

Impacts of Uranium Mining on the Environment of Fergana Valley in Central Asia.

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The territory of Fergana Valley in Central Asia during 50 years has been one of the major mineral and raw material storehouses of uranium for former USSR. Within the mountain framing of this depression in adjacent areas of Kyrgyzstan, Tajikistan and Uzbekistan in 1943-1993 more than ten uranium mines were operated. As a heritage of their long-term activity during "cold war" a huge volume of radioactive waste in radioactive piles (94 min. tons) and tailings (80 min. tons) is left. These waste tailings for sake of momentary interests of military-industrial establishment of USSR were placed on the territory of catchment basins of Syrdarya river, as well as in river beds, floodplains, which are streaming down the densely populated Valley areas of Fergana.

A series of tailings is kept in a zone of influence of such natural disasters as earthquakes, enormous landslides, destroying floods and mudflows, becoming more rapid in the recent decade due to intense climate warming within mountain framing of the Valley.

The analysis of geoecological situation in the area of radioactive waste tailing distribution shows that their negative influence upon environmental conditions of the area is realized in two major forms:

- pollution with radionuclids and toxic elements of the environment, and most of all of the vitally critical water resources;
- increasing risk of destruction of tailings in the event of earthquakes, landslides, erosion making disastrous environmental effects of regional scale to 10 million people inhabited in the Fergana Valley.

The potentially hazardous tailings (hot spots) are examined; rating estimation of ecological risks is made that can be the basis for building and realization of measures (projects) for rehabilitation of the most contaminated areas and the most vulnerable radioactive waste tailings.