Mining Pollution in Mitrovica


The authors argue that the drinking water quality in Mitrovica region is not satisfying. One of the contributors toward this is the pollution from the industry as well as the waste water. Indeed, this pollution includes the river of Iberi and Sitnica. This report presents the state of surface waters in the two main rivers of Mitrovica, and as such helps one determine the level of drinkable water in Mitrovica region.

This Article/Research Paper relates to Mitrovica and its water pollution problems. Mitrovica is based in the North of Kosovo and owns the main part of natural resources. According to the article, Mitrovica is not only the most polluted city in Kosovo, but in Europe. The article discusses the water pollution caused by exploiting those natural resources, which basically pollutes the 3 main rivers that cross the city and from which the city gets the main water supply. It contains a lot of tables to make the contamination of the drinking water clear. The article is originally written in English.


This article was written by a group of researchers from the University of Siena. The researchers conducted a soil-based geochemical survey in an area of about 350 km² in northern Kosovo around the Zvečan Lead-Zinc smelter. The article shows that the surface area, especially around the smelter is heavy polluted with heavy elements such as Lead, Zinc, Cadmium etc. The article also contains many graphs of pollution levels and also some maps of the heavy polluted areas. One of the findings of this article is that the pollution in this area exceeds by large the EU standards on soil pollution. Additionally, the authors also warn of the effects of this pollution in the air quality and in the wild and cultivated plants that enter the food chain. Concentrations of heavy elements related to mining activities significantly decreased with depth; hence the pollution basically affected the upper 50 cm of soil, and it decreased systematically with distance from the smelter. Finally, the authors also argue that Soil remediation could be rather simple and relatively inexpensive owing to the limited depth of the contaminants.


Furthermore, the authorities have immediate obligations to take deliberate, concrete and targeted steps towards the full realization of the highest attainable standard of health with particular attention to the core principles of non-discrimination and equal treatment especially regarding women, children, adolescents and vulnerable groups such as refugees and displaced persons. As for children, the Convention on the Rights of the Child foresees the right to protection, the right to information, the right to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health. In addition, responsible authorities are obliged to ensure the full implementation of this right.


The authors offer some guidelines and valuable lessons on environmental management in Kosovo, particularly relevant to side effects caused by lead and zinc mining facilities in the Trepca region. The article argues that the heavy metal emissions from this area represent a high risk level for the local population. In addition to this, the authors continue into claiming that Kosovo should focus more on environmental issues, as part of sustainable economic growth. I think this article gives some indication as to what extent environmental issues impact individuals, but it also contributes toward realizing that such concerns need immediate reaction that would lessen the negative consequences from it.

This is a project that focuses on the environmental impact that a huge dormant lead and zinc mining facility - Trepca causes. The project have contributed toward realizing that such concerns need immediate reaction that would lessen the negative consequences from it. This Article/Research Paper relates to Mitrovica and its water pollution problems. Mitrovica is based in the North of Kosovo and owns the main part of natural resources. According to the article, Mitrovica is not only the most polluted city in Kosovo, but in Europe. The article discusses the water pollution caused by exploiting those natural resources, which basically pollutes the 3 main rivers that cross the city and from which the city gets the main water supply. It contains a lot of tables to make the contamination of the drinking water clear. The article is originally written in English.


This paper studies the quality status of drinking water for the five alternative springs in Drenica and Mitrovica zone. There have been determined seven water physical and chemical parameters and the levels of eight heavy metals Fe, Zn, Mn, Cu, Ni, Cd and Pb. In parallel with the determination of physical and chemical values, we have also determined anthropogenic pollution (chemical and technological processes at "FERONIKEL" Smelter in Drenas). The determination of physical and chemical parameters had been carried out immediately after water sampling in springs, while the identification of levels of heavy metals had been made at the National Public Health Institution in Pristina by Spectrophotometer of Atomic Absorption in the flame of low level of the detection expressed in ìg/ml or ppm. A calibrating curve on ppm levels of detection had been created for each metal and then the sample absorbance had been made. The research was carried out during the two seasons of summer-winter 2007-2008. The outcomes of physicalchemical parameters obtained for five springs are a result of average values permitted, and as for identified levels of heavy metals, some of them exceed MPV (maximum permitted value) of the WHO's standards with all springs. Heavy metals result in higher levels than permitted by the World Health Organization (WHO's) standards are Ni, Pb, Mn and Cr. The excess of permitted levels of the WHO with these springs may be attributed to geomorphologic structure and geochemical phone and springs. Heavy metals result in higher levels than permitted by the World Health Organization (WHO's) standards are Ni, Pb, Mn and Cr. The excess of permitted levels of the WHO with these springs may be attributed to geomorphologic structure and geochemical phone and springs.


This research paper written by Fatos Rexhepi, Ardian Rugova, and Tahir Arbneshi in English was intended to determine the quantity of lead.
cadmium, copper and zinc in the sediment of the Iber River as well as identification of the potential pollutants of this water. The authors conducted this study by the side of Department of Technology and the Department of Chemistry in University of Pristina in 25, 29 May 2010. This article written by Rexhepi, Rugova, and Arbenishi, contains a research over the heavy metal pollution in the aqua system, specifically in the Iber River. This river is a subject to this kind of pollution being close to the major mines of lead and zinc in Zvecan and Mitrovica. The result from the research, which included an experiment of the water composition, showed that Iber contains copper, zinc, cadmium and increasing quotes of lead. This research gives data in one of the major environment related issue - that is water pollution. Thus it can be very useful in backing up the arguments over the water pollution in Kosovo.


This is an article written in June 2005, that talks about the evacuation of Roman, Ashkali, and Egyptian people that were living in a near region of Mitrovica. It explains how according to the World Health Organization and other UN organizations in Kosovo, more than 600 people were in serious health danger because of the mines in Mitrovica. The article also explains the fact that after the war in Kosovo, nobody really cared about the environment, and that there was lack of leadership to solve environmental issues, and especially this in Mitrovica. Further, the article explains how UNHCR has built these camps as a temporary solution, but the people who lived there stayed longer than 45 days.

According to some studies, the article talks also about the overall population in Mitrovica which has elevated levels of heavy metals, especially lead, but the samples from the three RAE IDP Camps had the most alarming lead levels in the blood. More than four years earlier the 2000 UNMIK report had also noted higher levels among RAE internally displaced persons (IDPs). According to WHO, a blood lead level of 10 micrograms per deciliter or below is acceptable. The measurements from the IDP camps were much higher than in the surrounding population and at levels which exceeded any region WHO had previously studied. Twelve children had exceptionally high blood lead levels, greater than 45 micrograms per deciliter. According to the article, WHO has made some experiments and has recommended the evacuation of pregnant women and children, because they were mostly affected by the high risk of getting sick in the area they were living. Although these organizations made an alert to the government and other organizations and public institutions, nobody helped the three populated camps with minority people in Mitrovica. And as one international humanitarian worker put it, “It is not a question of a solution, it is a question of the lack of will to do anything -- nobody seems to want to help the Roma.”

Initially, in spring 2005 some organizations and local institutions decided to initiate a Risk Management Plan, and to evacuate the people from there. They started also to distribute hygiene packs and wood stoves. And it is confirmed that since than the sanitation in and around two of the camps has been greatly improved. WHO concluded in October 2004 that the primary source of lead contamination was the existing contaminated soil, which has measured in the camps as much as 359 times beyond safe limits. The illegal smelting activities are continuing but have been greatly reduced and many of the larger smelting sites have been eradicated. This is being closely monitored by the municipalities and international organizations. The article says that the situation is further complicated also because of the fact that the RAE people do not want to go back to live were they lived before (South Mitrovica), but the want that the local institutions to help them for a better life. Also one thing to mention is the fact that most of the people living in these camps have not yet recognized Kosovo’s independence, and this plays a major role.

However, refugees international recommended some points to be considered: - by June 30, 2005 all pregnant women and children from birth to six years old be evacuated to rented flats in North Mitrovica or temporary shelters at the South Mitrovica site. Regular testing of all IDPs in the RAE camps continue and any person testing above 45 micrograms per deciliter be given immediate medical attention and relocated, - the SRSR instruct the International Municipal Representatives of the three municipalities involved to begin immediate negotiations with the municipal governments to provide a list of suitable land sites for the evacuation. From the lists provided, the SRSG choose the best possible site by June 30, 2005, - the World Bank and/or the European Agency for Reconstruction commit to a comprehensive environmental clean up of the North Mitrovica lead sites as recommended in the UNMIK November 2000 repot


As, Cd, Cu, Pb, Sb and Zn concentrations were determined in two earthworm species (Allolobophora rosea and Nicrodillus caliginosus) from a mining and industrial area in northern Kosovo and compared with their contents in the bulk soil and the main soil fractions. Earthworm specimens were collected at fifteen sites located at different distances from a Pb–Zn smelter along a gradient of decreasing contamination. Individuals of A. r osea and N. caliginosus showed similar tissue levels of As, Cd, Cu, Pb, Sb and Zn, suggesting that earthworm species belonging to the same eco-physiological group have a similar propensity to uptake and bioaccumulate heavy elements. Cd, Pb, Sb and Zn concentrations in both earthworm species were positively correlated with the respective total soil contents and generally decreased with distance from the smelter. The bioaccumulation factor (BAF) revealed that Cd and Zn were the only elements bioaccumulated by earthworms. The rank order of BAF values for both species was as follows: Cd >> Zn >> Cu >> As = Pb = Sb. The absorption of Cd, Pb, Sb and Zn by earthworms mostly depended on the extractable, reducible and oxidable soil fractions, suggesting that the intestine is likely the most important uptake route. The extractable soil fractions influenced the uptake of these heavy metals, whereas the reducible fractions were important mainly for Pb and Zn. The metal distribution in the body showed that Cd was mainly immobilized in the body, whereas Cu and Zn were preferably accumulated in the exuviae. The results of this study showed that heavy metals were accumulated by earthworm species and could be used as a potential tool to study heavy metal contamination in the smelter area.


This paper reports the results of a geochemical study focusing on the partitioning of As, Cd, Cu, Pb, Sb and Zn in soils of the Kosovska Mitrovica mining area in northern Kosovo. The main objective was to define the element mobility in soil and potential bioavailability in relation to soil contamination levels. The Kosovska Mitrovica area is one of the main industrial sites in the former Yugoslavia and a world-class mining district in Europe. Extensive and locally very marked contamination mainly by Pb, Zn, Cd and Sb was found in soils, with the highest concentrations measured close to the Zvecan smelter. The study of As, Cd, Cu, Pb, Sb and Zn partitioning in the water soluble, extractable with 0.1 M acetic acid, reducible, oxidable and residual fractions of soils revealed that Pb was mainly associated with the reducible fraction, Cd with the extractable and reducible fractions, and As, Cu, Sb and Zn with the residual fraction. Heavy element fractionation in contaminated soils was influenced by the presence of owner mineralogical phases related to the emissions of the Zvecan smelter and to materials windborne from mining and industrial

“...the air in Mitrovica has hundreds of times more than the iron powder is permissible, whereby statistics, Ibar edge city is among the most polluted cities in Europe”, it was said in the open debate to representatives of NGOs, held in north Mitrovica. Representative of the Centre for the development of local environments said that one of the main positions emerging from this debate is that everyone should be aware of the importance of preserving the environment. Various reports have specified that this city contains very high amounts of lead in the air. This was confirmed after the return of some KFOR soldiers from Scandinavian countries where, after analysis has emerged that high amount of lead in the blood endangers their lives. Pollution was confirmed a few weeks ago the Ministry of Environment through a study according to which Kosovo ground water and air is heavily polluted and should be started as soon as possible to protect their lives.


Mitrovica had the largest metallurgic and mining complex (Trepa) in Europe which commenced activities in 1993 with the extraction of lead, cadmium and zinc. Many industrial plants existed in the complex such as lead smelter, fertilizer production plant, refinery, battery factory, zinc electrolysis facility and a sulfuric acid plant. The significant amount of heavy metal pollutants were released to the surrounding area including populated residential areas and therefore associated with human health risk. The minority communities in three refugee camps in Mitrovica, Kosovo have been significantly exposed to environmental lead originated from large-scale mining and smelting industries since 1999. Even the smelter was closed down in 2000 by United Nations but the impacts of the abandoned mining dumping, tailing dams are still left behind. The initial risk assessment by WHO in 2004 indicated children’s blood lead levels in these communities are dangerously high. Soil contamination due to historical and ongoing pollution from these complexes is also considered as a key source of exposure. A systematic investigation for the soil contamination by lead and other heavy metals was performed in year 2006. Most soil samples contain significantly high lead amount exceeding the US Environmental Protection Agency standard of 400 mg kg⁻¹. The highest amount of lead, 151,000 mg kg⁻¹ with the average of 134,000 mg kg⁻¹ was found in the sample close to the former smelter. Soil lead existed as relatively high amount of bioavailability fraction which may be confirmed with the recent study that no lead bearing phases could be observed directly by XRD. The resemble trend of lead isotope ratios (206Pb/207Pb) in tailings (1.175±0.003), soils from former smelter (1.175±0.014) and from the relocated area (1.173±0.011) revealed that tailings may be one source of lead. However, sustainable monitoring of environmental condition and continuous risk assessment are required to prevent lead and other heavy metal exposure in this area.


According to the World Health Organization and other UN organizations in Kosovo, more than 600 people were in serious health danger because of the mines in Mitrovica. The fact that after the war in Kosovo, nobody really cared about the environment and that there was lack of leadership to solve environmental issues, and especially this in Mitrovica. Further, the UNHCR has built these camps as a temporary solution, but the people who lived there stayed longer than 45 days. According to some studies, the overall population in Mitrovica which has elevated levels of heavy metals, especially lead, but the samples from three RAE IDP camps had the most alarming lead levels in the blood. More than four years earlier the 2000 UNMIK report had also noted higher levels among RAE internally displaced persons (IDPs). According to WHO, a blood lead level of 10 micrograms per deciliter or below is acceptable. The measurements from the IDP camps were much higher than in the surrounding population and at levels which exceeded any region WHO had previously studied. Twelve children had exceptionally high blood lead levels, greater than 45 micrograms per deciliter.


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In this article, Shala, Dragusha, and Sadiku, present the results of a research conducted in the area near the Mining Complex Trepa in Kosovo, with the purpose of finding the level of environmental damage caused by the mine emissions. Their conclusion showed that the area around Trepa is negatively affected by the mining sector, specifically its toxic/acidic pollution, which comes as a consequence of unsafe working procedure and poor waste management. To evaluate their results, the authors use the limit values set by World Health Organization (WHO). Based on these data, they reach a conclusion that this area represents a major threat for the health of local inhabitants. Due to the lack of data and information regarding the level of pollution in this area, the article itself is very important source in building an argument how Trepa is one of the major pollutants in Kosovo.

The town of Mitrovica is one of the cities with the highest air pollution, in particular with heavy metals. Source of air pollution are industrial dumps generated during metallurgical mining activities, chemical, and finalization of raw materials. In this context are explored the features of air pollution case suspended particles, chemical composition and their distribution. Monitoring of air pollutants with particles is conducted in different parts of the city, respectively, in urban and industrial zones. From the values obtained based on chemical analysis of dust in the air, it follows that the presence of suspended particles containing heavy metals exceed the permitted values. In certain places even double then allowed values, 246,752 µg/m3. While the source of pollution is known, the amount of these pollutants reaches into millions of tons, it is urgent needed to prepare a strategic plan for rehabilitation and elimination of these landfills.


The results of a study on the spatial distribution of arsenic in topsoil (0-5 cm) over the K. Mitrovica region, Kosovo, are reported. The investigated region (300 km2) was covered by a sampling grid of 1.4 km × 1.4 km. In total, 159 soil samples were collected from 149 locations. Inductively coupled plasma mass spectrometry (ICP-MS) was applied for the determination of arsenic levels. It was found that the average content of arsenic in the topsoil for the entire study area was 30 mg/kg (from 2.1 to 3,900 mg/kg) which exceeds the estimated European arsenic average in topsoil by a factor of 4.3. Contents of arsenic in the topsoil exceeded the optimum value recommended by the new Dutchlist (29 mg/kg As) in 124 km2. The action value (55 mg/kg As) was exceeded in 64 km2, with the average content of 105 mg/kg (from 55 to 3,900 mg/kg As).