ENVIRONMENTAL PROBLEM CAUSED THE PROVINCE OF URANIUM-MAILI-SUU

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Government of the Kyrgyz Republic have achieved funding from the World Bank (WB) in the framework of the project "Prevention of emergency situations" of research, design and research and practical work to improve the situation in the most dangerous area of Maili-Suu. WB project in Maili-Suu tailings on #3 and #18, who from 2009 to 2013 year transferred to the tailings #6, located higher on the right bank of the river Maili-Suu near the former CHP.

Tailings and dumps Maili-Suu area located foothill zone their soil much erudite. Soils contain from 1-1.5 to 2-2.5% of humus, 0,12-0,32% of the total nitrogen. The reaction of the soil environment is alkaline (pH of aqueous suspension 8.0-8.5). Soils are under-N and P. The tailing him busy neighborhood mostly species of herbaceous plants, shrubs occasionally. Sources of pollutants of soils and vegetation of man-made uranium province Maili-Suu - is tailing dumps and their reclamation work oil wells, waste Lamp Factory and municipal landfills.

Research group lab biogeochemistry B&PI National Academy of Sciences, to conduct an annual study on all the natural environment: soil, water, air and plants. Background radiation tailings and dumps Maili-Suu from 25-80 mR/h and in abnormal areas of 260-380 mR/h and above. The radiation background of the city and its exceeds within an acceptable level, but on the premises and homes radon is much higher than from MAC. We have investigated some of the accompanying elements of uranium as Co, Sr, Cd, Pb and others. Elemental cobalt content in the surface soil layer varies widely from 1 to 40 mg/kg. MPC and APC cobalt Republic 5 and Clark - 18 in the soils of the objects range of variation of cobalt from 3 to 40 mg/kg and exceeds the specified limits. In plant samples investigated region varying concentration Co ranging from 0.35 to 0.48 mg/kg, and MPC 15 mg/kg.

The soil cover of the investigated region Sr ranges from 300-400 mg/kg. Sr content varies from plant 23.6 387 mg/kg. Toxic levels of Sr for plants is 30 mg/kg ash. Strontium content exceeds toxic levels of plant samples.

Prevalence of Cd in igneous and sedimentary rocks does not exceed 0.3 mg/kg cadmium geochemistry closely knit with the geochemistry of zinc. Average values (by dry weight) for all cereals grains ranges from 0.013 to 0.22 mg/kg herbal - from 0.07 to 0.27 mg/kg. In plant samples investigated province cadmium ranges from 0.0062 mg/kg to 1.48 mg/kg.

In the soils studied objects share of lead does not exceed the MPC, APC, but noted excess clark concentration on dark gray soils. The amount of lead in all plants at a level not harmful to plants exceed the concentration (0.14-2,44 mg/kg). Metabolism violation of plants causes less or more Occupational vital elements, as well as uranium-technological areas maybe more concentrated heavy metals such as Hg, Cu, Ni, Pb, Co, Cr, Mo and Cd.

These increased rates of background radiation, due to the technical and geo-environmental condition of tailings and waste dumps and their reclamation and rehabilitation. After completion of remediation work on the tailings №3 №6 most risk from radioactive uranium tailings in the province of Maili-Suu decreased. This is not the end of subjects need to conduct a detailed investigation and decision-making, it is necessary to continue the rest of the tailings reclamation and others.