

The Role of Industrial Waste in the Ecological Conjunction

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Summary:

In the article has been considered one powerful source of environmental pollution- Industry. Especially importance are canned industrial waste, which are without any control and has importance impact on the surface water and soil.

Key words: industrial waste, ecological problem, heavy metal.

Introduction

The strongest source of emission of man-made ingredients in the environment is the industry, which is distinguished by its magnitude, various and abundance of exhaust gases and wastewater. One of the areas of human practice activity is mining-making industry. In the process of obtaining raw materials (especially using open quarries) the environment is damaged. Mining in an open career is the most widely used method in Georgia. The use of this method leads to the degradation of the fertile layer of soil, pollution of soil, surface and groundwater, degradation of biodiversity sites. Forests and other vegetation covered by forests are significantly reduced, sharply broken natural equilibrium in the surface and ground water balance, in the elements geochemistry. In addition, the funnel rocks, the quarry and other disturbed lands, which are affected by the influence of solar, wind, atmospheric sediments and other factors became hearth of environmental pollution, For example, the Chiatura and Madneuli suburbs will be used [1].

Photo 1. The waste of Barite treatment factory of Chordi (Racha)



The cause of ecological complications is also the waters of the mine and the storage facilities. For example, arsenic concentrations in the waters of arsenic sulphide ores of Racha is 0,5-1,0 mg /l, in ore watershed is 8-10 mg/l. The career water of Madneuli contain to 40-50 mg/l, also is high its acidity. The increased acidity is also in coal mine water (pH 2.5-4.5). The source of contamination of rivers is the

wastewater for ore enriching factories. The river Kvirila is a good example of this [1].

Photo 2. The waste of Barite treatment factory of Kazreti (Bolnisi)



One of the most dangerous sources of environmental pollution is the accumulated waste and mining of mining-extraction and enrichment industries, which is accumulated in the surrounding areas, often completely uncontrolled. Especially dangerous arsenic and shale in villages in Tsana and Uravi (formerly of the arsenic extraction and enrichment enterprise). As well as manganese-containing waste in Zestaponi, barite rocks in Chordi, Kazreti and Kutaisi. During the full-scale work of the industry sector, a large number of contamination cases emerged in industrial cities: Rustavi, Zestafoni, Bolnisi and others. The adjoining areas of these factories were formed for many years as geochemical province of toxic elements of increased concentrations. Because the toxic elements have a long period of breakdown soil pollution levels are still high in the areas adjacent to Tbilisi, Rustavi, Zestafoni, Kutaisi, Batumi, Poti and especially Madneuli mining complex (see table 1) [2].

Accumulated hazardous wastes are the source of Soviet industrial enterprises. Part of the enterprises are privatized and the corresponding wastes are in the operation of an operator (such as manganese-containing waste in Chiatura). Accordingly, the operator of the enterprise is responsible for contaminating the environment with the waste. Other

Table 1. Pollution indicators with toxic elements of some of the inhabited regions of Georgia

#	Name of place	Concentration of toxic elements, mg/kg					
		Lead	Cooper	Zinc	Manganese	Nickel	Chromium
1	Tbilisi	33.0-65.4	157-270	197-400	750-1100	107-140	132-280
2	Rustavi	56.0-140.0	88.0-160	113-200	1082-1400	70.0-180	123-200
3	Zestafoni	10.0-69.0	54.0-200	80.0-190	1300-2600		126-186.9
4	Kutaisi	44.8-279	45.5-100	81.0-116.7	739.6-1089	61.5-122.5	64.4-114.5
5	Batumi	10.0	118.0-123.8	99.0-132.7	533-1333		
6	Limit permissible concentration	32.0	3.0	23.0	1500	4.0	9.0

enterprises have been shut down and their recovery is not planned (Arsenic production in Racha-Svaneti) and maintenance of waste, conservation and neutrality is the responsibility of the state [3;4].

Conclusion:

It is necessary right management of waste and taking specific measure, to avoid environmental and health problems. Policy on waste management at the European Commission and national levels main focus is on reducing waste generation and providing them with benefit. Each country has a characteristic system of waste management, which is tailored to the social, environmental and economic specifics of this particular country. It is important to understand these experiences for the development of an acceptable system for Georgia.

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