

## **PROBLEMS OF REHABILITATION OF URANIUM WASTE IN MOUNTAIN AREAS OF KYRGYZSTAN**

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**Abstract:** Mountain - is the last major regions where is the last natural landscapes and there are used in traditional mount (nomadic, semi-nomadic herding, etc.). The extraction and transportation of minerals are one of the major threats to biodiversity of mountain ecosystems in the country. After (1991) independence in the country there is begun an intensive exploration of mineral resources and environmental issues and the environment remain in the background. If the ecosystem of the mountain will be destroyed, then disappear related components of biodiversity (the richness of the country, including endemic and others), the geo-morphological processes will active in the mountains (landslides, avalanches, erosion of soil and rock, etc.).

In some areas of Kyrgyzstan over the past 80 years of mining has accumulated vast amounts of structures in the form of waste dumps, tailings ponds and dross ponds. On the territory of Kyrgyzstan was formed 55 tailings, the total area of 770 hectares, of which more than 132 made about million m<sup>3</sup> of tailings and 85 mining dumps are accumulated 700 m<sup>3</sup> waste, cover an area of over 1,500 hectares, of which 31 and 25 tailing dumps - uranium waste, the volume of 51.83 million m<sup>3</sup>. As period of 2012, their total radioactivity was over than 90 thousand curies [1, 2, 4].

It is known that almost any interior design involves direct destruction of natural ecosystems. Mines, quarries, dumps, and the crowded river channels allocated to significantly alter the landscape, causing ecosystem changes in the scale of entire watersheds and river basins. The network infrastructure of the mining industry (roads, railways, gas and oil pipelines, power lines and other communications, shift camps, etc.) entangles more extensive areas, mountains and fragmenting populations of vulnerable species, becoming a constant threat to wild animals and plants. The extraction and primary refinement of fossil raw materials are often a powerful source of air pollution and natural waters, the bane of all sorts (including the highly toxic heavy metals, radionuclides, dioxins, cyanides, etc.), dust (also often poisoned), as well as noise and thermal pollution, even in normal mode. But in this production are frequent accidents and disasters.

Many of the tailings in the country are located in populated areas, seismic and landslide prone mountain areas. Not yet fully known radiological impact on the environment and the population - low standard of living, social and migration issues, etc. contribute to the overall poor socio-psychological situation in these areas, including threats and risks from radiation and other potential is physical risks. For example, the uranium tailings and waste dump of Biosphere territories of Issyk-Kul is located 2.5 km east of the residential village, but due to natural factors (rainfall, groundwater, landslides and mudflows) an environmental threat to the Issyk-Kul Lake (1.5 km from the lake) and the nearest villages, located on the slopes with a slope between the mountains to 30-45 ° [1, 2].

Present time the protective structures and some sections of the surface of uranium tailings and waste dumps are destroyed without untimely repairs and services in the country. It was established that in mountain areas of the uranium tailings as "Tuyuk Suu", "Taldy-Bulak" and some areas of uranium technogenic province "Mailu-Suukoy" are potentially dangerous, which are included in the register of the Ministry of Emergency Situations of the Kyrgyz Republic.

It should be emphasized the fragility of the soil in the mountainous areas of biosphere in Kyrgyzstan. It has a low power (20 to 50 cm), and its preservation depends on the ecological balance in the mountains (especially mining development, etc.) and the unpredictable consequences of natural and manmade disasters in the surrounding area and the region. It should be noted that the radiological analysis of the tail materials and assessment of the state of the environmental contamination with radionuclides are not done after the close of many uranium tailings and waste dumps in the Republic, we should be continue the work in this direction of research and monitoring [3, 5].

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## **Country or International Organization**

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