years, 2013-2014. This project has monitored agricultural lands in 17 municipalities of Kosovo, which has included 214,749 ha. Lands near industrial sites have resulted as contaminated.

Based on the data assessments, we conclude that land degradation, indiscriminate utilisation for certain sectors is as a result of several factors, such as;

- ✓ Lack of planning by local institutions for land utilisation;
- ✓ Non-implementation of laws and bylaws related to land;
- ✓ Pollution of lands from industrial wastes, mining, wastes;
- ✓ Pollution of lands from agriculture activity, by using chemical preparations/pesticides, etc.
- ✓ Degradation of lands from exploitation, construction and erosion;
- ✓ Urban and industrial wastewater discharges;
- ✓ Scattered settlements and concreting of soil;
- ✓ Numerous illegal constructions and urban chaos;
- ✓ Fragmentation of lands into small plots and loss of their functions;
- ✓ Lack of land consolidation or regulation in terms of agro-technical-geodetic and legal property issues of lands, whether their division or amalgamation;
- ✓ Lack of land information system;
- ✓ Lack of experience for sustainable land utilisation by municipalities;
- ✓ Lack of designing and implementation of sustainable land management policies.

[13] *www.mbpzhr-ks.net*

1.4. Protected areas and biodiversity

Chronology of declaration of protected areas

In the chronology of declaration of the nature protected areas in Kosovo can be divided into three very important periods of time which are linked with the general developments in Kosovo.

The period 1950 – 1970, represents the initial phase of nature protection and the declaration of nature protected areas in Kosovo. It starts with the declaration of the first area in 1950 that was "Gazimestan". Until the beginning of 70s, the number of protected areas was gradually increasing reaching up to 19 areas. In this period were putted under protected the following: Shpella e Gadimes and some other monuments with botanic importance such as: Rrapi në Marash, Trungjet in Isniq, etj.

The period 1970-1988 is characterized by the declaration of the greatest number of nature areas.

The reason for this success is the establishment of the Kosovo Office for Protection of Nature in 1974, by the Assembly of Kosovo. During this period, 32 nature areas have been put under protection in total from which will be distinguished: the reserve "Bifurkation of Nerodime River", First National Park "Mali Sharr"(1986), Spring of Drini i Bardhë with the Cawe and Waterfall in Radavc (1983) and some other monuments of nature.

The period after 2000, characterizes the reestablishment and re-functioning of Kosovo institutions, including also the institutions for nature and environmental conservation, respectively the Institute of Nature Protection.

During this period, over 170 different areas have been taken under legal protection and many more have been proposed for protection. Among the protected areas should be mentioned the National Park "Bjeshkët e Nemuna" (2013), NP "Sharri" (extended), Wetland of Henci - Radeva, etc., whereas most of them are natural monuments with botanic, hydrologic, geomorphologic character, etc.

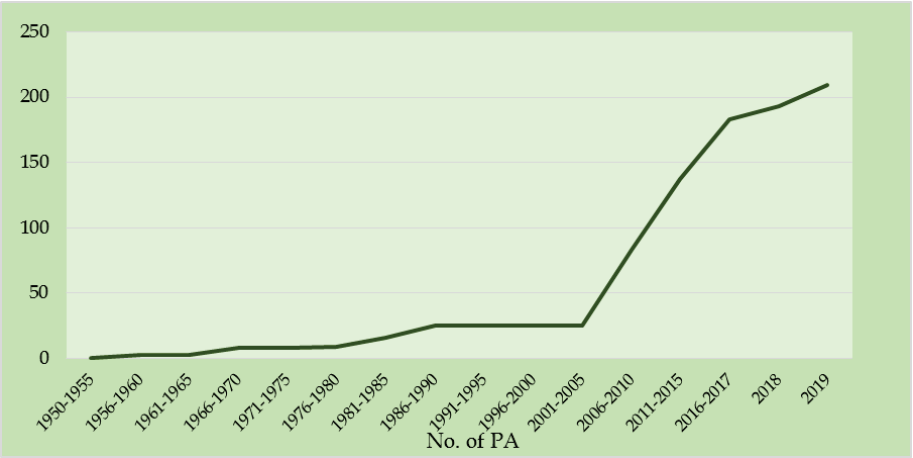


Figure 13: Number of Nature Protected Areas 1950 – 2019[14]

Protected nature areas

During 2019, the total number of protected areas was added 16 new protected areas (15 nature monuments and 1 protected landscape) - in the territories of Municipality of Mitrovica and Obiliq: Ahishtat e Llomoves in Selac, Cave of Kaçandoll in Kaçandoll, Trepçali Waterfall in Milenicë, Kroni i Akullit in Rahova, Trungjet e Ahut (*Fagus Sylvatica*) in Bajgora, Trungjet e Rrënjes (*Quercus robur*) in Sibovc, Trungu i Manit (*Morus nigra L.*) in Mazgit, Mineral Water Source in Graboc i Epërm, etc. In the same period, natural values in the Municipality of Prizren were identified and studies (professional justifications) have been prepared for the natural values in the municipalities of Viti and Gjilan, which were proceeded for approval in the respective Municipal Assemblies.

The total number of nature protected areas in Kosovo (2019) is 210, and includes a territory of 1251814.1 ha (11.53% of the territory of Kosovo). These areas include: 19 Nature Strict Reserves ("Arnen's Reserve", "Maja e Ropsit", "Rusenica", "Kamilja", etc.), 2 National Parks (NP "Sharri" and NP "Bjeshkët e Nemuna"), 182 Nature Monuments ("The spring of Drini i Bardhë with Radavc Cave", "Gadime Cave", "Mirusha Waterfall", "Rugova Canyon", "Canyon of Drini i Bardhë at the Fshajtë's Bridge", "Trungu i Rrapit in Marash", etc.), 1 Nature Park ("Pashtrik Mountain and Vermica Lake"), 5 Protected Landscapes ("Shkugëza" and "Deçani Pines", etc.) and 1 Special Protected Area of Birds ("Wetland of Henci-Radeve"). Greatest territory of protected areas is taken up by the National Parks: "Bjeshkët e Nemuna" and "Sharri", Nature Park "Pashtrik Mountain and Vermica Lake", Protected Landscape "Germia" and MNRV "Mirusha Waterfall", etc.

[14] *Kosovo Institute for Nature Protection*

Table 23: Nature Protected Areas by categories 2019

IUCN category	Name	No.	Surface area/ha	Participation in the total surface area of the PA	Participation in the Kosovo surface area
I	Nature Strict Reserves	19	10,882.92	7.7	0.99
II	National Parks	2	115,957	82.2	10.6
III	Nature Monuments	182	6,039	4.3	0.56
V	Natural Parks	1	5,934	4.2	0.5
V	Protected Landscape	5	2.152	1.5	0.2
V	Special Protected Area of Birds	1	109.5	0.08	0.01
	Total	**210**	**125814.1**[15]	**100**[16]	**11.53 %**

[15] *Explanation: The percentage is derived from the total surface area, including the protected areas within national parks.*

[16] *Explanation: The percentage is derived from the total surface area, including the protected areas within national parks.*

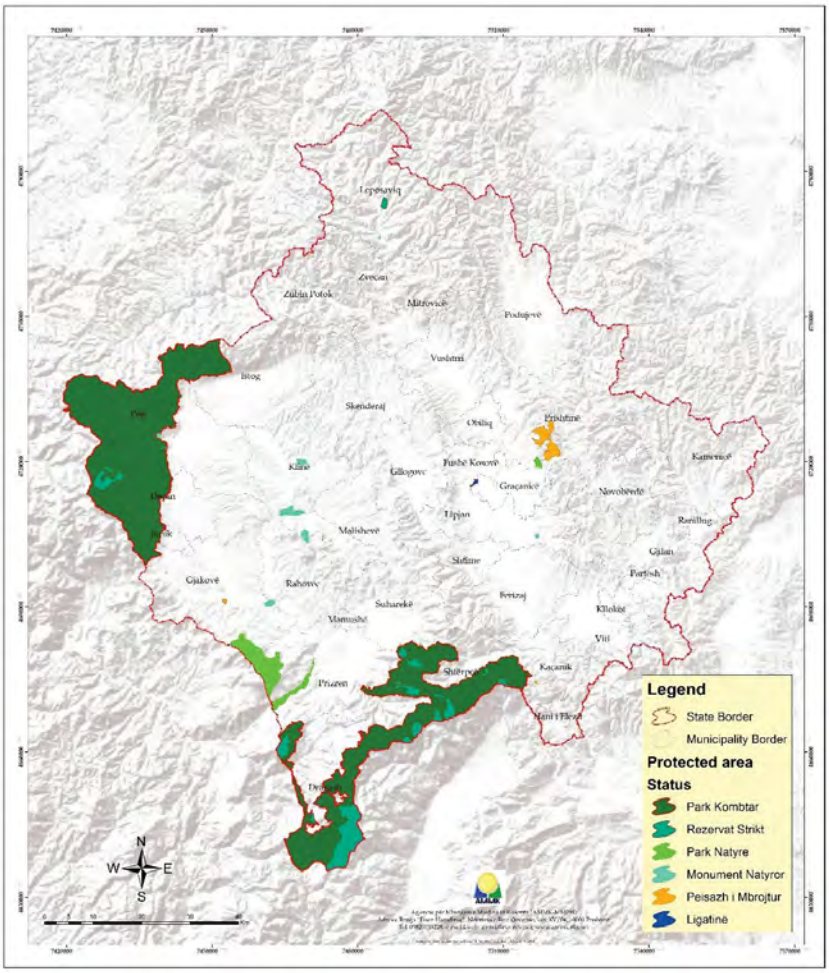


Figure 14: Map of nature protected areas by categories

Biodiversity

Because of the geographical position, Kosovo is a very rich region in terms of biodiversity. The climate and ecological conditions have enabled the existence of rich flora and vegetation with the presence of herbaceous, shrub and tree forms.

Given the importance of biodiversity, it is clear that the preservation and taking preventive measures is a very important task, which has a direct impact on its protection.

Flora

Some plant species are endemic to the Balkans, i.e. they are found throughout the Balkans. In our country, it is estimated that there are 2600 - 2800 different species of high plants, among them, in addition to endemic plants, also steno-endemic plants. The latter are plants that grow only in our country and nowhere else, and there is a total of seventeen (17) plant species thereof.

Steno-endemic plants are widespread in certain locations and have a small expansion in terms of spatial, the number of their varieties is small and are rich in floristic aspect. They grown mainly in the territory of NP "Sharri" and NP "Bjeshkët e Nemuna".

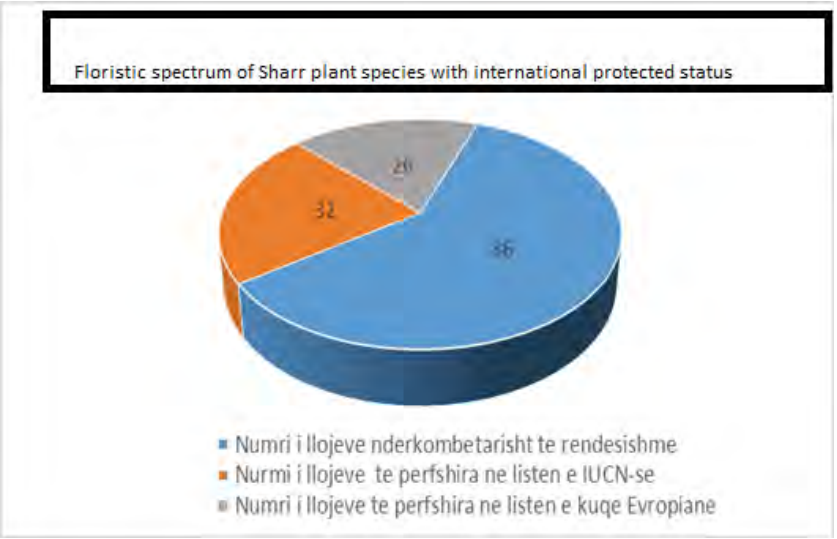


Figure 15: International status plants in NP "Sharri"

Of the total number of plants, about 2000 vascular species have been identified in the Sharr Mountains, 86 species have been declared as of international importancy, 26 species are included in the European Red List, while according to IUCN criteria, 32 species have been included in the Red List of Threatened Plants.

In Bjeshkët e Nemuna, 797 vascular plants have been identified, of which 128 are considered as endemic. The flora of Kosovo is also represented by species that have a narrow areal and are considered as rare and endangered plant species. These negative consequences came are as a result of illegal use and misuse of plant species that simultaneously affect their reduction.

The Red Book of Vascular Flora of the Republic of Kosovo is a document on the flora present but that can be extinguished. The preservation of floristic diversity and undertaking prevention measures is a very important task that has a direct impact

on the global environment protection. Destruction of flora and fauna occurs as a consequence of the action of anthropogenic factor related to the negligence, lack of interest and lack of knowledge. Consequently, nowadays in the world, and in Kosovo, various habitats have been destroyed, where also plant and animal species that are unknown for the science have extinguished[17].

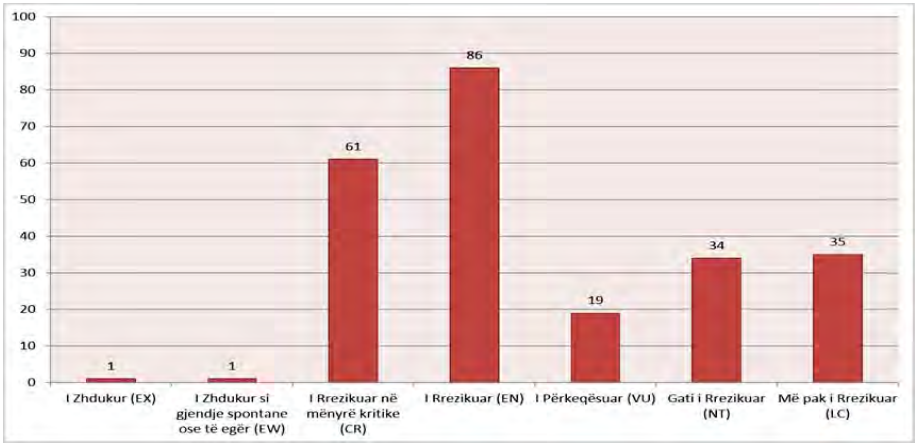


Figure 16: Number of plant species by threatening category

According to the monitoring conducted in 2018, in protected areas of the first category where the Strict Reserves belong, which are within the National Parks "Sharri" and "Bjeshkët e Nemuna", the condition of plant species with endemic, steno-endemic, medicinal character, etc., was considered as relatively good.

It should also be mentioned that the use without criteria of some plant species, with particular emphasis on those of a medical nature, such as: Gentiana (*Gentiana lutea*) and others, has damaged not only the species but also their habitats. Most of these impacts come as a result of actions of the anthropogenic factor, thus affecting the reduction of natural values and biodiversity in the reserves, according to which are declared in the first category of protection.

Based on the insofar studies, these areas constitute a very important potential in terms of natural values and biodiversity. However, since in some parts the situation has changed, due to interventions therein, and given that the knowledge of their general values is necessary, we consider that continued studying thereof is of great importance. At the same time, this would enable accurate identification of their parts as central areas recognised for special natural values and biodiversity. This will be considered as a good basis for the accurate definition of areas to be protected, preserved and conserved in the future.

[17] *Red Book of Vascular Flora of the Republic of Kosovo - Prishtina, 2013*



Image: Sheep grazing in the Strict Reserve "Shutman"

Vegetation

Kosovo is known for very rich vegetation that constitutes characteristic ecosystems, which are also habitats for many animal species. The most developed forests are located within the National Parks "Sharr Mountains" and "Bjeshkët e Nemuna", their vegetation consists of three vegetative generation: low mountain belt, middle mountain belt and high mountain belt.

These forest communities constitute very important ecosystems, which, as such, must be preserved, because the preservation of these resources creates conditions for the preservation of plant and animal species. However, in some cases, interventions have been caused in the forest vegetation, as a result of the development of various activities in the environment, such as the construction of roads, illegal logging, burning, activity of quarrymen, etc. Therefore, these phenomena have caused negative impacts on natural values and ecosystems in general.



Image: Damages to the forest vegetation within protected areas

Fauna

Within the regular activities for monitoring and inventory of biodiversity in nature protected areas, during 2019, Kosovo Nature Protection Institute (KNIP) continued monitoring fauna through camera traps in two National Parks "Sharri" and "Bjeshkët e Nemuna". This method of monitoring wild fauna, started in 2016, and generates information about the presence of different species without disturbing them.

During this activity, carried out jointly with the officials of both National Parks, camera traps were placed, mainly in the parts which are believed to be possible areas of wildlife movement.

In most of the places where the cameras have been placed, different species of mammals were photographed and recorded that were previously thought not to be present in these parts, such as: Brown bear (*Ursus arctos*), Roe deer (*Capreolus capreolus*), Chamois (*Rupicapra rupicapra*), Wolf (*Canis lupus*), Red fox (*Vulpes vulpes*), Pine marten (*Martes martes*), Badger (*Meles meles*), Wild boar (*Sus scrofa*), Brown Hare (*Lepus europaeus*), Wild cats (*Felis sylvestris*), etc.



Images: Some of the fauna species recorded by camera traps during 2019

Red Book of Fauna

Within the Kosovo Environmental Programme (KEP), funded by the Swedish Government - SIDA, the Biodiversity Inventory project (second component) has been implemented through the Red Book of Fauna. Within the project for drafting the Red Book of Fauna, a large number of activities have been carried out, such as: Preparation of the work methodology for drafting the Red Book of Fauna (as per the IUCN criteria), drafting of the work plan, preparation of terms of reference for experts, preparation of the content of the Red Book of Fauna. The implementation of this project is of a great importance for MESP, MAFRD, UP, NGO-s, etc., as for the first time in Kosovo it has been carried out fauna inventory, and based on the data of the Red Book of Fauna, policies and strategies for protection and preservation of fauna in Kosovo will be drafted.

In the Red Book of Fauna of the Republic of Kosovo are included 306 species, belonging to the following animal groups: Gastropoda, Bivalvia, Oligochaeta, Hirudinea, Arachnida (Araneae, Mesostigmata), Malacostraca, Diplopoda, Insecta (Ephemeroptera, Plecoptera, Odonata, Coleoptera, Mecoptera, Diptera, Trichoptera, Lepidoptera), Cyclostomata, Actinopterygii, Amphibia, Reptilia, Aves and Mammalia. The number of observed species is much higher, but because of the limited space, only these species are included.

During the animal investigation within the implementation of Kosovo Environmental Programme, the Component 2 of the Red Book, a new species for science has been found, belonging to the insects, order Trichoptera, juliani group of the Potamophylax genus, which is endemic of the Balkan Peninsula.

A large number of species of Ephemeroptera, Coleoptera, Mollusca, Araneae and others groups are still being identified, and the completion of their determination can produce important results for the fauna of the Republic of Kosovo. The largest number of species included in the Red Book of Fauna of the Republic of Kosovo belongs to the following groups: Insecta (140 species), Mammalia (39), Aves (24), Reptilia (20) and Gastropoda (20), while other groups are represented with the smaller number of species.

The largest number of species included in the Red Book of Fauna of the Republic of Kosovo belongs to the categories: Data Deficient (DD) (90) and Near Threatened (NT) (80), while the smallest number of species belongs to categories Endangered (24) and Critically Endangered (25).

These data reflect the factual situation in animal diversity research in Kosovo, where there is still a substantial lack of knowledge for a large number of species in terms of population data, the number of individuals, their trend and the threatening factors. This is an emergency warning to start with monitoring of these species in

order to have them assessed against the IUCN criteria, before their situation becomes irreversibly worsened from anthropogenic and other threats.

The largest number of threats to the assessed species belongs to these threat groups: the use of biological resources, natural system modifications, climate change and severe weather, human intervention and disturbance, pollution and residential and commercial development. Logging and forest harvest, unmanaged recreational activities, exploitation of surface waters, especially for agricultural purposes, household and urban wastewater, habitat shifting and alteration, and tourism and recreation areas are the most frequent specific threats that threaten evaluated species.

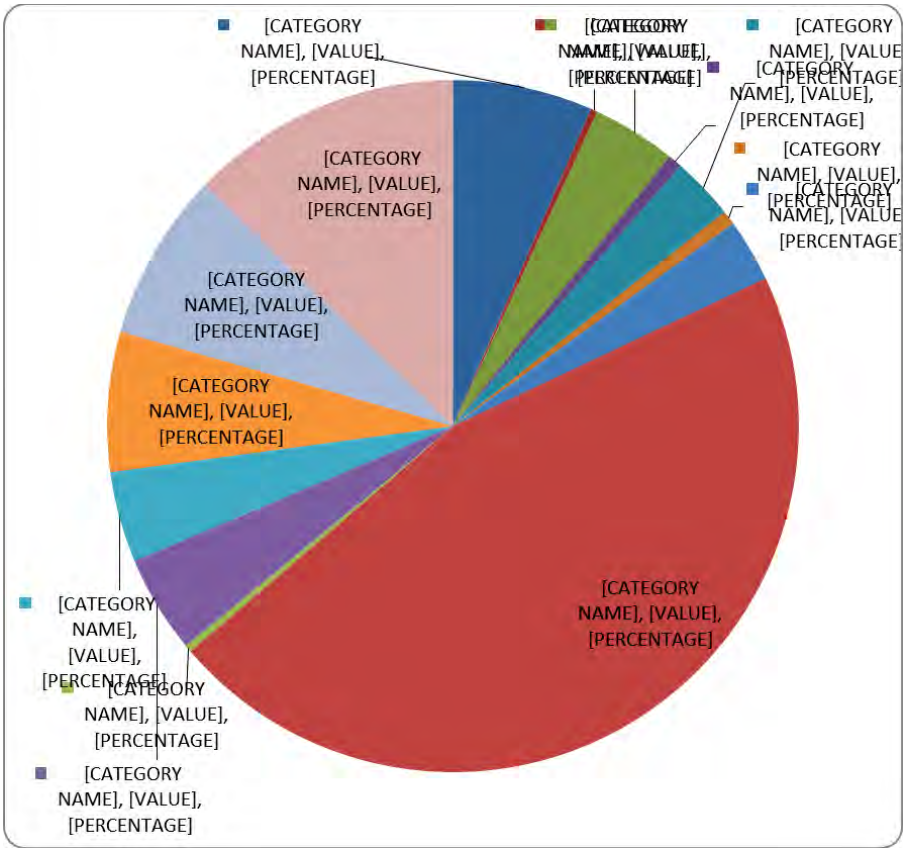


Figure 17: Number of species within different animals groups included in the Red Book of Fauna of the Republic of Kosovo [18]

[18] *Red Book of Fauna of Kosovo, KEP/MESP 2019*

Figure 17 shows the number and % of species within different groups of animals included in the Red Book of Fauna of the Republic of Kosovo, while Table 24 shows the distribution of species included in the Red Book of Fauna of the Republic of Kosovo in six categories according to IUCN.

Table 24: Distribution of species included in the Red Book of Fauna of the Republic of Kosovo in six categories according to IUCN

Groups/Categories	Critically Endangered [CR]	Endangered [EN]	Vulnerable [VU]	Near Threatened [NT]	Least concern [LC]	Data Deficient [DD]	Total
Gastropoda			10	10			**20**
Bivalvia		1					**1**
Oligochaeta		1		2	2	7	**12**
Hirudinea						2	**2**
Arachnida					1	8	**9**
Araneae					1	7	**8**
Mesostigmata						1	**1**
Malacostraca			1			1	**2**
Diplopoda			3			6	**9**
Insecta	20	11	19	42	13	35	**140**
Ephemeroptera		4		4	2	2	**12**
Plecoptera	5	1					**6**
Odonata				4	1	7	**12**
Coleoptera			3	2	4	17	**26**
Mecoptera						1	**1**
Diptera						2	**2**
Trichoptera	15	1	7	20	1	2	**46**
Lepidoptera		5	9	12	5	4	**35**
Cyclostomata				1			**1**
Actinopterygii	1	1	1	4	2	5	**14**
Amphibia		2	1		3	7	**13**
Reptilia			1	8	8	3	**20**
Aves	3	6	4	4		7	**24**
Mammalia	1	2	1	9	17	9	**39**
Total	**25**	**24**	**41**	**80**	**46**	**90**	**306**

1.5. Waste

State in the waste sector

Waste management in the Republic of Kosovo is regulated by **Law no. 64/L-060** on Waste, and by other bylaws. Through a proper implementation of the legal basis, as well as following the trends in the field of waste management by the actors involved in this field, the environmental situation in Kosovo will continue to improve and advance.

From the production to the final treatment of waste, which so far dominates their classic disposal in sanitary landfills, the situation of waste management in Kosovo is not good.

Kosovo's waste management system does not provide complete data on waste generation, collection, treatment and disposal. Based on the data, it results that the generation of municipal, hospital and industrial waste has been increasing from year to year.

The condition of sanitary landfills in Kosovo continues to be dire due to many factors, with particular emphasis on their poor landfill management. Regarding industrial landfills inherited from mining and industrial activities, but also active ones, their condition is not fully known, therefore, it is required in the future to make an environmental assessment of this category of landfills.



Image: Sanitary landfill Prishtina (Mirash)

Generation of municipal waste

At the local level, no analysis has been conducted on the waste composition, which would provide data on the level of generated waste in different municipalities, enabling the segregation of differentiated data between rural and urban zones. The total amount of waste generated can only be calculated based on an average generation per capita.

According to the Municipal Waste Management Report for 2018 and 2019, calculation of the waste generation rate per capital (kg/day) can be conducted, based on the number of served households, which in the country level the average has been calculated to be 0.78 kg per capita/day for 2018, respectively 0.73 kg/capita/day for 2019.

Considering the number of 1,779,521 inhabitants in the country (as per 2011 census) and the annual amount of municipal waste per capita, which is approximately 0.78 kg/capita/day for 2018 and 0.73 kg/capita/day for 2019 , the total amount of generated waste turns out to be approximately 506,629 tons/year/2018, respectively 476,479.40 tons/year/2019.

Table 25: Municipal waste generation[19] during 2018 and 2019

Region	2018		2019	
	kg/capita/year	*kg/capita/day*	*kg/capita/year*	*kg/capita/day*
PRISHTINA REGION	232.95	0.64	247.00	0.68
MITROVICA REGION	338.34	0.93	274.38	0.75
PEJA REGION	376.74	1.03	383.13	1.05
PRIZREN REGION	289.11	0.79	226.62	0.62
FERIZAJ REGION	274.62	0.75	285.51	0.78
GJILAN REGION	297.28	0.81	344.45	0.94
GJAKOVA REGION	327.18	0.9	230.13	0.63
KOSOVO	**284.73**	**0.78**	**266.24**	**0.73**

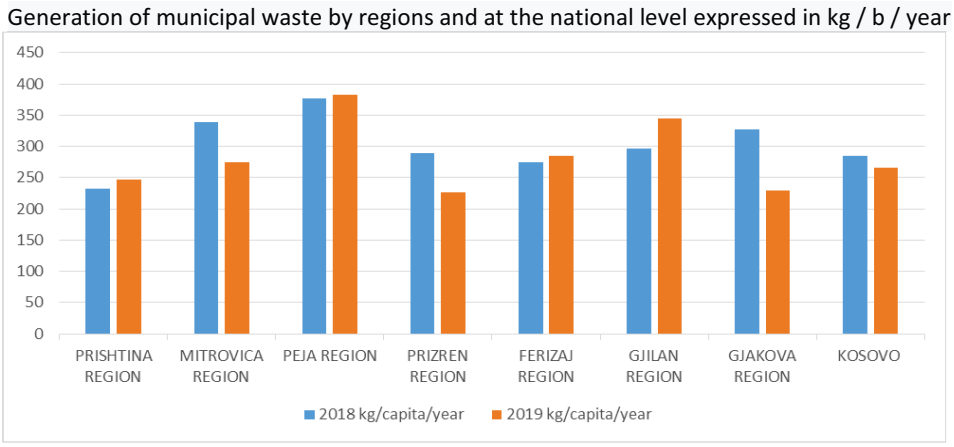


Figure 18: Waste generation during 2018 and 2019

[19] ***Clarification information:*** *The report is generated from the reporting of 33 municipalities for 2018 (the following municipalities have not been included: Shterpce, Kllokot, Leposavic, Zubin Potok and Mitrovica North), respectively from the reporting of 36 municipalities for 2019 (the following municipalities have not been included: Leposavic and Mitrovica North)*

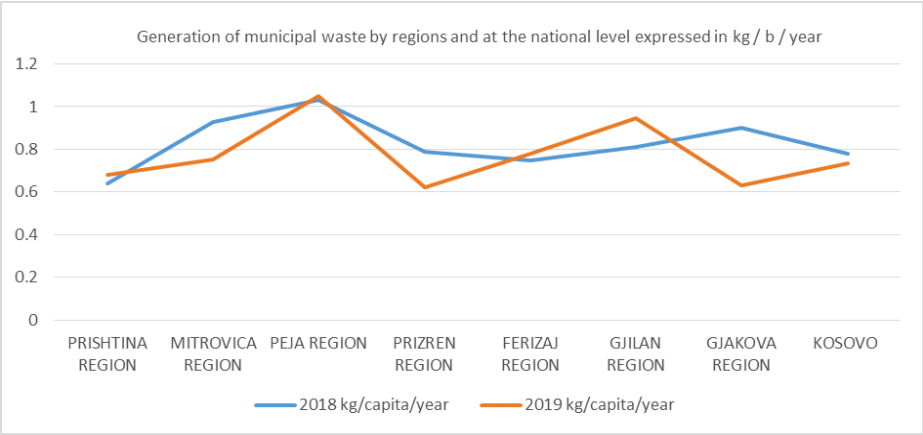


Figure 19: Waste generation during 2018 and 2019

Waste service coverage rate

Overall service coverage rate by the end of 2018 in Kosovo is around 75.6%, while in 2019 we have an increase of service coverage rate by 2.10% compared to the previous year, thus, the overall service coverage rate in 2019 at the national level reaches 77.70%

Some municipalities, such as: Prishtina, Fushë Kosova, Prizren, etc. have 100% coverage. This is because the number of households that are provided with waste service (billed) is much higher than the existing number of households according to the KAS census (2011). This due to the fact that municipalities have taken over the collection fee from the operator and the service provision has been extended to the clients, filtering them through property tax data, or even given the fact that in some municipalities, such as Fushë Kosova, KAS 2011 census does not reflect the real situation, given the significant increase in the number of population over the last decade. Hence, the number of households is much higher than in the 2011 census dat.

It should also be made clear that in some municipalities the service is provided by private companies that are licensed for waste collection, but are not contracted based on public procurement procedures, therefore, the (billing) data coming from these companies were not used for the calculation, and also due to the impossibility of verification of data provided by some municipalities were not included in the calculation, which affected the results in terms of coverage in some regions.

Table 26: *Waste collection services coverage by regions and at the national level in 2018 and 2019*

Region		Service coverage rate for households (2018)	Service coverage rate for households (2019)	Increase or decrease of the coverage rate 2018-2019 (% points)
R1	Prishtina Region	80.40%	85.20%	4.70%
R2	Mitrovica Region	82.70%	77.50%	-5.20%
R3	Peja Region	78.10%	85.10%	7.00%
R4	Prizren Region	83.30%	95.20%	11.90%
R5	Ferizaj Region	58.30%	63.20%	4.90%
R6	Gjilan Region	60.70%	55.40%	-5.30%
R7	Gjakova Region	60.20%	72.50%	12.30%
	Kosovo	**75.60%**	**77.70%**	**2.10%**

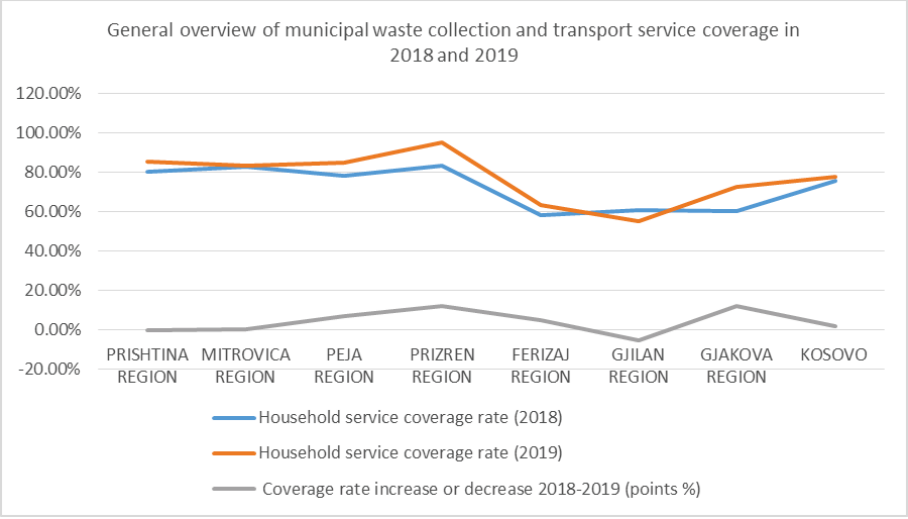


Figure 20: Municipal waste collection service coverage (2018 and 2019)

Illegal dumpsites

In March 2019, according to the reporting of municipalities, which is based on field research, in relation to 2018 at the national level have been identified 2529 illegal dumpsites, respectively from the field research conducted in June 2020, in relation to 2019, have been identified 1489 illegal dumpsites. This indicates a reduction of illegal dumpsites to 757 less, compared to the previous research. As it can be seen in

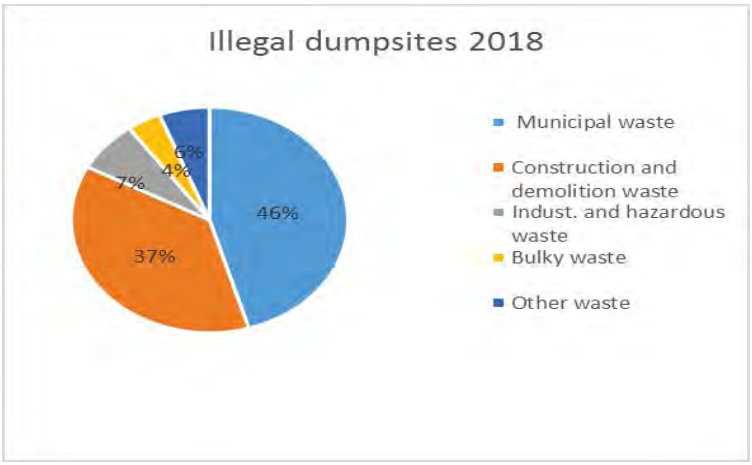
the following table, the region with the largest number of illegal dumpsites in both researches conducted was the region of Prishtina, while the region with the lowest number of illegal dumpsites was the region of Gjakova.

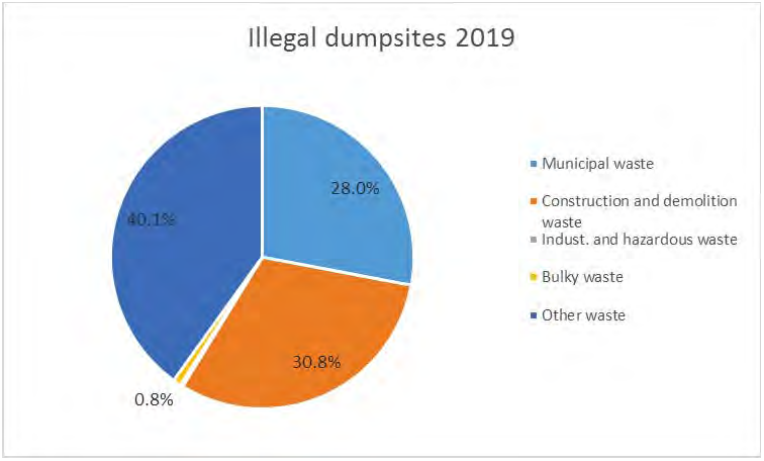
Illegal dumpsites that were identified were classified by size and type of waste, into three categories: large, medium and small, based on their estimated volume.

Illegal dumpsites were also categorised by the type of waste, into: landfills are classified as: (a) household waste landfills; (b) construction and demolition waste landfills; (c) hazardous-industrial waste landfills; (d) bulky waste landfills; and (e) other (mixed) waste landfills.

Table 27: Distribution of illegal dumpsites by regions

No.	Regions	Total illegal dumpsites 2018	Total illegal dumpsites 2019	Increase-elimination of illegal dumpsites 2018-2019
R1	PRISHTINA REGION	582	313	-269
R2	MITROVICA REGION	221	222	1
R3	PEJA REGION	342	141	-201
R4	PRIZREN REGION	448	298	-150
R5	FERIZAJ REGION	158	127	-31
R6	GJILAN REGION	377	325	-52
R7	GJAKOVA REGION	118	63	-55
KOSOVO		**2246**	**1489**	**-757**





Figures 21 and 22: Illegal dumpsites by type 2018 - 2019

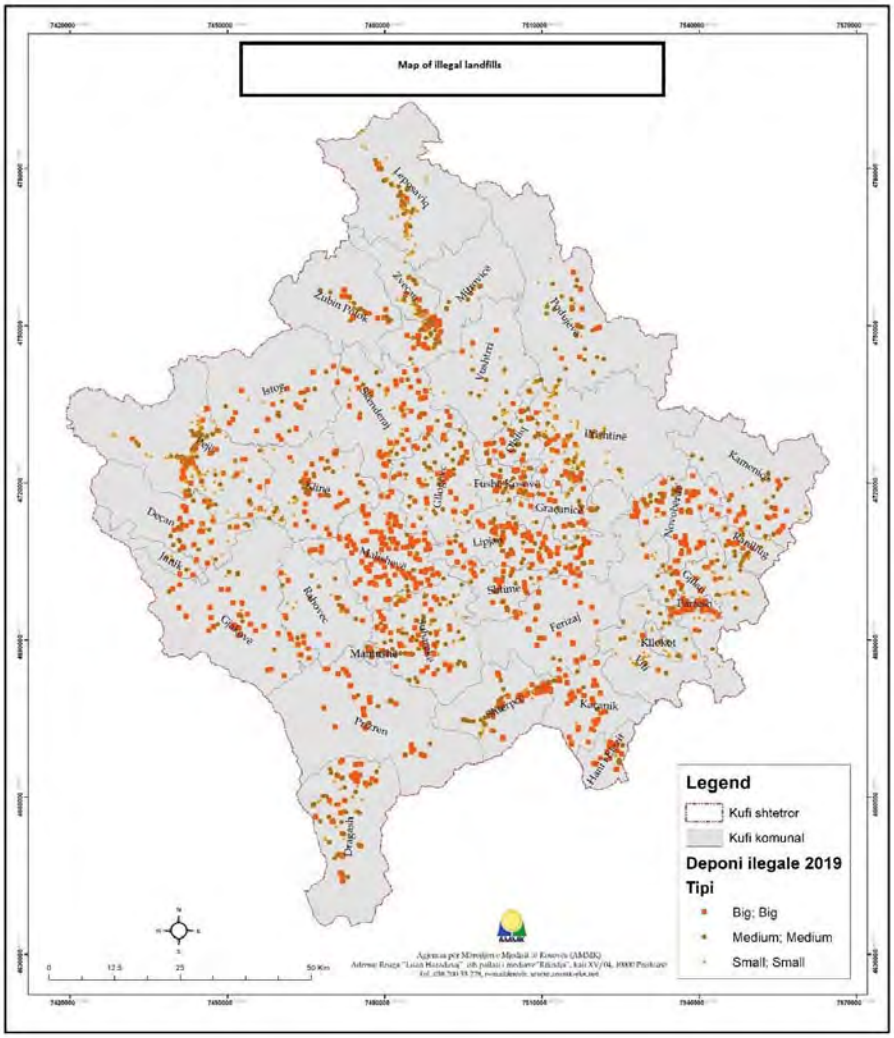


Figure 23: Map of illegal dumpsites in Kosovo for 2019

Compliance with waste management legal and planning framework

Legal framework, including the Law on Waste and other sublegal acts, defines the duties and responsibilities of municipalities for waste management within their territory. Planning documents at the central level also provide a framework for development at local and regional levels and adopt measures aimed at accomplishing the set goals and objectives.

Some of these duties are of a crucial importance to enabling the municipalities to implement the law and the plans in the field of waste management, such as:

- ✓ Drafting and adoption of Municipal Waste Management Plan (MWMP),
- ✓ Drafting and adoption of Regulation on Waste Management,
- ✓ Employment of a full time Waste Management Officer, whose job description ensures that at least 50% of his/her responsibilities cover waste management,
- ✓ Employment of an environmental inspector whose job description provides responsibilities in the field of waste management,
- ✓ Contracting licensed operators for the collection and transportation of municipal waste, by implementing procurement procedures,
- ✓ Contracting licensed operators for the collection and transportation of waste from construction and demolition of construction sites, by implementing procurement procedures,
- ✓ Setting service fees by going through the fee process for the collection, transportation and disposal of municipal waste, by calculating service costs, profiling customers and setting service fees, and 29
- ✓ Designation of a facility for the collection, treatment and disposal of waste from the construction and demolition of buildings.

Municipalities have reported on these processes and their implementation (until March 2019, respectively until April 2020) on a questionnaire that has also outlined the requirements for the relevant documentation for verification. Based on these reports and the verification of these data later on, we have a overall picture of the implementation of processes in accordance with waste management legal and planning framework.

At Kosovo level, the average process implementation rate in 2018 is 57.58%, while in 2019 we have a slight increase, and the average process implementation rate reaches to 59.03%.

The process that has not been implemented by the municipalities is process 6, as they were unable to contract licensed companies for the collection and transport of construction and demolition wastes, as so far no company has been licensed for this purpose. However, some municipalities have taken steps in managing this category of waste, contracting public companies operating within the territory of municipalities, or even private construction companies or other forms.

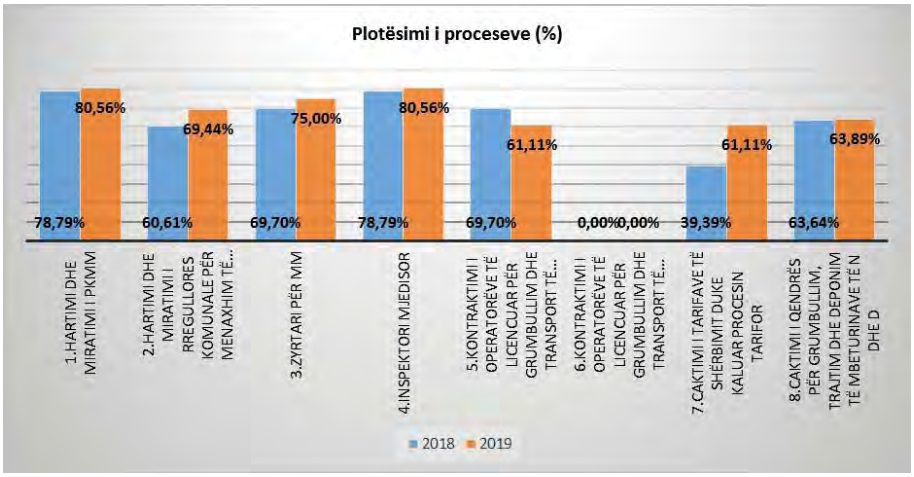


Figure 24: Level of compliance with processes implementation rate at the country level, expressed in %

Municipal waste deposited in sanitary landfills

The amount of waste generated and deposited in the sanitary landfills in Kosovo is increasing as noted in the following table. The largest amount of waste is deposited in the sanitary landfill in Mirash (Prishtina), whereas the smallest amount in the sanitary landfill in Dragash.

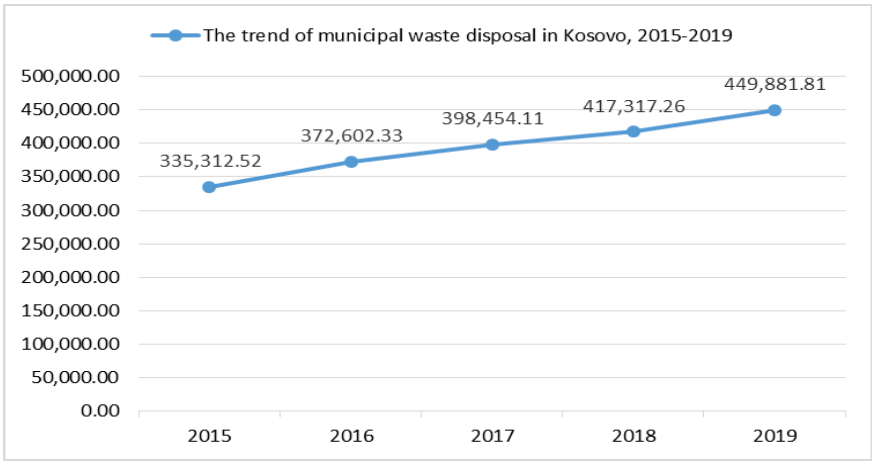


Figure 25: The trend of municipal waste disposal in Kosovo, 2015-2019

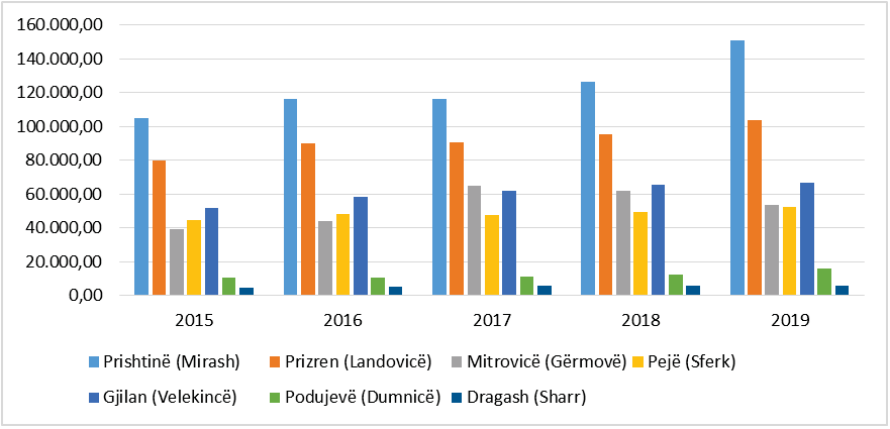


Figure 26: The amount of municipal waste deposited in sanitary landfills in Kosovo, 2015-2019

In the sanitary landfills managed by KLMC: namely Mirash (Prishtina), Dumnica (Podujeva), Velekinca (Gjilan), and Landovica (Prizren), the waste disposal for 2019 compared to 2018 has increased by 37437.15 tons, respectively an increase by 12.5 %. Meanwhile, in the regional sanitary landfill in Mitrovica (Germova) in 2019 were deposited 8379.60 tons, respectively 15.6% less waste than in 2018, while in the sanitary landfill in Peja in 2019 3237.00 tons were deposited, respectively 6.5% more compared to 2017.

The landfills of Dragash and Podujeva are special because only the waste generated in these municipalities is disposed therein, and in both of these landfills we notice a slight increase in the amount of waste deposited in 2019 compared to 2018.

Medical waste

A range of medical waste produced in hospital centers in Kosovo is subjected to treatment through the sterilization process by sterilizers located within 8 hospital centers.

Based on the data collected from the reports, it is noted that the treatment of such wastes is increasingly growing from year to year, **Fig.7**.

The largest amount of this waste during 2019 as in previous years was treated in the plant that operates within UCCK, followed by the one located in Prizren, while the smallest amount has been treated in the plant located in Vushtrri.

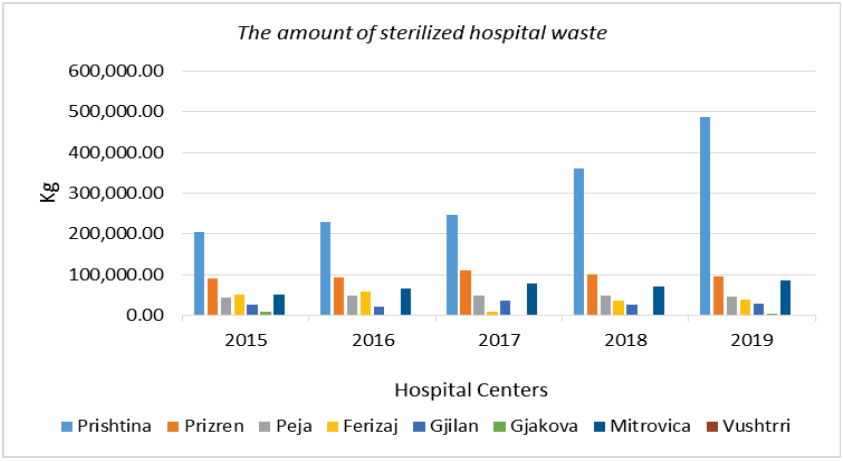


Figure 27: The amount of medical waste treated through sterilization during 2015-2019

Survey on waste treated [20]

This survey includes businesses that deal with waste treatment. Based on the Waste Treatment Survey 2018, conducted by KAS, data on the types of waste treated and manner of treatment have been provided. In the following figure we see that the largest percentage of treated waste belongs to metal waste, followed by plastic waste. The forms of treatment were disposal, sterilization, recycling, respectively separation and classification.

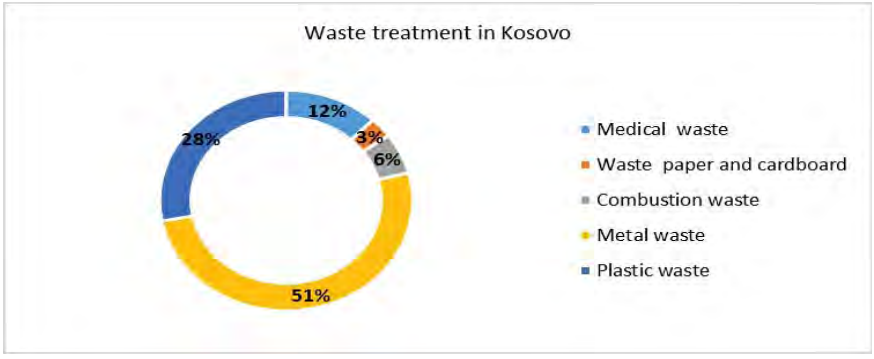


Figure 28: Waste treatment in Kosovo

Industrial waste [21]

[20] *KAS, Waste Treatment Survey, 2018*
[21] *KAS, Industrial Waste Survey, 2018*

The outcomes of the 2018 Industrial Waste Survey show that the total amount of industrial waste generated was 2,554,308 tons, while the amount of waste sent elsewhere is 945,318 tons, deposited waste 1,567,872 tons, recycled waste 40,585 tons, incinerated waste 1,030 tons and total processed waste 2,554,308 tons. While the largest amount of waste generated by sectors was from sector D with 1. 358.598 tons (Supply of electricity, gas, steam and supply of air-conditioning, water supply, sewerage, waste management and land revitalization). Second sector, in terms of waste generation, was sector B (Mining and quarries) with 448,754 tons.

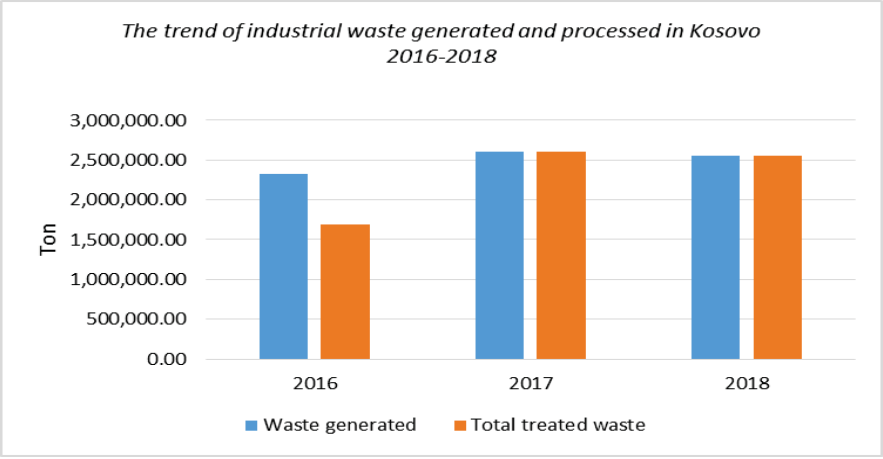


Figure 29: The trend of industrial waste generated and processed in Kosovo 2016-2018

Import and export of plastic bags and sacks

It is a well-known the fact that plastic bags and sacks contribute a lot to the amount of waste generated, especially of municipal waste, but also to the amount generated by economic and industrial activities. Based on the data received from Kosovo Customs, the amount of plastic bags and sacks imported during 2018 is **1,094,622.34 kg**, respectively **1,572,260.14** kg in 2019, while the amount exported is 76,239.31 kg, respectively 216,935.70 in 2019.



Figure 30: The amount of plastic bags and sacks imported in 2018 and 2019



Figure 31: The amount of plastic bags and sacks exported in 2018 and 2019

Waste export

Undoubtedly, the export of any amount of waste affects the reduction of the amount of waste which is usually deposited in the sanitary landfill, and part of it remains in uncontrolled locations. Based on the data provided by Kosovo Customs, the following table reflects the situation with the export of waste from Kosovo to different countries. Exports are usually made by some companies that are organized in the form of businesses, and deal with the collection and classification of waste, but exports are also contributed by groups of individuals operating outside the system.

Table 28: Export of various types of waste

Year	**Waste types exported in 2018 and 2019**	**Net kg**
Export 2018	Plastic waste	1,969,400.00
	Newspapers and magazines, phonebooks, brochures and printed advertising materials that are old and unsold	110.00
	Other wastes of paper or cardboard, made mainly of mechanical mass	14,353,010.00
	Other wastes of paper or cardboard, not selected	4,308,261.00
	Other wastes of paper or cardboard, selected	1,611,860.00
	Other ferrous wastes and returns	104,967,449.00
Total		**127,210,090.00**
Export 2019	Plastic waste	1,393,788.00
	Other wastes of paper or cardboard, made mainly of mechanical mass	13,949,269.00
	Other wastes of paper or cardboard, not selected	2,829,110.00
	Other wastes of paper or cardboard, selected	3,256,220.00
	Other ferrous wastes and returns	93,042,020.00
Total		**114,470,407.00**

1.6. Situation of endangered environments

In this chapter are presented data for the areas, respectively operators, which regularly report their data to KEPA through monthly and annual reports. Out of the total number of polluting operators equipped with integrated permits by MESP, which in total are 8, only two of them have been reporting on the environmental situation in the locations where they operate (Feronikel and Sharrcem).

1.6.1. Area of operation of the economic operator KEK and impact on the environment

KEK J.S.C. was established to carry out the activity of coal mining and electricity generation. KEK was established pursuant to the Law no. 2008/03-L-087- on Publicly Owned Enterprises. KEK J.S.C. is the main enterprise for the production of electricity (produces about 97% of the total amount of electricity) in Kosovo, and title holder of KEK is the Government of the Republic of Kosovo. Functions of the corporation are regulated through policies approved by the Energy Regulatory Office of the Republic of Kosovo.

Organizational structure of KEK consists of the following units: Coal Mining and Electricity Generation, and operates through its divisions:

- ✓ Coal production division (CPD),
- ✓ Division of TPP "Kosova A"
- ✓ Division of TPP "Kosova B"
- ✓ Corporate Services Division, which also includes the Department of Environment,
- ✓ Other support units.[22]

KEK while exploitation of coal in surface mines and combustion in power plants, after this process, leave behind a lot of environmental damages in many sectors, such as;

- ✓ Air pollution as a result of emissions from TPP.
- ✓ Water pollution from emissions of pollutant emissions from technological processes,
- ✓ Land degradation as a result of coal exploration in surface mining

[22] *Environmental report in KEK for 2018, Department of Environment*

On the other hand, the process of self-combustion of coal in the surface of mining is also a problem in itself, where throughout the year around pollution emissions are released. Impacts on the terrain stability from steep slopes and deformation of surfaces (landslide), Blue Lake where hydraulic discharges are made (ash transfer), noise from mining equipment and activity of conveyor belts, etc. are environmental problems that even further deteriorate environmental situation in this location.

During 2018/2019, KEK has generated waste in the form of oils containing PCB (polychlorinated biphenyls), other waste oils -17800 l (2018), radioactive waste, asbestos, metal waste and other wastes. In KEK there are a total of 31 transformers that supposedly contain PCB oil. In the area of the Chemical Separation Department (CHSD), there is a special bunker for temporary storage of radioactive materials with Co-60 isotopes, and is administered by the Kosovo Agency on Protection from Radiation and Nuclear Safety (KAPRNS).[23]

Some data on the electricity generation process during 2018/2019

- The annual production of electricity from TPP "Kosova A" during 2018/2019 was: 2 240 648/2366472 MWh.
- The annual production of electricity from TPP "Kosova B" during 2018/2019 was: 3 359 902/3670103 MWh. (In 2019, the two TPP "Kosova A&B" marked the highest electricity production)
- The total electricity production in TPP "Kosova A&B" for 2019 is 6036574 MWh, which means 436024 MWh higher than in 2018.
- Total use of lignite for the year 2018/2019 by KEK power plants: about 7576255/8347956 t. This utilization was higher in 2019 for 771701 t compared to 2018.
- During 2018 TPP "Kosova A", on average has spent about 1,471 t / MWh, while in 2019 it was 1.52 t / MWh. TPP "Kosova B" in 2018 on average has spent about 1.27 t / MWh, while in 2019 it was 1.25 t / MWh.
- The total amount of ash produced during 2018/2019 for two TPPs was about 1149284 and 1238853.2 t. In 2019 there was 89569.2 tons more ash than in 2018. The ash is transported from the power plants to the Mirash mining through the hydraulic system.
- Water consumption in TPP "Kosova A" and TPP "Kosova B" for the years 2018/2019 was: 15120520 and 16323220 m^3, which means in 2019 it was higher by 1202700 m^3.
- Quantities of diesel fuel and crude oil for 2018: TPP "Kosova A" 2387.810 litres of diesel, and TPP "Kosova B" 4231 tons of crude oil. In 2019, TPP "Kosova A" 2132.6 litres of diesel and TPP "Kosova B" 3134.52 tons of crude oil.

[23] *KEK Environmental Report for 2019*

Evaluation of air emissions in TPP Kosova A & TPP Kosova B 2018-2019

TPP "Kosova A" and TPP "Kosova B" are two power plants that are considered as the biggest polluters in Kosovo. Power plants are built in two locations in the Municipality of Obiliq.

KEC is Kosovo's public company, which owns and operates with electricity generating assets and lignite mining assets.

The limit values under Directive 2001/80/EC, as well as AI No.2007 on the rules and standards of the discharges on air by the stationary sources of pollution are as follows:

- ✓ ***SO_2***.....*400 mg/Nm³*
- ✓ ***NOx***.....*500 mg/Nm³*
- ✓ ***Dust***.....*50 mg/Nm³*

The parameters of SO_2, NOx are calculated (except the dust emission which is measured) in TPP A, whereas in TPP B has been installed the Online system (SAKME) of measurements, but currently pollutant parameters are calculated due to non-functioning of SAKME system.

In the following are presented graphically emissions of Dust, SO_2 and NOx for 2018.

Dust Emissions - Dust emissions from TPP A data show that no exceedance of allowed levels of dust has been recorded during January - December, whereas in TPP B dust values were above allowed levels. (Fig. 32).

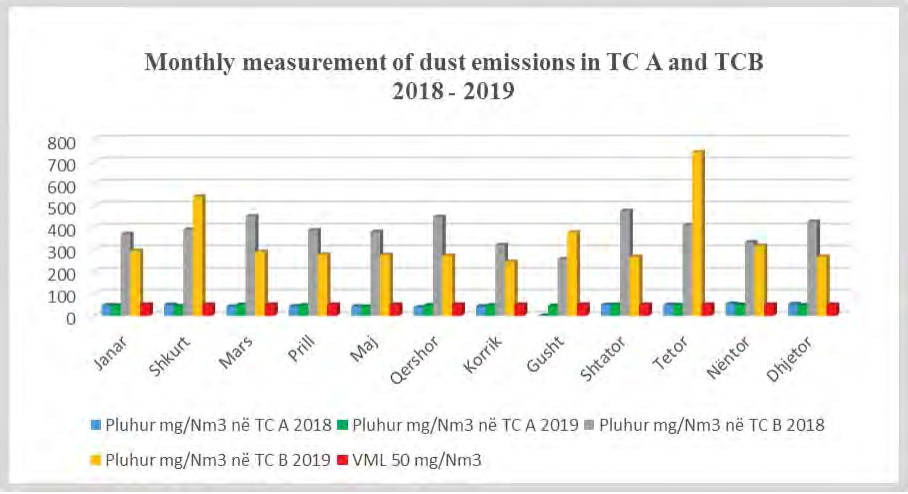


Figure 32: Dust emissions in mg/Nm³ during January - December 2018/2019

SO_2 emissions- In TPP A, during January - December, the SO_2 values released in the air exceeded the maximum allowed values according to the standards, while in TPP-B have been recorded exceedances in allowed values during almost the entire years 2018-2019, (Fig.33).

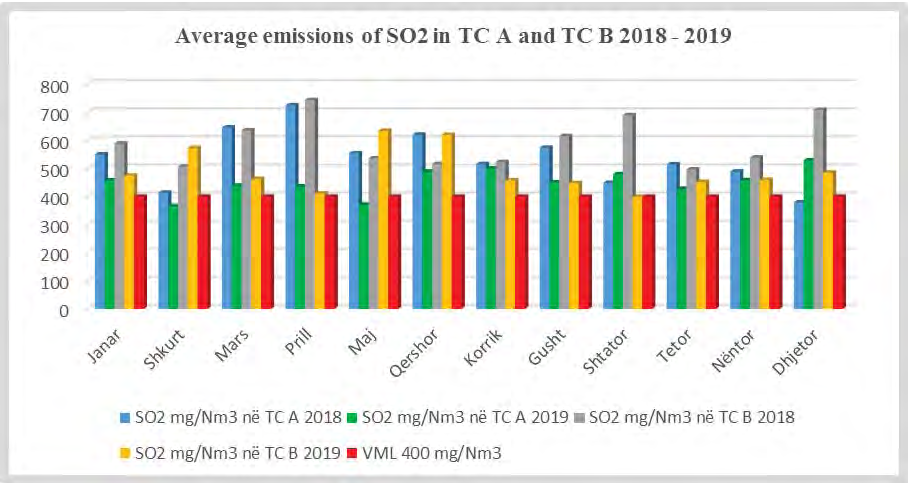


Figure 33: SO_2 emissions in mg/Nm³ during January - December 2018/2019

NOx emissions – The data of emissions of NOx in TPP A and TPP B indicate that there is exceedance of NOx values during 2018/2019, (Fig.34).

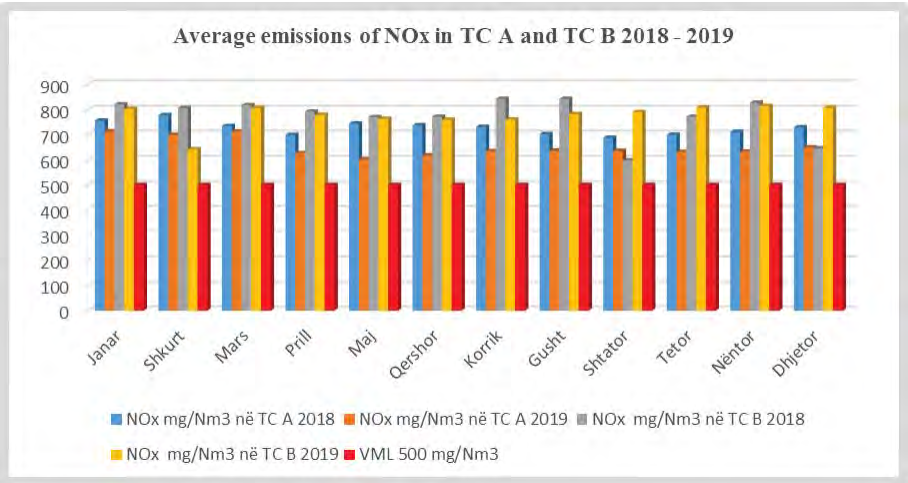


Figure 34: NOx emissions in mg/Nm³ during January - December 2018/2019

1.6.2. Area of operation of the economic operator Feronikel and impact on the environment

Ferronikel started production as a private operator since 2007. In 2014, MESP has equipped Feronikel with an integrated permit. It was also certified with the Environmental Management ISO 14001:2015 standard and Quality Control ISO 9001:2015 standard.

Ferronikel produces a unique ferroalloy-ferronickel (Fe-Ni). Metallurgy is supplied by local mining (Gllavica and Çikatova, as well as ores imported from different countries of the world. Ferronikel produces Fe-Ni alloy, which mainly consists of 25% Ni and 75% Fe.

During the technological process are used raw materials, auxiliaries and fuels, which then release pollution emissions into the air.

In addition to air emissions, we also have release of polluting emissions, especially from the slag landfill. In chemical terms, slag consists of; SiO_2, Fe, MgO, CaO, Cr_2O_3, Al_2O_3, Ni. Other residues generated by Ferronikel are; used oil 1500 l, used conveying belts and rubber 8 t, etc.[24]

In general, the level of environmental management at Feronikel still requires necessary improvements, ascertaining that emissions released by this operator from the technological process, both in water and air, are heavy metal pollutants. The composition of heavy metals in the initial ore, such as: Fe, Ni, Co, Cd, Cr, As, Pb etc. and the metallurgical processes that accompany the entire process characterize Ferronickel as category A pollutant (according to the EIA-EBRD and WB Criteria).

[24] *Annual report on the state of environment in Feronikel for 2018*

Raw materials, fuels and auxiliaries that have been used in Feronikel during 2018 and waste generated:

2018

Ore: 460693 of lignite: 65247 of coal: 908 of cokes: 0 of limestone: 13676 of liquid oxygen: 341 of gaseous oxygen: 4784 of electricity: 219511 MWh; fuel oil: 3526 of petkos: 17086 of technological water: 1388474 m^3. etc.

During 2018 were generated and stored in the slag landfill in Suka: 297214 of slags.

2019

Ore: 768083 of lignite: 114723 of coal: 995 of cokes: 0 of limestone: 23570 of liquid oxygen: 819 of gaseous oxygen: 7239 of electricity: 371088 MWh; fuel oil: 5214 of petkos: 29541 of technological water: 1551320 m^3, etc.

During 2019 are generated and stored in the slag landfill in Suka and Dushkaja landfill: 491890 of slag.

Evaluation of air emissions in Feronikel 2018-2019

During the production process, Feronikel releases polluting emissions in the air. Air emissions are especially released from the rotating kilns, electric furnaces, conveyors and heating plants.

Table 29: Limit values of emissions (LVE) according to AI 06/2007 and "Integrated Environmental Permit" for Feronikel

Polluting substances	Value (mg / Nm3)
Dust	30
CO	1000
SO2	600
NOx (NO2)	350

Below are graphically presented the Dust, SO2 and NOx emissions measured in Feronikel, namely in:

- ✓ Chimney of rotary kiln;
- ✓ Conveyor Chimney;
- ✓ Electric furnace No. 1 behind the scrubber;

During April-July, 2018, there was no monitoring due to the factory being out of the production process. Emissions measurements in Feronikel were made by the licensed laboratory "Teknolab" from Skopje (North Macedonia).

Chimney of rotary kilns

Average monthly values of dust emissions in the rotary kiln - The average monthly values of dust during 2018/2019 did not exceed the allowed limit values (Fig. 35).

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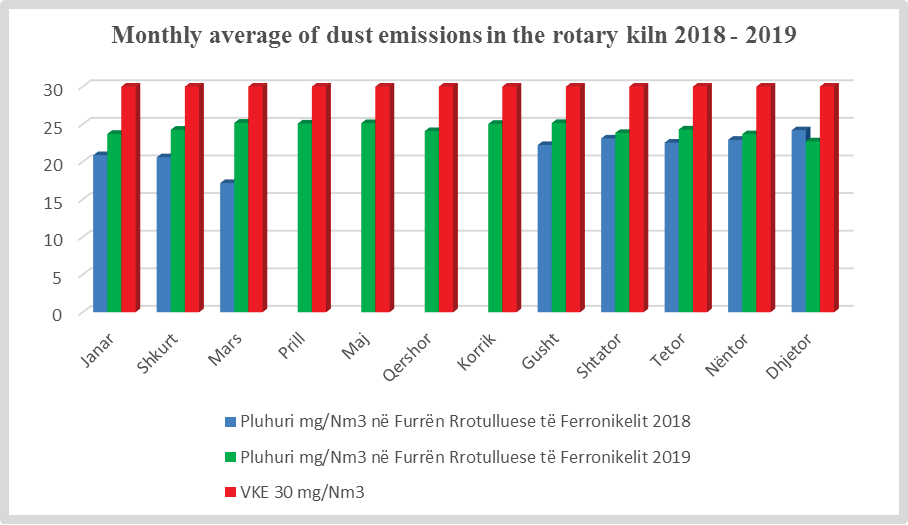


Figure 35. Average monthly values of dust emissions in the rotary kiln January - December 2018/2019

Average monthly values of CO emissions in the rotary kiln - The average monthly values of CO according to data estimates show that there are no exceedances of the allowed limit values during 2018/2019 (Fig. 36).

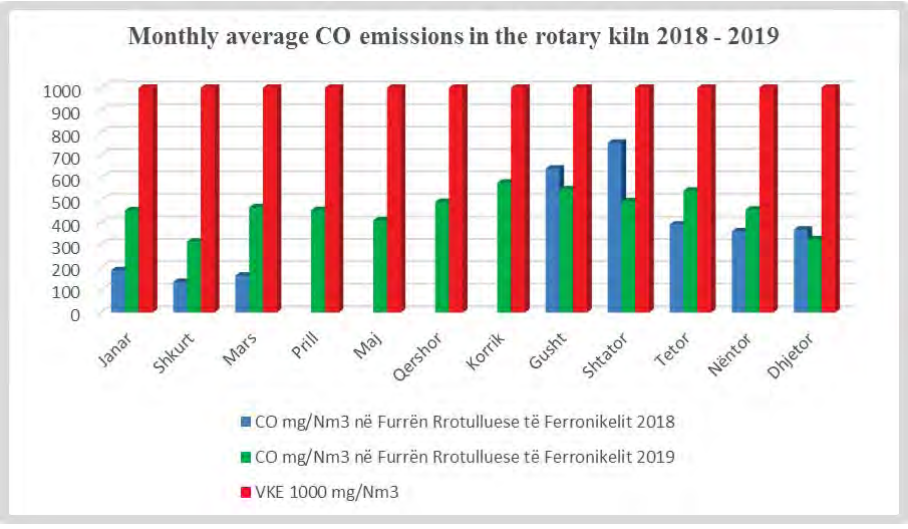


Figure 36. Average monthly values of CO emissions in the rotary kiln January - December, 2018/2019

Average monthly values of SO_2 emissions in the rotary kiln - The average monthly values of SO_2 for 2018-2019 have not exceeded the allowed limit values (Fig. 37).

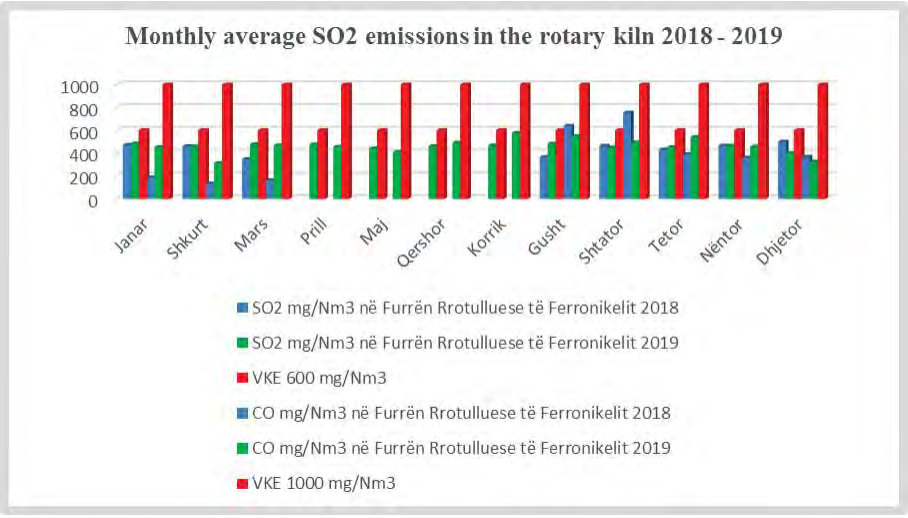


Figure 37: Average monthly values of SO_2 emissions in rotary kilns January - December 2018/2019

Average monthly values of NO_2 emissions in the rotary kiln - The average monthly values of NO_2 show that there are no exceedances of the allowed limit values for 2018/2019, see Fig. 38.

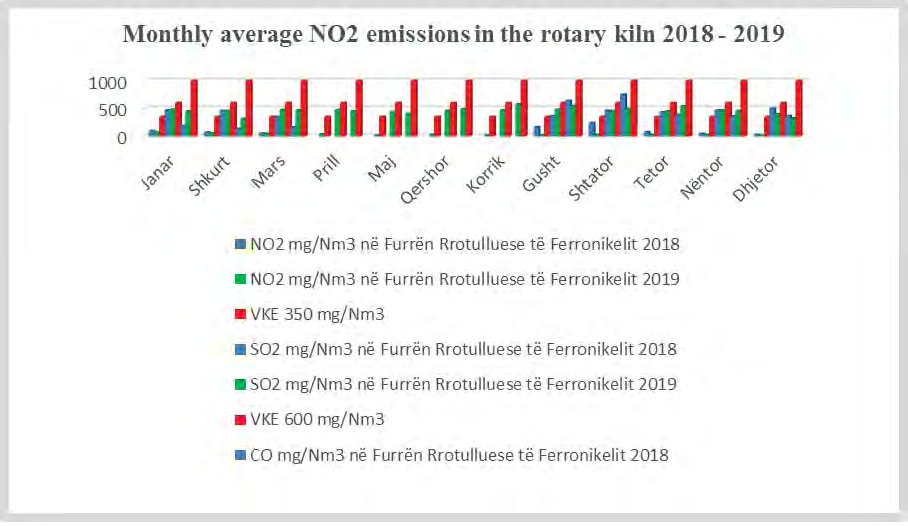


Figure 38: Average monthly values of NO_2 emissions in the rotary kiln January - December 2018/2019.

Conveyor chimney

Average monthly values of dust emissions in conveyor - The average monthly values of dust emissions in the Conveyor do not exceed the allowed limit values during 2018/2019 (Fig. 39).

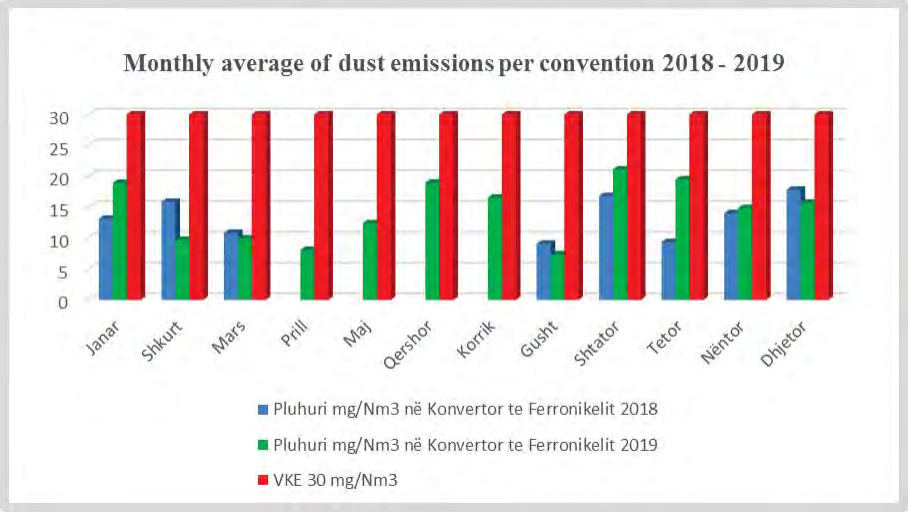


Figure 39: Average monthly values of dust emissions in Conveyor, January - December 2018/2019

Average monthly values of CO emissions in Conveyor - The average monthly values of CO according to the data show that during 2018/2019 we did not have exceedances of the allowed limit values (Fig. 40).

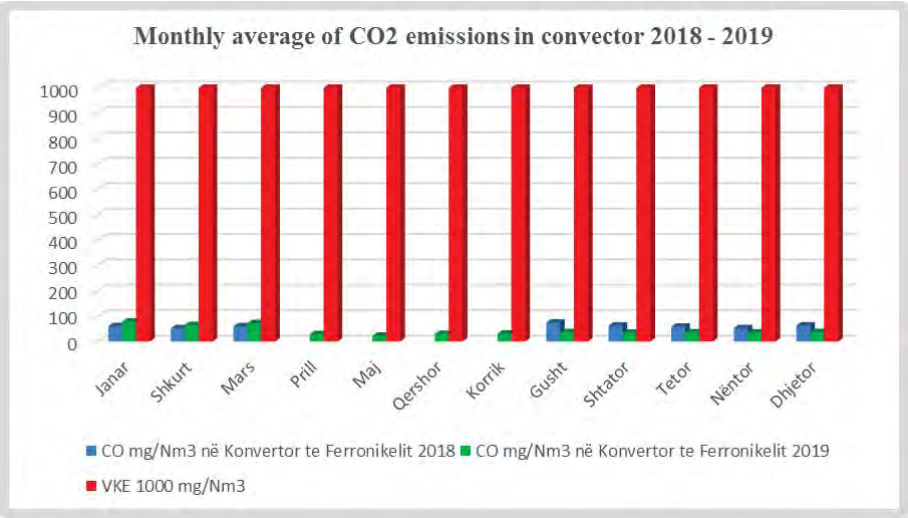


Figure 40: Average monthly values of CO emissions in Conveyor January - December 2018/2019.

Average monthly values of SO_2 emissions in Conveyor - Regarding average monthly values of SO_2 in the conveyor during 2018/2019, the data show that we have no exceedances of the allowed limit values (Fig. 41).

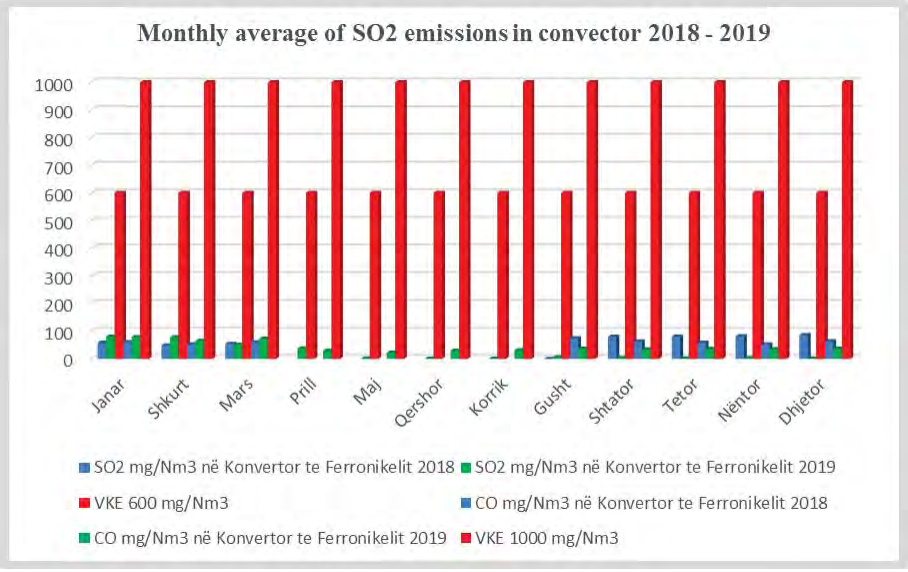


Figure 41: Average monthly values of SO_2 emissions in Conveyor January - December 2018/2019

Average monthly values of NO_2 emissions in the Conveyor - The average monthly values of NO_2 in the Conveyor show that during 2018/2019 we have no exceedances of the allowed limit values (Fig. 42).

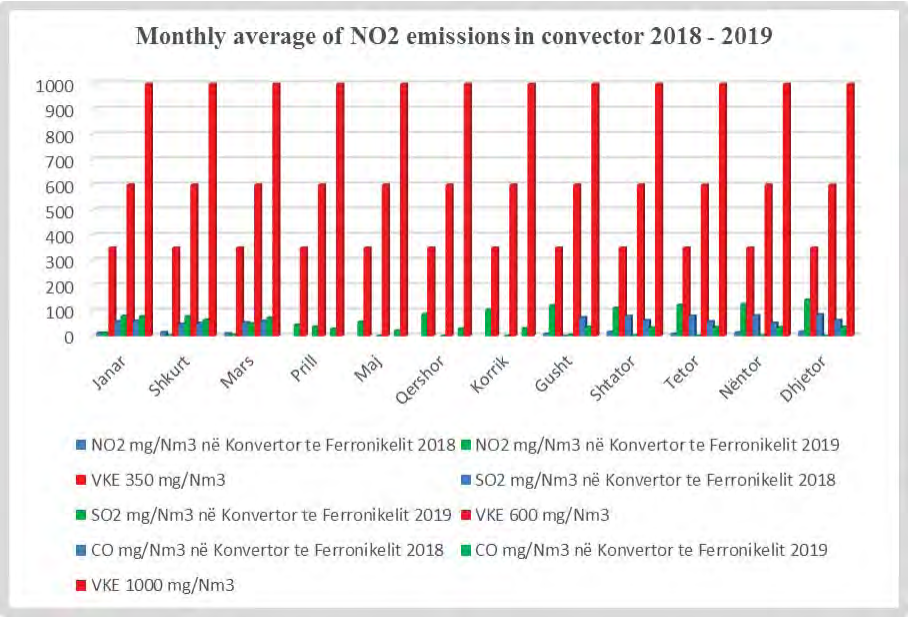


Figure 42: Average monthly values of NO_2 emissions in the Conveyor January - December 2018/2019

Electric furnace No. 1 behind the scrubber

Average monthly values of dust emissions in the electric furnace No. 1 behind the scrubber - The average values of dust in the electric furnace No. 1 behind the scrubber show that, for 2018, there are no exceedances of allowed values. For 2019, only in September we had an exceedance of the allowed values (Fig. 43).

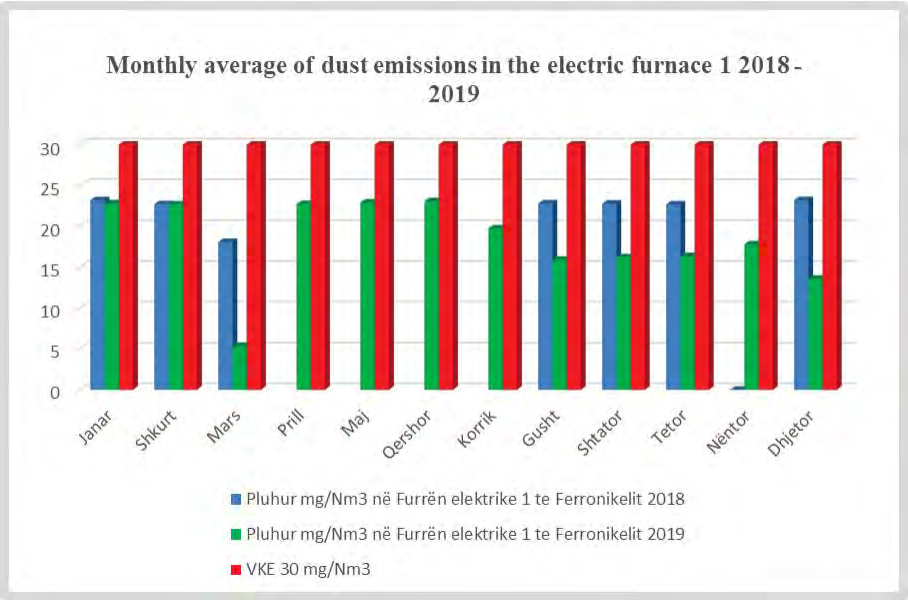


Fig. 43. Average monthly values of dust emissions in the electric furnace No. 1 behind the scrubber January - December 2018/2019

1.6.3. SharrCem economic operator area and its impact on the environment

Sharrcem has been operating under the terms of the Integrated Permit (IPPC) since 2014. The company operates with a continuous emission monitoring system (CEMS) since 2013. The wastewater treatment plant is in full operation since March 2016. For 2018/2019, 80760 m^3/water has been treated by this plant. In November 2017, SharrCem adapted and developed the environmental management system with the latest standard, ISO 14001:2015. This standard was recertified in November 2019.

Air emissions such as dust, Sulphur Oxides (SOx) and Nitrogen Oxides (NOx) are much lower than the allowed limits set in the regulations and standards of Kosovo and the EU.
Rehabilitation of the Dimca mine started in 2015 with the technical rehabilitation, replenishment of the E-480 floor; during 2016, the rehabilitation plan continued implementation on the second floor E-470 and while the technical rehabilitation of the third floor E-460 was done in 2018.

The plan for rehabilitation of the marl mine has continued in 2019 on the third floor E-450 as technical rehabilitation and planting of 300 seedlings.
The plan during 2018/2019 refers to the activities for complete closure of the clinker depot and installation of a new filter in the clinker discharge receiving

hopper in the clinker depot and reduction of ambient noise from the furnace fans. This issue was closed in 2019 according to the SharrCem Action Plan.[25]

Waste, depending on the type, is transported and disposed of by subcontractors licensed and authorized by the operator. Depending on the type of waste, they are confined and stored in separate areas in order to avoid leakage into water and soil. These subcontractors provide services related to waste collection and transportation.[26]

Key indicators for 2018-2019

Production of clinker: 882,231 t/year: Production of cement: 1453106 t/year

Evaluation of air emissions in SharrCem for 2018-2019

The dust, SO_2 and NOx emissions in SharrCem are graphically presented in the following.

Dust emissions - Data are presented from the mill furnace of raw material for 2018/2019 for dust emissions, and, according to estimates, the values are very low compared to the limit value of emissions (LVE). (Fig. 44).

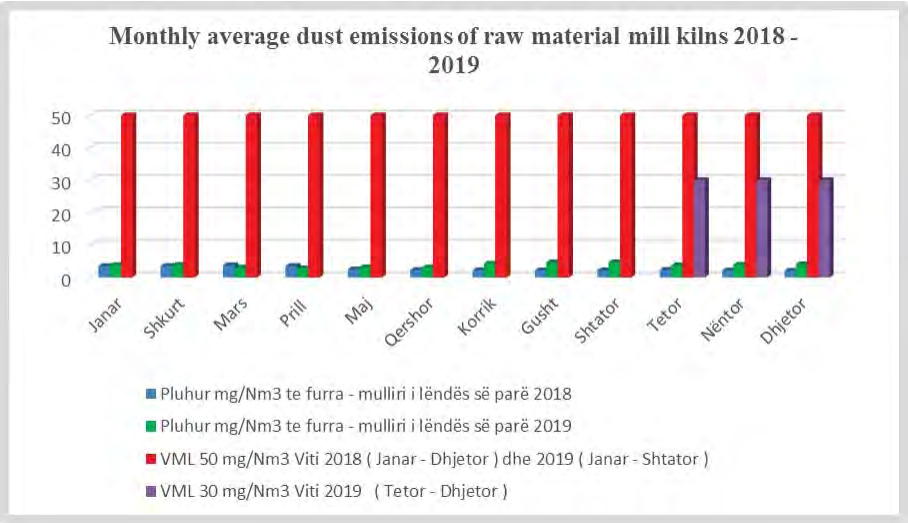


Fig. 44. Average monthly value of dust emissions in furnace – mill of raw material, 2018/2019

[25] *Annual Report on the environment, SharrCem, 2019*
[26] *Annual Report on the environment, SharrCem, 2018*

Dust emission values of clinker cooler. The values of dust emissions for 2018-2019 are very low compared to the allowed value according to the required standards (Fig. 45).

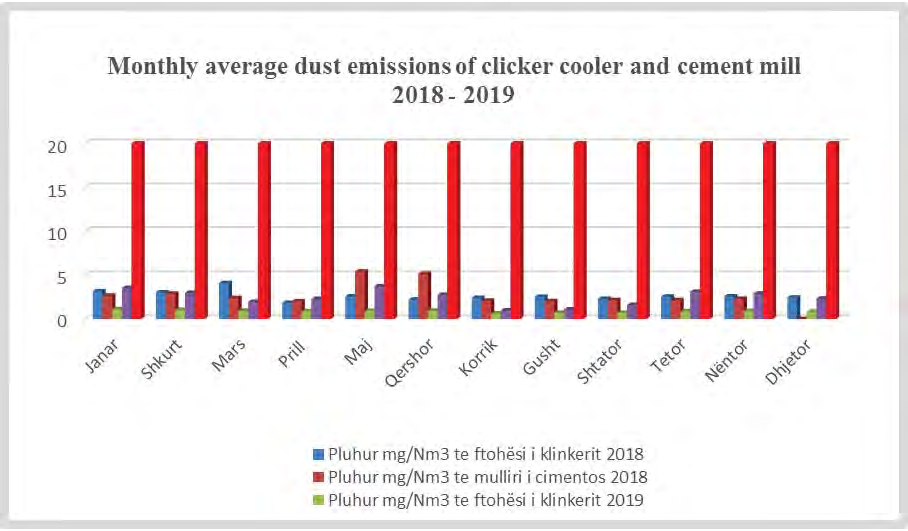


Fig. 45. Average monthly value of dust emissions in clinker cooler and cement mill, 2018/2019

SO_2 emissions - For SO_2 emissions, data is presented from the measurement of emissions in the furnace (mill of raw material).

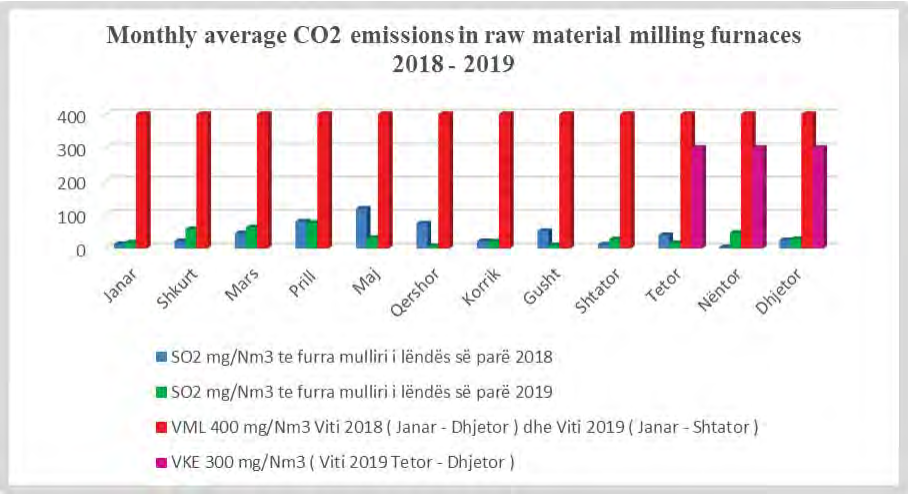


Fig.46. Average monthly value of SO_2 emissions, 2018/2019.

Regarding the SO_2 emissions emitted during the production process in SharrCem, the data show that the values are very low and according to the required standards. (Fig. 49.)

NO_x emissions - For NO_x emissions, data is presented from the measurement of emissions in the furnace (mill of raw material).

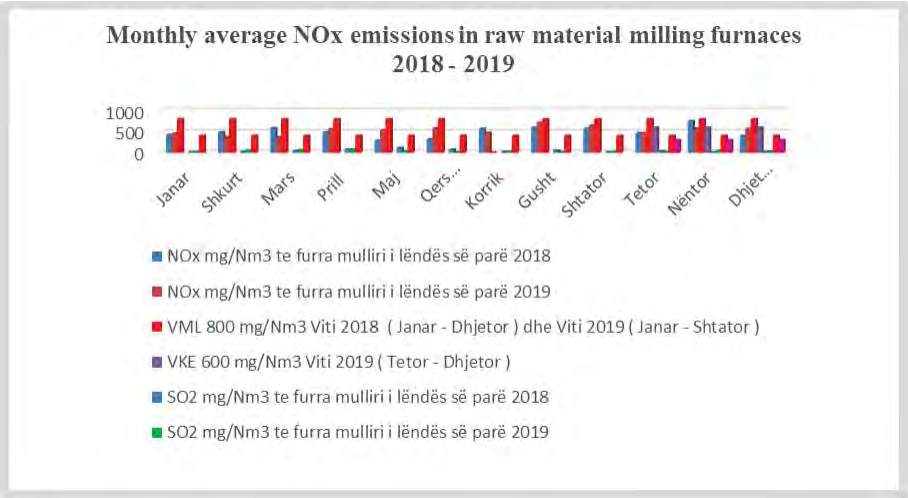


Fig. 47. Average monthly value of NOx emissions, 2018/2019.

NOx emissions discharged in the air in SharrCem have not exceeded the allowed values according to the required standards, throughout the production process in 2018/2019 (Fig. 47).

1.7. Public health

Environmental pollution, especially the air and water pollution, is a factor that directly affects human health. Exposure to air and water pollutants is considered to be the cause of many diseases and premature deaths. Air pollution, although it may not be very visible visually, can be deadly due to the toxic content it has. In general, the air in urban areas, and in particular in Prishtina and Obiliq, is estimated to be many times more polluted than the allowed norms.

Among the biggest polluters in Kosovo are the energy industry, metallurgical industry, mines, mining, industrial and urban deposits, illegal landfills, transport, agriculture, etc.

Emissions of pollutants into the air and water not only cause many environmental problems, but in case of contact with people cause many health problems. Such pollutants leave consequences on health by manifesting diseases of the cardiovascular system, decreased functional capacity of the lungs accompanied by

infections and worsening of asthma, diarrhoea, lung cancer, genetic damage associated with cellular abnormalities, cell mutations and other cellular disorders.
During the 21st century, the need to identify the factors that are causing chronic diseases such as diabetes, neurological development of children, stress-related diseases, etc., has increased significantly. All of these diseases have a connection to the environment in which we live and how we preserve and manage it. According to World Health Organization reports, each year, more than two million premature deaths can be attributed to air pollution as a result of combustion and the release of various gases, other deaths resulting from polluted water, soil and other pollution. Therefore, the human factor has a crucial role in all these processes, and with its activities can affect the reduction of these pollutants that have consequences for human health.
The National Institute of Public Health (NIPH) monitors the state of public health and, in particular, the diseases caused by epidemics and pandemics, injuries at work, in traffic or elsewhere, protective measures, promoting and encouraging healthy behaviours to life and environment.
NIPH, as an institution for monitoring and prevention of environmental diseases, has developed a health information system for the public, with data over the years on environmental diseases which appear due to many factors such as: ecological and socio-economic factors, lack of information, climate change.

Table No. 29 presents the trend of environmental diseases for 2018-2019. Compared to the list of diseases of 2018, 10 environmental diseases were added to the list in 2019.
In 2019, the most pronounced environmental diseases are: Influenza-like illness (ILI), Influenza A, Acute Diarrhoea, Chickenpox (varicella), Meningeal Syndrome, Leishmaniasis, Intoxication alimentaris (food poisoning), Adenovirus, Salmonellosis, Shigellosis, Rotavirus, Leptospirosis, Pathogenic E coli, Q Fever, gastroenterologists, Status post morsum coni and Status post morsum viperi. While other environmental diseases were higher during 2018.

Table 29: Environmental diseases in 2018 and 2019

Diseases	2018		2019	
	Cases	Over 100,000 inhabitants	Cases	Over 100000 resident
ITPR-Pneumonia/ARI	12607	689.95	12284	672.27
SARI (a severe form of pneumonia)	72	3.94	63	3.45
Influenza-like illness (ILI)	75643	4139.76	79952	4375.58
Influence A	0	0	386	21.1
Influence A pdm09	0	0	71	3.9
Acute diarrhoea	75492	4131.50	87635	4796.05
Varicella	7327	400.99	12600	689.57
Syndrome of bloody diarrhoea	36	1.97	35	1.92
Meningitis syndrome	124	6.79	195	10.67

EHKK	1	0.05	1	0.5
EHSV	4	0.22	3	0.16
West Nile Virus	14	0.77	0	0
Lyme disease	3	0.1	0	0
Leishmaniasis	0	0	6	0.30
Malaria	3	0.16	3	0.16
Legionellosis	0	0	1	0.05
Exanthematic Fever Syndrome	83	4.54	0	0
Pertussis	22	1.20	17	0.93
Typhoid fever	0	0	1	0.10
Epidemic parotitis	92	5.03	63	3.45
TBC	700	38.31	-	-
Intoxication alimentaris	1896	103.76	2394	131.02
Acute jaundice A	77	4.21	44	2.68
Jaundice B	80	4.38	36	1.97
Jaundice C	11	0.60	11	0.60
Typhus abdominalis	2	0.11	0	0
Adenovirosis	11	0.60	35	1.92
Salmonellosis	99	5.42	134	7.33
Shigellosis	0	0	32	1.75
Rota virus	191	10.45	271	14.83
Tularaemia	19	1.04	12	0.66
Lymphadenitis	0	0	0	
Leptospirosis	2	0.11	4	0.22
Measles	195	10.67	16	0.87
E. coli pathogens	18	0.99	22	1.20
Brucellosis	28	1.53	13	0.71
Echinoccocosis	2	0.11	0	0.00
Toxoplasmosis	9	0.49	8	0.44
Q fever	0	0	1	0.05
Giardia sis	3	0.1	0	0.00
Yersinia enterocolitica	1	0.05	0	0.00
Gastroenterologists	0	0	379	20.74
Lymphadenitis ac.coli	102	5.58	49	2.68
Campylobacter	0	0	0	0
STI	1155	63.21	1321	67.10
Parasitosis	0	0	141	7.72
Giardiasis	3	0.16	0	0.00
Status post ictus ixodes	0	00	109	6.00
Status post morsum cani	0	0	3	0.16
Status post morsum viperi	0	0	19	1.04
Other contagious diseases	643	35.19	503	27.53

Total	176767	9674.04	198882	10884.34

Environmental diseases occur as a result of poor hygiene, socio-economic conditions, drinking water supply from uncontrolled sources - wells, long interruption of water supply, polluted waters, lack of sewerage, dumping of waste near water sources and other pollutants.

The probability of occurrence of many diseases is greater during the summer season, because in this time period, the temperatures are higher, thus creating more favourable conditions for the spread of viruses and bacteria. In the same period of time, hygienic and sanitary conditions in some parts of Kosovo are at a lower level due to lack of water and drought.

The quality of drinking water

The quality of drinking water refers to microbiological and physicochemical characteristics. The quality of drinking water is an important indicator of the well-being and health of the population. Kosovo has an adequate legislation for the protection of drinking water. Administrative Instruction No. 16/2012 and Administrative Instruction No. 15/2017 are among the most important instructions for the protection of drinking water and are in compliance with EU standards for drinking water.

RWCs are responsible to supply quality water to their customers; they also are obliged to conduct internal water quality monitoring/testing. On the other hand, NIPHK is the Institution with legal responsibility for controlling and monitoring the drinking water throughout the country. NIPHK ensures that the water distributed by RWCs is in accordance with the values according to the local standard for microbiological and physicochemical parameters. In this report, the quality has been assessed based on the data reported by WC to WSRA.

Based on the results of the monitoring carried out by the Water Centre of the National Institute of Public Health (NIPHK) in accordance with its responsibilities, the overall quality of drinking water in Kosovo provided to customers in the service areas of seven RWCs results to be in line with drinking water standards during 2018/2019. During 2018, 8,598 water samples were taken from customer taps for the purpose of water quality testing in physicochemical and microbiological aspects, with 99.4% of the samples being in accordance with the required standards. While in 2019, 9,229 water samples have been taken from the taps for the purpose of water quality testing in the physicochemical and microbiological aspects (Fig. 48). Of the total samples taken for testing, 98.8% of them complied with local water quality standards. Referring to these statistics, it is estimated that the quality of water supplied by RWCs is at a very good level.

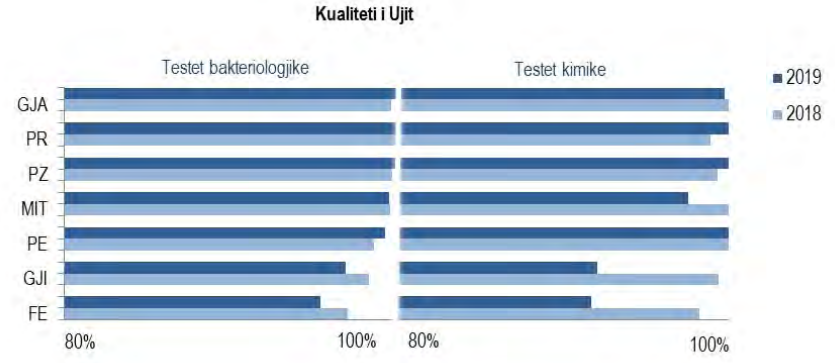


Figure 48. Compatibility of tests for drinking water according to local standards for bacteriological and chemical parameters (RWCs, 2018/2019)

As we can see in Table 30, during 2018, the highest compliance in terms of values of microbiological parameters was in RWC Prishtina with 100%, while the lowest compliance in RWC Bifurkacioni with 97.1%. In 2019, the highest compliance status for microbiological parameters was in RWC Prishtina, Hidroregjioni Jugor, Gjakova with 100%, while the lowest was in RWC Bifurkacioni with 95.5%, which had a decrease of 1.6% compared to the previous year.

Table 30: Rate (%) of bacteriological and physicochemical tests in accordance with water quality standards by RWC - 2018/2019

Companies	Year	RWC Prishtina	RWC Hidroregjioni	RWC Hidrodrini	RWC Mitrovica	RWC Gjakova	RWC Bifurkacioni	RWC Hidromorava	Sector average
Microbiological	2018	100%	99.7%	98.7%	99.6%	99.7%	97.1%	98.3%	99.3%
	2019	100.0%	100.0%	99.3%	99.5%	100.0%	95.5%	96.9%	**99.2%**
Physicochemical	2018	98.9%	99.4%	100%	100%	100%	98.2%	99.4%	99.5%
	2019	99.8%	100.0%	100.0%	97.6%	100.0%	91.7%	92.1%	**97.9%**
Average for RWC	**2018**	99.7%	99.6%	99.1%	99.7%	99.8%	97.4%	98.8%	99.4%
	2019	**99.9%**	**100.0%**	**99.5%**	**99.1%**	**100.0%**	**94.5%**	**94.9%**	**98.8%**

RWCs Hidormorava and Bifurkacioni supply lower quality drinking water, both in bacteriological and physicochemical aspects, due to the lack of regular drinking water supply.

Coverage with water supply service during these years, according to WSRA, reaches the level of 75%, while the coverage with wastewater services reaches the level of 65%. RWCs Prishtina, Gjakova and Hidrodrini have achieved high coverage of the population with services within their respective service areas.

In the framework of further commitment to improve the aspect of water quality assurance, offered to consumers and the population, NIPHK is committed to advancing, namely updating, the AI 16/2012, in the spirit of the latest requirements of the European Directive and WHO Recommendations.

1.8. Exploitation of natural resources

Exploitation of water for drinking and household purposes

Regarding the exploitation of water for drinking and household purposes, there are seven regional water companies (RWCs) licensed by the Water Services Regulatory Authority (WSRA) that provide these services and 30 municipalities that benefit from the services of these companies. The total production of water distributed by regional companies for 2018 was 153.7 million m3. More than half of this water is taken from surface sources, while less from groundwater sources (Tab. 31).

Table 31. Water supply sources, daily and annual quantity (m3)

No.	Water source	Amount of water used in (m^3/day)	Amount of water used in (m^3/year)	Value expressed as a percentage %
1	Natural resource	111,295	40,622,816	26%
2	Reservoir	-	-	-
3	River	21,007	7,667,697	5%
4	Lake	246,030	89,800,920	58%
5	Well	43,575	15,904,983	10%
TOTAL			**153,748,772m^3**	

Of the total amount of water produced by RWCs, 66.2 million m^3 of water have been billed to customers, while the other quantity of 87.5 million m^3 is water that has not been billed (including technical and administrative losses).

Exploitation of water for industrial needs

Another category, and at the same time the largest use of water resources, is the use for industrial needs. The biggest users are the big industrial enterprises such as KEK, New Co FERRONIKEL, Sharrcem etc. Most of them are supplied with water from surface accumulation lakes (Table 33).

Table 32. Water used for 2018-2019 by large industrial enterprises

Users	Quantity consumed m3/year 2018	Quantity consumed m3/year 2019

KEK	15120520	16323220
New Co FERRONIKEL	1388474	1551320
SHARRCEM	137968	103302

Exploitation of water for hydropower

It is known that our country has full capacity for energy production. After KEK, which is the main source of electricity production and supply, another equally important source is hydropower plants. Their construction, longevity and operation are an important element in the use of water resources.

The development of a program to increase the capacity of energy production by hydropower plants is part of the energy policy of Kosovo's energy strategy. The current installed capacities of hydropower plants in Kosovo are 97.74 MW and the operating ones are 160.51 (Table 33).

Table 33. Operating and installed capacities of hydropower plants[27]

The name of the hydropower plant	Year of commissioning	Installed power in MW	Net operating MW
Ujamani	1981	35	32
HPP Lumbardhi 1	1957/2005	8.08	8.00
HPP Lumbardhi 2		5.4	5.20
EGU Belaja	2015	8.08	7.50
EGU Decani	2015	9.81	9.50
HPP Kaskada e Lumbardhit		31.37	30.20
Radavci	1934/2011		0.90
HPP Burimi			0.85
HPP Dikanci			3.34
HPP Brodi 1			2.48
HPP Brodi 2	2015		5.00
HPP Brodi 3			4.70
HPP Restelica 1 and 2	2015		2.40
HPP Restelica 3			2.35
HPP Hydroline Albaniku I	2015		1.87
Hydroline Albaniku II	2015		3.55
Hydroline Albaniku III			4.22
Lepenci Hydropower 3			10.00
HPP Brezovica (Matkos group)			2.10
HPP Binqa (EKO Energy)			0.60
HPP Sharri			6.45
HPP Vica			4.60
HPP Shterpca			5.30

[27] *ERO 2020, Electricity and Thermal Energy Balance*

HPP Dragashi Renelaul Tahiri SHPK			3.40
HPP Orqusha Dragashi Renelaul Tahiri SHPK			4.00
	Total	**97.74**	**160.51**

The construction and operationalization of hydropower sources has been part of a general debate in recent years due to problems with the construction of hydropower plants in nature protected areas, the process of issuing relevant water and environmental permits and due to problems in implementing the requirements of these permits.

Exploitation of quarry and other mineral resources

Another common form of exploitation of natural resources is the exploitation of quarry, gravel and other mineral resources through separation sites. According to the data of the Independent Commission for Mines and Minerals, it results that this institution has issued 562 licenses for quarrying and extraction of sand and gravel during the period 2015-2018 alone. Of these, 268 were provided for research and 294 for exploitation. Out of 562 licenses, 75 were granted for sand and gravel, while 487 licenses were granted for quarry. The municipalities with the highest number of quarry licenses are Malisheva (43 licenses), Klina (38 licenses), Kaçanik and Lipjan with 35 licenses each. While the municipalities in which the most licenses for sand and gravel were granted are Peja (29 licenses), Gjakova (14 licenses), and Kamenica (7 licenses). During 2018 alone, 357 licenses were active for this activity, of which 45 licenses for sand and gravel extraction.

Kosovo Environmental Protection Agency has made an assessment of the situation regarding the exploitation of mineral resources, and among the main problems that have been identified in this sector are:

- Environmental Impact Assessment reports for operators applying to obtain the environmental permits are usually superficial and are not based on preliminary studies, analyses and measurements to identify potential environmental impacts.
- Their operation without obtaining an Environmental Permit, and based only on Environmental Consents, which is contrary to the Law on Environmental Protection;
- Issuance of environmental operation permits and contents of operators exporting mineral resources to nature protected areas in violation of the EIA Law and the Law on Nature Protection;
- Lack of monitoring of the state of the environment by operators in their area of operation which is also contrary to the Law on Environmental Protection.
- Lack of reporting of parameters monitored by the operator to the responsible institution, namely to MEE/KEPA.

- Lack of rehabilitation and return to the previous condition of the areas used by economic operators. Ditches, wells and water accumulations created as a result of exploitation and non-rehabilitation of the area have often resulted in deaths.
- Inefficient supervision of the work of operators and implementation of permit and consent conditions due to the small number of environmental inspectors at central and local level.
- Exploitation with no criteria and wild use of limestone and other mineral resources by economic operators by not adhering to the criteria foreseen by environmental permits.
- Excessive use of explosives during the mining process and non-implementation of safety measures in the mining area.
- Insufficient coordination and cooperation of relevant institutions that are part of granting the permit and controlling the implementation of permits (MEE, KFA, ICMM, Municipalities, etc.).

Whereas, according to a research by the Preportr Organization, 495 cases of illegal operation were identified during the years 2009-2018, of which 166 cases were for extraction of hard stones, while 329 cases were identified for illegal extraction of sand and gravel. Of these cases, 357 are companies, while 138 are individuals.

Of the 495 illegal cases identified, 297 are in court and one is a closed case. The municipalities in which the most illegal cases for quarries have been identified are Gjakova (17 cases), Peja (13 cases), and Kaçanik with 13 cases. While the municipalities in which the most illegal cases of sand and gravel have been identified are Peja (51 cases), Kamenica (37 cases), and Gjakova (71 cases)[28].

The extraction of sand and gravel without controls and without criteria has degraded thousands of hectares of river beds and has changed the natural flow of these rivers. Among the most degraded rivers are Drini i Bardhë, Lumbardhi i Pejës, Ereniku, Ibri etc., as a consequence of which, there is always a risk of floods and other natural disasters.

Exploitation of forest resources

According to the data provided by the Kosovo Forest Agency, during 2018, a total of 183,381.81 m3 of wood were used, of which 28,547.68 m3 by the public sector and 154,834.24 m3 by the private sector. While during 2019, a total of 179,745.38 m3 of wood were used, of which 24,486.42 m3 by the public sector and 155,253.96 m3 by the private sector. There is no detailed data on illegal logging. Table 34 presents the use of timber by sectors.

[28] *Destruction Industry/Preportr (http://preportr.cohu.org/sq/hulumtime/Industria-e-shkaterrimit-292)*

Table 34. The quantity of timber used for the years 2018-2019 by sectors[29]

Year	Sector	Quantity of timber m3	Total timber m3
2018	Public sector	28,547.68	183,381.81
	Private sector	154,834.24	
2019	Public sector	24,486.42	179,745.38
	Private sector	155,253.96	

2. Measures taken for environmental protection

2.1. Level of Implementation of Strategies and Environmental Plans

Strategic and programmatic framework for the environment and its sectors is developed to a satisfactory level in Kosovo, but the level of implementation is still low. Table 35 presents the main strategic and programmatic documents of the environmental sector and the level of their implementation.

Table 35: Level of implementation of strategies and action plans for the environment sector

Strategy/Plan	Period of validity	Status of document	Level of enforcement
The Kosovo Environmental Strategy and the National Environmental Action Plan	2013-2022	Approved by the Government of Kosovo Decision No. 05/140 Date 17.07.2013	Implementation did not start due to uncertainty in the approval process
Strategy and Action Plan for Biodiversity	2011-2022	Approved by the Government of Kosovo (Currently under review process)	Partly
Air Quality Strategy 2013-2022	2013-2022	Adopted by the Assembly of the Republic of Kosovo	Partly - It is being implemented according to the plan

[29] *Kosovo Forest Agency*

Action Plan for the Implementation of the Air Quality Strategy	2018-2020	Adopted by the Assembly of the Republic of Kosovo	At the initial stage of implementation
Kosovo Strategy on Waste Management	2013-2022	Approved by the Government of the Republic of Kosovo	Partly
Plan of the Republic of Kosovo on Waste Management	Under review process	Under review process	Under review process
Kosovo Strategy and Action Plan on Climate Changes	2017-2026	Approved by the Government of the Republic of Kosovo Decision, No. 05/90, date 19.02.2019	At the initial stage of implementation
National Water Strategy	2017-2022	Approved by the Government and Assembly of the Republic of Kosovo during 2018	At the initial stage of implementation
Spatial Plan of Kosovo – Spatial Development Strategy of Kosovo	2010-2020+	Adopted by the Kosovo Assembly	Partially- Kosovo zoning map is in process of implementation
Spatial Plan for National Park "Sharri"	2013-2022	Adopted by the Kosovo Assembly	Partially – two more regulatory plans are in process of drafting
Spatial Plan for Nature Monument of Special Importance "Ujëvarat e Mirushës"	2014-2023	Adopted by the Kosovo Assembly	Implementation has not started due to the lack of management body for this protected area
Spatial Plan for Protected Area of Special Interest "Beteja e Koshares"	2014-2023	Adopted by the Kosovo Assembly	Partially
Spatial Plan for the Area of Special Interest "Shtabi i përgjithshëm i UÇK-se, Kleçkë and Divjakë"	2014-2023	Adopted by the Kosovo Assembly	Partially
Spatial Plan for the Area of Special Interest "New Mining Field"	2010-2020	Adopted by the Kosovo Assembly	Partially
Management Plan for National Park "Sharri"	2015-2024	Approved by the Ministry of Environment and Spatial Planning	Partially

2.2. Institutional developments and setbacks

Among the major developments in the empowerment, affirmation and enhancement of the technical capacities of environmental institutions need to be distinguished:

- Establishment and functionalization of Regional River Basin Authority;
- Establishment of the Office of the National Coordinator for Climate Change;
- Establishment of the Inter-Ministerial Task Force for the protection of air from pollution;
- Establishment of the Steering Committee for the Waste Management Sector;
- Increase of the number of natural persons licensed for drafting the Environmental Impact Assessment reports;
- Increase of Kosovo environmental institutions' representation and membership in regional organizations, initiatives and projects.
- Capacity building and development of indicators for reporting and monitoring the performance of Kosovo Municipalities for the waste sector.
- Continuation of work on identifying sources of air pollutants in the Prishtina region,
- Capacity building of environmental institutions through trainings and programs at the national, regional and international level;

Whereas, in terms of the setbacks and obstacles in the empowerment of the environmental institutions during this period, we distinguish:

- Lack of network for monitoring of groundwater;
- Lack of monitoring of the biological/ecological aspects of surface waters;
- Lack of a special sector for Climate Change in MESP;
- Lack of a special institution at central level for the monitoring of chemicals;
- Small number of programs of bachelor and master level in the field of environment;
- Small number of staff in the natural sector, especially in the Institute for Nature Protection;
- Failure to make functional the Environmental Advisory Board;
- Trained and experienced staff leaving responsible institutions in the environmental sector.
- Limited capacities of municipalities in the environmental sector;
- Small number of environmental inspectors at central and local level.
- Small number of officials at the Institute of Nature Protection;
- Non-certification of officials (nature guards) and the limited number of professional staff (nature oversight officers) in the Directorates for the Administration of National Parks.

- Limited number of regular staff in the Directorate for the Administration of Natural Monuments of Special Importance;
- The Environmental Advisory Board is still out of function and there are no initiatives for its establishment, although it is foreseen according to the provisions of the Law on Environmental Protection.
- Non-functioning of Ecofond or a special environmental fund/program. Revenues collected from environmental protection are transferred to the Kosovo Budget but are not used for environmental projects.
- Incomplete implementation of Regulation (GRK) No. 05/2017 on Internal Organization and Systematization of Jobs in the Ministry of Environment and Spatial Planning.
- Impossibility of integrating MESP staff (38 officials) in the north municipalities within the duties and responsibilities defined under the contracts[30].
- Lack of coordination of relevant institutions for the processing and approval of the Spatial Plan for the 'Bjeshkët e Nemuna' National Park.
- Changes in the organizational structure of the Government of the Republic of Kosovo where the Ministry of Environment and Spatial Planning first merges with the Ministry of Infrastructure and then with the Ministry of Economy.
- Termination of 18 positions of civil servants of the former Ministry of Environment and Spatial Planning by Government Decision

2.3. Inspection and control of law enforcement

Within the ex officio control competencies of the Inspectorate of Environment, Water, Nature, and Spatial Planning and Construction, the Ministry of Environment and Spatial Planning, respectively the Ministry of Infrastructure and Environment, during the period 2018-2019, has carried out: 1,392 activities and actions based on inspections in the field of environment; 1,141 inspection activities and actions with minutes in the field of water; 137 supervisory activities and actions with minutes in the field of nature; and 841 supervisory activities with minutes in the field of spatial planning and construction. Specific details are presented in Table 36.

Table 36: Inspections and other legal procedures 2018-2019

Type of inspection activity in the field	Number of activities	Number of activities

[30] *On 11.01.2016, the so-called "Civil Protection" was terminated in accordance with the Brussels Agreement of 26 March 2015 and the Decision of the Government. The MESP has engaged 38 officials distributed in various departments and Agencies of the MESP, for whom the ministry had failed to provide offices in the north of the country and to integrate them in the work process.*

of environment	**2018**	**2019**
Decisions	7	63
Mandatory fines	4	58
Recommendations, remarks and orders	245	208
Initiation of court proceedings	55	56
Inspection supervision with minutes	311	385
Type of inspection activity in the field of water	**Number of activities 2018**	**Number of activities 2019**
Decisions	88	50
Mandatory fines	-	72
Initiations of court proceedings for minor offence	60	53
Recommendations, remarks and orders	118	162
Inspection supervision with minutes	266	272
Type of inspection activity in the field of nature	**Number of activities 2018**	**Number of activities 2019**
Decisions	-	1
Mandatory fines	-	20
Initiations of court proceedings for minor offence	2	2
Recommendations, remarks, orders and information	32	12
Inspection supervision with minutes	34	34
Type of inspection activity in the field of spatial planning and construction	**Number of activities 2018**	**Number of activities 2019**
Inspections with minutes	186	139
Decisions	36	13
Initiation of court proceedings	5	5
Recommendations, remarks and orders	159	130
Mandatory fines	-	18
Reports and responses	-	150

While in the nature protection sector, in the framework of the requirements for initiating proceedings for minor offence based on the Law of Nature and the Law on National Parks, and relevant legislation, during the period 2018 - 2019, KEPA, on behalf of the Directorate for Administration of the National Park " Bjeshkët e Nemuna" and the Directorate for the Administration of the National Park "Sharri", has submitted: 486 criminal charges, 36 request for initiation of proceedings for minor offence; and 102 requests for initiation of civil disputes for damage compensation.

The initiation of these 624 procedures is supposed to enforce the law the compensation of damage in the total amount of 1,021,297.50 € to the institution caused through illegal acts (Table 37).

Table 37: Initiations of KEPA in Courts, Prosecution, and State Advocacy Office

Type of activity on behalf of the Directorate for the Administration of the National Park Bjeshkët e Nemuna	**2018**		**2019**	
	Number of cases	**The amount of damage €**	**Number of cases**	**The amount of damage €**
Criminal charges in the Basic Prosecution in Peja	67	257,712.50	78	288,687.00
Criminal charges in the Basic Prosecution in Gjakova	3	990.00	-	-
Request for initiation of minor offense proceedings in the Basic Court in Peja - Minor Offenses Division	6	2,387.50	8	1,432.50
Legal issues in minor offence proceedings - Court in Peja / B.Deçan	6	6,406.00	1	315.00
Type of activity on behalf of the Directorate for the Administration of the National Park Sharri	**Number of cases**	**The amount of damage €**	**Number of cases**	**The amount of damage €**
Criminal charges in the Basic Prosecution in Ferizaj	132	164,126.00	198	140,174.50
Criminal charges in the Basic Prosecution in Prizren	3	17,772.50	5	5,211.50
Legal issues in minor offence proceedings in the Basic Court in Prizren	-	-	1	5,624.00
Legal issues in minor offence proceedings in the Court Branch in Shertrpce	6	1,588.50	1	90.00
Request for initiation of minor offense proceedings in the Court Branch in Kaçanik	3	1,800.00	3	360.00
Request for initiation of minor office proceedings in Court Branch in Dragash	-	-	1	308.00
Type of activity on behalf of the Directorate for the Administration of the National Park Sharri and Bjeshkët e	**Number of cases**	**The amount of damage €**	**Number of cases**	**The amount of damage €**

Nemuna				
Request for initiation of civil disputes submitted to the State Advocacy Office - Ministry of Justice	54	62,416.00	48	65,204,00

2.4. Issuance of permits

According to data from MESP, during 2018-2019, activities were carried out in all relevant fields. Based on the authorizations and environmental legislation, during 2018 were issued 112 Environmental Consents, 74 Environmental Permits, 4 Integrated Environmental Permits, Permits for conducting scientific research in nature, about 160 licenses and permits in the field of waste, and 88 other acts in the field of water.

During 2019 were issued 164 Environmental Consents, 97 Environmental Permits, 1 Integrated Environmental Permit, 8 Environmental Consents for Strategic Environmental Assessment, 5 Permits for conducting scientific research in nature, 149 licenses and permits in the field of waste, and 23 other acts in the field of water. More detailed data on the activities for issuing permits in the environment, waste, nature, and water sectors are presented in the following table.

Table 38: Activities for issuing permits during 2018-2019

Activities for environmental consents	**2018**	**2019**
Requests received for EC	168	190
Granted	112	164
Refused cases	3	3
Completion of the procedure	-	22
Suspension of the procedure	-	4
In the review procedure	16	53
Activities for environmental permits		
Requests received for Environmental Permit	112	
Granted	74	97
Refused cases	2	67
Conclusions	1	-
Activities for integrated environmental permits		
Requests received	-	8
Granted	4	1
Permit transfer	-	1
Activities for environmental consents for strategic environmental assessment		

Requests received	-	28
Environmental consents for SEA	-	8
Completion of the procedure	-	1
In the review procedure	-	4
Activities for issuance of permits and licences in the field of nature		
Permits for conducting scientific research in nature	5	5
Requests received for the licensing of the mini zoo	-	1
Review of requests for licensing of natural persons for drafting Environmental Impact Assessment reports	-	63
Review of applications for licensing of legal entities for drafting Environmental Impact Assessment reports	-	22
Activities for issuance of permits in the field of waste		
License for waste management	27	13
Refusal of requests for waste management license	-	2
Permit for import of chemicals	3	3
Refusal of requests for permit for import of chemicals	-	1
Permit for import of biocidal products	55	48
Refusal of requests for permit for import of biocidal products	-	3
Permit for import for plastic bags without additives	28	37
Permit for export of waste	36	43
Permit for transit of waste	-	2
Permit for import of waste	-	3
Refusal of requests for permit for import of waste	-	3
Registration of requests for registration of waste trader and broker	-	5
Activities for issuance of permits in the field of water		
Water conditions	35	3
Water consents	6	11
Water permits	9	3
Extensions of water permits	12	3
Decision on refusal of water permit	24	3
Amendment of decisions	1	0
Conclusions	0	0

2.5. Financing environmental protection system

Investing in the environment is one of the direct forms of intervention to protect the environment, improve the state of the environment and prevent negative impacts on the environment. The Government of Kosovo has directed most of the investments in the environment through the budget for the Ministry of Environment and Spatial Planning. However, even municipalities and other institutions directed a part of the budget to environmental projects.

Analysing the budget of the Ministry of Environment and Spatial Planning for the period 2016-2019, we notice that there has been a significant increase in both the total budget and the budget for capital investments in the environment.

While capital investments in the environment in 2016 were over 35.9 million euros, in 2017 they increased to about 46 million euros, in 2018 to 49 million euros, while in 2019 to about 50 million euros (Table 39).

Table 39: Total budget and budget for capital expenditures of MESP 2016-2019[31]

	2016	2017	2018	2019
Capital expenditures	35,903,684	45,824,312	49,187,682	50,860,974
Total Budget	39,357,027	49,121,434	52,893,885	54,885,402

MESP capital expenditures during 2018 and 2019 have been mainly projects that have been implemented for the regulation of river beds, waste management, expansion of the sewerage and water supply network and other environmental projects in the general interest.

Donor support during 2018-2019 has continued with several projects that have been a continuation of projects from previous years and with new projects. The following table presents data on some of the largest donor-supported projects for the water and environment sector.

Table 40: Some of the projects with donors in the environment and water sector 2018-2019

Project name	Supporting organization-donor	Project value	Implementation period
Implementation support in the Energy package with a focus on energy efficiency and renewable energy.	EU & GFA	2,274,190.00 €	2016 – 2019

[31] *Ministry of Finance www.mf.rks-gov.net*

ORF Biodiversity (Open Regional Found for Biodiversity) Joint project for Kosovo, Albania, Macedonia, Serbia, Montenegro and Bosnia and Herzegovina.	GIZ	3,000,000.00 €	2015 - 2018
The project "Support to the Environmental Program of MESP Kosovo"	SIDA	6,810,000.00 €	2016 – 2020
The project "On integrated management of water resources of the extended Drini basin"	UNDP/GEF	1,000,000.00 $	2016 – 2019
The project for the construction of the lagoon system for wastewater treatment in Kramovik	UNDP/GEF	200,000.00 €	2016 – 2019
The regional flood project "IPA FLOODS"	EU&CIMA	1,998,386.00 €	2015 – 2017
The project "Competition for a clean environment"	KFW&GIZ	3,400,000.00 €	2015 –2017
The project "Capacity development for air pollution control"	JICA	4.000.000.00 $	2017 – 2020
Environmental data collection (MCC's Threshold Program)	MCC -USA	3.000.000.00 $	2017-2019
Investing in energy efficiency in the household sector (MCC's Threshold Program)	MCC -USA	20.700.000.00 $	2017-2019
Investment in central heating system (MCC's Threshold Program)	MCC -USA	10.900.000.00 $	2017-2019

3. Findings and recommendations

3.1. Key findings of the report

Air

- ✓ Despite the progress made in setting up the air quality monitoring network, there is still a need to invest in the modernization, completion and maintenance of this network.
- ✓ The data from the monitoring speak of exceedances of the maximum allowed values for some parameters, in particular for PM10 and PM2.5, and this mainly during the winter season.
- ✓ Estimates show that the main sources of pollution are the energy, transport and household sectors. However, a complete inventory of air emissions needs to be

made, as well as a more detailed study on the distribution and concentration of pollutants.

- ✓ Low level of implementation of laws, bylaws and policies for the air sector has also been noted, as is the case with policies for the control of emissions from mobile sources and those for the control of oil quality.
- ✓ Low level of implementation of legal requirements at the local level. Although the Law on Air Quality requires the drafting of Local Action Plans for air quality, so far only a few municipalities in Kosovo have drafted and approved such a document.

Water

- ✓ Surface water quality in Kosovo continues to be affected by pollution resulting from urban and industrial water discharges, uncontrolled dumping of waste into rivers, use of pesticides and fertilizers in agriculture and damage to river beds from exploitation of aggregates and illegal constructions.
- ✓ Currently, surface water quality monitoring is performed at 54 monitoring points in rivers, while water quantity monitoring is performed at 26 monitoring stations. There is still no regular monitoring of the quality of water of lakes and groundwater, just as there is no biological monitoring of surface water.
- ✓ The indicators presented in this report indicate the presence of organic pollutants in river waters, although it can be concluded that surface waters are not endangered by eutrophication.

Land/soil

- ✓ Kosovo currently does not have a program or regular monitoring of soil/land quality. This activity is carried out mainly through periodic projects and activities.
- ✓ KEPA has identified some locations considered as environmental hotspots which need rehabilitation, but in the absence of budget, their rehabilitation has not yet begun.
- ✓ Change of the destination of land, loss of agricultural land and loss of green space from construction remain one of the main environmental challenges in the land sector.
- ✓ The survey on land coverage in Kosovo conducted by EPA shows that semi-natural areas represent the main category with about 57%, agricultural land with about 38%, while artificial areas are represented with over 4.6% of the total.

Protected areas and biodiversity

- ✓ Despite the continuous increase in the number of protected areas and their area, efficient management of protected areas and prevention of illegal actions in these areas continues to be a problem for Kosovo institutions.
- ✓ There are still protected areas that enjoy special protection status which do not yet have relevant management bodies.
- ✓ The lack of spatial, management and regulatory plans for some of these areas is also considered to be a problem.
- ✓ From the monitoring of fauna through trap cameras, information was obtained on the presence of some rare and endangered species of fauna in Kosovo, but despite that.
- ✓ The Kosovo Red Book of Fauna has been prepared and the condition of animal species has been assessed.
- ✓ There is a lack of specific programs for monitoring biodiversity in general or specific species in particular.
- ✓ The implementation of some initiatives and projects for cross-border management of natural areas is considered positive and important.

Waste

- ✓ Kosovo continues to face a lack of efficient waste management. About 75.6% of the generated waste is currently collected at the national level. Most of them are disposed of in sanitary landfills, while there is still no organized system of separation at the source and recycling of waste.
- ✓ The management of sanitary landfills in Kosovo is not good and among the main problems are the non-functioning of landfill water pumping systems, poor compression of landfilled waste and insufficient waste coverage.
- ✓ A large number of illegal landfills in the entire territory of Kosovo was also identified, although there was little progress in 2019 (1489 in 2019 and 2529 in 2018). Despite the continued commitment of central institutions, municipalities and donors, illegal landfills continue to be a challenge for this sector.
- ✓ Waste separation at source and recycling activities are still low.

Public health

- ✓ The number of registered environmental diseases continues to have a linear trend in Kosovo. In some cases, a significant increase in the number of some diseases related to environmental aspects has been registered.
- ✓ However, in Kosovo there is still no detailed and indicator-based study that would assess the real impact of the state of the environment on public health.
- ✓ Drinking water control conducted by the National Institute of Public Health shows that about 99.4% of tests were in accordance with local water quality standards

Measures taken to improve the state of the environment

- ✓ Kosovo continues its commitment to harmonize national legislation with EU Directives, although its implementation remains a challenge.
- ✓ Strategies and action plans have been drafted and approved for all environmental sectors, but their level of implementation is partial.
- ✓ Although during 2018-2019 there was an increase in inspection and surveillance activities in the nature protection sector, environmental crime continues to be a growing activity.
- ✓ Although the budget for the Ministry of Environment and Spatial Planning for capital environmental projects has increased, and the number of donor projects has also increased, the issue of the environment in Kosovo is still addressed with low priority by the Government of Kosovo.

3.2. Recommendations

Air

- ✓ The responsible institutions must continue with the implementation of the requirements of the Resolution of the Assembly of Kosovo No. 06-R-002 for the improvement of air quality and mechanisms for monitoring its implementation must be established.
- ✓ Implement the objectives and projects of the Strategy and Action Plan on Air Quality, approved by the Government of Kosovo and the Assembly of Kosovo.
- ✓ Increase the efficiency of the implementation of environmental legislation, through complementary mechanisms and instruments.
- ✓ Complete the inventory of emissions and sources of pollutants in the air,
- ✓ Complete and fully operationalize the national air quality monitoring system in order to improve the collection, processing and reporting of air quality data.
- ✓ Strengthen the technical and institutional capacities for the maintenance of the air quality monitoring network, the servicing and calibration of the equipment as well as the accreditation of the laboratories.
- ✓ Improve cooperation between monitoring institutions and operators, especially in the process of information flow, processing, reporting and more efficient public information on air quality.

- ✓ Develop favourable policies for the use of fuels that have lower emissions into the environment.
- ✓ Favour the use of alternative transport that has lower emissions to the air and apply a time limit for the use of obsolete vehicles and those without catalytic converters.
- ✓ Implement bylaws on permitted rates of air emissions from mobile and stationary sources.

Water

- ✓ Establish a groundwater monitoring network and conduct regular monitoring of the groundwater situation.
- ✓ Monitor the biological parameters of surface water to determine the surface water quality index.
- ✓ Continue investments in setting up the water infrastructure with special emphasis on the construction of wastewater treatment plants.
- ✓ Prioritize issues related to adaptation to climate change in the water sector,
- ✓ Continue with the completion of the legislation in the water sector and its transposition with the directives of the European Union.
- ✓ Implement the strategic objectives and projects planned in the National Water Strategy.
- ✓ Develop Management Plans for water basins.
- ✓ Conduct research on the impact of water use for energy production and their impact on protected areas.

Land/soil

- Develop a program for permanent monitoring of agricultural and industrial lands.
- Develop the most favourable policies for sustainable development and land management.
- Strengthen the implementation of the legal and programmatic framework for the sector of protection of land from pollution and its change of destination.
- Develop programs and projects for rehabilitation of lands identified as environmental hotspots.
- Monitor the use of pesticides and fertilizers on agricultural lands.

Protected areas and biodiversity

- ✓ Continue research, identification and monitoring of nature areas and inventory of plant and animal species and natural habitats.

- ✓ Establish management bodies for protected areas of special interest.
- ✓ Take measures for the protection of endangered species of fauna according to the recommendations and findings of the Kosovo Fauna Book.
- ✓ Carry out continuous monitoring of the condition of rare and endangered plant and animal species.
- ✓ Protect habitats of rare and endangered species as well as prepare professional justifications for the declaration of protected areas of birds and habitats according to the ecological network Nature 2000.
- ✓ Approve the Spatial Plan for the National Park "Bjeshkët e Nemuna", Management Plan for the National Park "Bjeshkët e Nemuna" and Regulatory Plans.
- ✓ Ensure that all activities carried out within the territory of protected areas are in accordance with the Law on Nature Protection (No. 03/L-233).
- ✓ MESP Inspectorate must carry out continuous inspection in protected areas.
- ✓ Increase the number of staff in the nature protection and biodiversity sector.

Waste

- ✓ Improve the management of Kosovo sanitary landfills, and implement monitoring of environmental discharges from landfills.
- ✓ Increase the municipal waste collection service throughout the territory of Kosovo.
- ✓ Kosovo municipalities must be continuously committed to the elimination of illegal landfills in their territory.
- ✓ Municipalities must designate locations for treatment and disposal of construction and demolition waste.
- ✓ Develop programs and systems at the national level for waste separation at source and their recycling.
- ✓ Improve the system for collection, processing and reporting of waste data.

Public health

- ✓ Improve the urban environment to reduce negative environmental impacts.
- ✓ Invest in the increase of green areas in urban areas, in order to improve the state of the environment and public health.
- ✓ Invest in improving drinking water quality and its regular monitoring.
- ✓ Invest in improving the quality of water provided by Regional Water Companies.
- ✓ Increase the % of coverage of the population with the water supply service and the wastewater (sewerage) discharge service.
- ✓ Carry out research on the impact of the state of the environment on public health.

General

- ✓ Resubmit for approval to the Government of Kosovo and the Assembly of Kosovo the State Strategy and Action Plan for Environmental Protection and Sustainable Development, in accordance with the provisions of the Law on Environmental Protection.
- ✓ Increase the budget of the Government of Kosovo for the environmental sector and especially for environmental capital projects.
- ✓ Establish an ecofund (environmental fund) and use its funds for subsidies and programs to improve the state of the environment.
- ✓ Strengthen the implementation of environmental principles and in particular the principles "polluter pays", "user pays" and "principle of encouraging measures" for legal and natural persons who choose the best possible techniques and clean production.
- ✓ Strengthen the implementation of horizontal legislation with special emphasis on legal requirements from the Law on Environmental Impact Assessment and the Law on Strategic Environmental Assessment.

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5. List of abbreviations, figures and tables

5.1. List of abbreviations

KARPNS	Kosovo Agency for Radiation Protection and Nuclear Safety
AKS1	Kosovo agglomeration 1
KEPA	Kosovo Environmental Protection Agency
AQI	Air Quality Index
RBRA	River Basin Regulatory Authority
WSRA	Water Services Regulatory Authority
KAS	Kosovo Agency of Statistics
KFA	Kosovo Forest Agency
WB	World Bank
EU	European Union
EBRD	European Bank for Reconstruction and Development
CLC	Coverage of Land according to the CORINE Methodology
CPD	Coal Production Department
ECRAN	Environment and Climate Regional Accession Network
EFAS	European Flood Awareness System
GHG	Greenhouse gases
GIZ	German Technical Cooperation
HMIK	Hydrometeorological Institute of Kosovo
KINP	Kosovo Institute for Nature Protection
NIPHK	National Institute of Public Health of Kosovo
IPA	EU Instrument for Pre-accession Assistance
IPCC	Integrated Environmental Permit
IUCN	International Union for Conservation of Nature
JICA	Japan International Cooperation Agency
EC	European Council
KEK	Kosovo Energy Corporation

KLMC	Kosovo Landfill Management Company
ICMMK	Independent Commission for Mines and Minerals in Kosovo
KRM	Regional Waste Company
RWC	Regional Water Company
KTOE	Kilo Ton Oil Equivalent
MAFRD	Ministry of Agriculture, Forestry and Rural Development
MCC	Millennium Challenge Corporation
MoF	Ministry of Finance
MEE	Ministry of Economy and Environment
MEI	Ministry of European Integration
MESP	Ministry of Environment and Spatial Planning
NM	Nature Monument
NMSI	Nature Monument of Special Importance
MTI	Ministry of Trade and Industry
TSM	Total Suspended Matter
MED	Ministry of Economic Development
WHO	World Health Organization
EO	Economic Operators
NGO	Non-Governmental Organization
NP	National Park
KEAP	Kosovo Environmental Action Plan
MWMP	Municipal Waste Management Plan
LEAP	Local Environmental Action Plan
KEP	Kosovo Environmental Programme
UCCK	University Clinical Centre of Kosovo
FMC	Family Medicine Centre
REC	Regional Environmental Centre
NR	Nature Reserves
BOD	Biochemical Oxygen Demand
COD	Chemical Oxygen Demand
SIDA	Swedish International Development Agency
CCS	Climate Change Strategy
TAIEX	Technical Assistance for Information Exchange
TPP	Thermal Power Plant
TPPA	Thermal Power Plant A
TPPB	Thermal Power Plant B
AI	Administrative Instruction
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
MAV	Maximum Allowed Values
EIA	Environmental Impact Assessment
ZKS1	Kosovo Monitoring Area 1
ERO	Energy Regulatory Office

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6. Annexes

6.1. Annex 1

Physical, chemical and heavy metals parameters monitored by HMIK[32]

Indicators	Symbol	Unit	Frequency of measurements/year

[32] *Only blue marked parameters are evaluated and presented in this report.*

PHYSICAL PARAMETERS			
Hour	h	0:00	11
Weather	W	observation	11
Water temperature	Wt	0C	11
Air temperature	At	0C	11
Scent	Sc	smelling	11
Colour	Col	Co/Pt	11
The blur	Bl	NTU	11
Electrical conductivity	χ	µScm-1	11
Water soluble matter	M.tert..	mg/l	11
Concentration of hydrogen ion	pH	0-14	11
CHEMICAL PARAMETERS			
Dissolved oxygen	DO	mg/l O2	11
Oxygen saturation	Os	%	11
Chemical Oxygen Demand	COD	mg/l O2	11
Chemical Oxygen Demand with dichromate	COD-Dcr	mg/l O2	11
Biochemical Oxygen Demand	BOD5	mg/l O2	11
Biochemical Oxygen Demand	BOD7	mg/l O2	11
Total Organic Carbon	TOC	mg/l C	11
Total suspended matter	TSM	mg/l	11
Detergents	DET	mg/l	11
Ion Nitrates	NO3-	mg/l	11
Nitrates nitrogen	N-NO3-	mg/l N	11
Ionization of nitrates	NO2-	mg/l	11
Nitrates	N-NO2-	mg/l N	11
Ammonium ion	NH4+	mg/l	11
Ammonium nitrate	N-NH4+	mg/l N	11
Total inorganic nitrogen	TIN	mg/l N	11
Non-ionized ammonium	NH3	mg/l	11
Non-ionized ammonium nitrogen	N-NH3	mg/l N	11
Total organic + inorganic nitrogen	AT	mg/l N	11
Total organic nitrogen	TON	mg/l N	11
Orthophosphate	PO43-	mg/l	11
Phosphorus orthophosphate	P - PO43-	mg/l P	11
Total phosphorus (poly + ortho)	Ptot.	mg/l	11
Sulphate Ion	SO42-	mg/l	11
Total hardness	Th	0Dh	11
Calcium solidity	Fca	mg/l	11
Magnesium solidity	FMg	mg/l	11
Calcium ion	Ca+	mg/l	11

Magnesium ion	Mg+	mg/l	11
P-Alkalinity	Pa	ml 0.1 e HCl	11
M-Alkalinity	Ma	ml 0.1 e HCl	11
Total alkalinity	TA	mmol/l HCl	11
Bicarbonates	HCO3-	mg/l	11
Free chlorine	Cl2	mg/l	11
Chlorides	Cl-	mg/l	11
Silicate	SiO32-	mg/l	11
Silicon on silicate	Si - SiO32-	mg/l Si	11
Chlorophyll a	Chlorophyll a	µg/l	11
Phenol	C6H5OH	mg/l	11
HEAVY METALS			
Chromium	Cr3+	µg/l	2
Cadmium	Cd2+	µg/l	2
Nickel	Ni2+	µg/l	2
Zinc	Zn2+	µg/l	2
Manganese	Mn2+	µg/l	2
Copper	Cu2+	µg/l	2
Iron	Fe2+	µg/l	2
Lead	Pb2+	µg/l	2

6.2. Annex 2

Codes of physical-chemical monitoring stations of surface waters - rivers

Code	Location	River	Emptying
RV01_011	Radavc	Drini i Bardhë	Mediterranean Sea/Adriatic Sea
RV01_012	Klina	Drini i Bardhë	Mediterranean Sea/Adriatic Sea
RV01_013	Gjonaj	Drini i Bardhë	Mediterranean Sea/Adriatic Sea
RV01_014	Vermica	Drini i Bardhë	Mediterranean Sea/Adriatic Sea

RV01_021	Istog	Istogu	Mediterranean Sea/Adriatic Sea
RV01_022	Zllakuçan	Istogu	Mediterranean Sea/Adriatic Sea
RV01_031	Stërnac i ulët	Klina	Mediterranean Sea/Adriatic Sea
RV01_032	Klina	Klina	Mediterranean Sea/Adriatic Sea
RV01_041	Drelaj	Lumbardhi i Pejës	Mediterranean Sea/Adriatic Sea
RV01_042	Peja exit	Lumbardhi i Pejës	Mediterranean Sea/Adriatic Sea
RV01_043	Grabanica	Lumbardhi i Pejës	Mediterranean Sea/Adriatic Sea
RV01_051	Banjë e Malishevës	Mirusha	Mediterranean Sea/Adriatic Sea
RV01_052	Volljaka	Mirusha	Mediterranean Sea/Adriatic Sea
RV01_061	Deçan entry	Lumbardhi i Deçanit	Mediterranean Sea/Adriatic Sea
RV01_062	Kralan	Lumbardhi i Deçanit	Mediterranean Sea/Adriatic Sea
RV01_071	Jasiq	Ereniku	Mediterranean Sea/Adriatic Sea
RV01_072	Ura e Terzive	Ereniku	Mediterranean Sea/Adriatic Sea
RV01_081	Zhdrella	Rimniku	Mediterranean Sea/Adriatic Sea
RV01_082	Xerxe	Rimniku	Mediterranean Sea/Adriatic Sea
RV01_091	Buqalla	Toplluha	Mediterranean Sea/Adriatic Sea
RV01_092	Pirana	Toplluha	Mediterranean Sea/Adriatic Sea
RV01_101	Prevalla	Lumbardhi i Prizrenit	Mediterranean Sea/Adriatic Sea
RV01_102	Vllashnje	Lumbardhi i Prizrenit	Mediterranean Sea/Adriatic Sea
RV02_011	Kushtova	Ibri	Black Sea
RV02_012	Mitrovica	Ibri	Black Sea
RV02_013	Kelmend	Ibri	Black Sea
RV02_021	Bablak	Sitnica	Black Sea
RV02_022	Lipjan	Sitnica	Black Sea
RV02_023	Vragoli	Sitnica	Black Sea
RV02_024	Plemetin	Sitnica	Black Sea
RV02_025	Nedakovc	Sitnica	Black Sea
RV02_026	Mitrovica	Sitnica	Black Sea
RV02_031	Marinca	Llapi	Black Sea
RV02_032	Podujeva	Llapi	Black Sea
RV02_033	Millosheva	Llapi	Black Sea
RV02_041	Bresje	Prishtevka	Black Sea
RV02_051	Vragoli	Graqanka	Black Sea

RV02_061	Pjetërshtica	Drenica	Black Sea
RV02_062	Vragoli	Drenica	Black Sea
RV02_062B	Drenica	Çikatovë e Vjetër	Black Sea
RV02_071	Devetak	Shtime	Mediterranean Sea/Adriatic Sea
RV02_072	Vojnovc	Shtime	Black Sea
RV03_011	Korbuliq	Morava e Binçës	Black Sea
RV03_012	Kllokot	Morava e Binçës	Black Sea
RV03_013	Ranillug	Morava e Binçës	Black Sea
RV03_014	Domoroc	Morava e Binçës	Black Sea
RV03_021	Marec	Kriva reka	Black Sea
RV03_022	Domoroc	Kriva reka	Black Sea
RV04_011	Prevallë Subain	Lepenci	Mediterranean Sea/Aegean Sea
RV04_012	Kaçanik	Lepenci	Mediterranean Sea/Aegean Sea
RV04_013	Hani i Elezit	Lepenci	Mediterranean Sea/Aegean Sea
RV04_021	Jezerc	Nerodimja	Mediterranean Sea/Aegean Sea
RV04_022	Bifurkacioni	Nerodimja	Mediterranean Sea/Aegean Sea
RV04_023	Gërlica	Nerodimja	Mediterranean Sea/Aegean Sea
RV04_024	Kaçanik	Nerodimja	Mediterranean Sea/Aegean Sea

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