Metal mining in Kyrgyzstan: Problems and recommendations

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Some figures of current situation in mining industry of Kyrgyzstan

- According to the review of medium- and long-term development of mining industry in Kyrgyzstan (2014), on the state balance of mineral resources listed about two hundred deposits with fully explored, or in a state of active field works of mineral raw materials. These are the deposits of antimony, copper, gold, tin, lead and other metals. Currently being developed 8 primary deposits of gold – Kumtor, Makmal, Solton-Sary, Terekkan, Ishtamberdy, Jamgyr, Karakazyk and Levoberezjnyi.

Legacy from Soviet time

- There was the the results of development of uranium, rare earth metals, in the form of tailings. According to the State Cadastre of waste mining in Kyrgyzstan, in the country there are 92 objects with toxic and radioactive mining wastes, which buried more than 457 million tons of waste containing radionuclides, harmful and toxic substances. More than 25 years on the issues of disposal or preventive maintenance of tailings money from the budget is not properly allocated. With the help of the World Bank two tailings have been rehabilitated n Mailu-Suu.

Natural and climatic features of Kyrgyzstan.

- Territory of Kyrgyzstan for 90% is covered with mountains. Mountain ecosystems are vulnerable, which leads to increased natural and anthropogenic variability of natural processes.Climate of Kyrgyzstan has a vertical zonality and refers to sharply continental. There are unequal distribution of chemical elements in soils and topography of the mountains itself - strongly dissected and intersected. In the mountains there are more often occurs natural disasters - avalanches, mudflows, rockfalls. Therefore, mining has an expressed impact on fragile mountain ecosystems and can cause its irreversible change and degradation.

Nature of Kyrgyzstan.The Gorge Ala-Archa near Bishkek.

Water Resources of Kyrgyzstan

- Kyrgyzstan has significant resources of underground and surface waters, the main stocks of which are in the rivers, permafrost glaciers and snow arrays. From the total area of the Republic 4.1% are covered by glaciers and snowfields. According to data available for the period of 60 years, on the territory of the Kyrgyz Republic there were 8208 glaciers. Ongoing active melting of glaciers is taking place, and according to experts' assessments the number of glaciers reduced for 20%. The big rivers of country (Naryn, Talas and other) have trans boundary meaning and flow to other countries of Central Asia.
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The largest lakes - Issyk-Kul, Son-Kul, Chatyr-Kul Sarychelek are in closed basins.

Legislative regulation of the mining industry impact of the on the environment.

- As part of the environmental policy reform, number of laws with environmental focus, have been developed and adopted, such as the Land Code of the Kyrgyz Republic ,the Forest Code of the Kyrgyz Republic, The Water Code. Laws of the Kyrgyz Republic: On Subsoil, the Environmental Protection , on Air Protection, On Ecological Expertise, on Biosphere Territories in the Kyrgyz Republic ,on Fauna, On Radiation Safety of the Population in KR, On Drinking Water, On production wastes and consumption, On tailings and waste dumps, On the Protection and Use of Flora, On Mountain Territories of the Kyrgyz Republic and others.

Base of conflicts of natural resources use

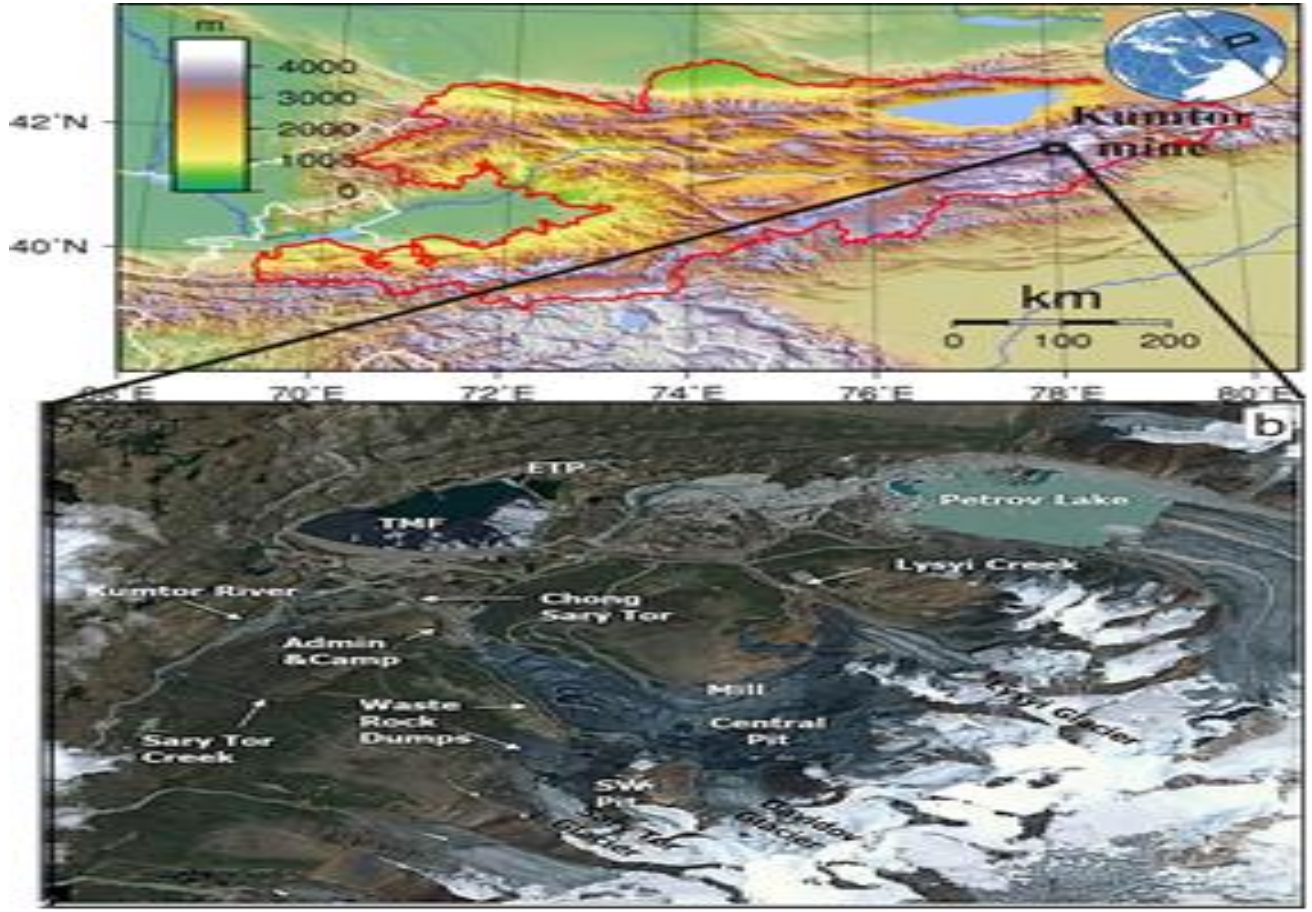
- With more than a hundred of the existing laws and regulations in Kyrgyzstan, there is no clarity in the system of legal relations in the field of natural resources, which leads to the conflicts between local communities and the users exploring natural resources. Lack of mechanisms that regulate water and land legal relations is also a potential source of environmental and socio-political tensions
- More than 60% of the population lives in the countryside and the main economical activity is agriculture- grazing the livestock and growing crops. Therefore, mining at the deposits conducted in fragile mountain ecosystems and close presence of water resources, often creates a conflict between the use of natural resources and associated risks of water pollution that has cross-border significance.
- Last decades such conflicts often happen in several regions of Kyrgyzstan, where mining companies started exploration or development of deposits.

Grazing livestock in Kyrgyz mountains

Gold mining at Kumtor

- Kumtor mine, where gold production is conducted by Canadian company Centerra Gold, located in the mountains of Central Tien Shan, in the center of the permafrost glaciation array at altitudes from 4000 to 4400m above sea level. The ore body deposit lies on the watershed between the glaciers Davydov and Lysyi, and partially covered by the glacier end area. At the Kumtor mine there are: gold extracting plant, and facilities of infrastructure. The mine is located at the water head system of Arabel river, Kumtor, e.g. in the area where the glaciers and water sources are formed and runoff of the major waterway of the Central Asia- river Naryn (Syr Darya).
- I.A.Torgoev, Yu.G.Aleshin. Geoecology and mining industry wastes in Kyrgyzstan. Bishkek, “Ilim”, 2009

Location and map of Kumtor gold mine



History of developing Kumtor gold mine

- The deposit was explored during the Soviet period, in the period 1978 – 1987. In 1992, the Canadian company Cameco and the Kyrgyz government signed an agreement on development of the Kumtor deposit. Before this, in first Kyrgyz Parliament were hot debates about this agreement. Parliamentary Comission was against this agreement , considering it unjust, and president Akaev released parliament.
- In 1995 construction of the mine have been started, the ice and overburden rocks removed. In 1997 commercial gold production started. Gold reserves at Kumtor assessed for about 716, 21 tons, whereas quarrying stocks are 316,57 tons and underground stocks 399,64 tons. Open way production method is used, and every day from 14 to 17 tons of explosives are used at the site. Gold extraction using cyanide is carried out.

Big accidents during exploitation of Kumtor Gold mine

- In 1998 cyanide accident happened when the truck of the company overturned into the river of Barskaun which is inflowing into the Lake of Issyk Kul and the lake has got 1700 kg of sodium cyanide. Since the villagers were informed only after 6 hours after the accident, residents used poisoned water for household needs and more than 800 people have had cyanide poisoning of varying severity. And 32% of these poisonings were confirmed by laboratory tests.
- In 2002 open pit wall collapsed, causing the death of the mine worker. The gold mine did not operated for six months, which caused large financial losses for the company and the country.

- April 2013 – Movement of glaciers Daydod destroyed part of administrative building at Kumor gold mine. Company forced to build new administrative building at new palce.

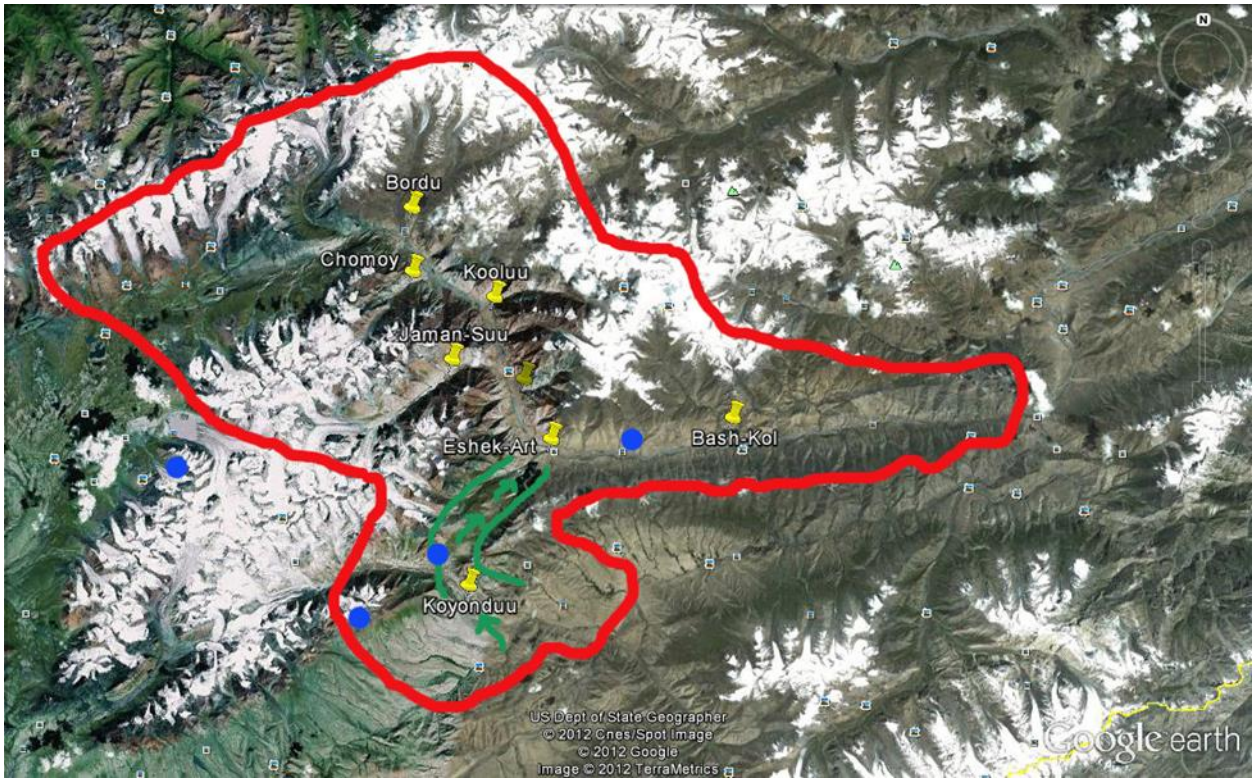
Violation of national legislation

- During the initial stage of the mine operations contrary to the feasibility study, decision has been taken by the Kumtor Operating Company on the placement of dumps at Glacier Davydov. In this way the requirement was violated provided for in §79 EPO and the Law of the KR "On the Water". From the pits more than 1 billion tons of rocks have been moved into the dumps as well as 77 million m^3 of glacial mass, which is equivalent of 60 billion liters of pure glacier water. The volume of waste rocks in dumps and cyanide tailings will increase, and all these wastes will remain forever at the rise of Naryn river, requiring constant monitoring and maintenance. With regard to the glaciers, then the plans of Kumtor Operating Company in 2012 at the end of the year its volumes in landfills will reach 80 million m^3, which is 10 times higher than estimated volume in the feasibility study.

Transformation and elimination of Davydov glacier Photo 1996

Remaining part of Davydov glacier . 2012 (Photo of Torgoev I.A.)

Sarychat-Ertash biosphere reserve which was included into the zone of the Kumtor mine in 2009. (Photo is provided by Mr.K.Dzhumabaev, Snowleopardtrust).



Violation of legislation

- For further development of exploration and mining operations at the "Kumtor" deposit in 2009 from the territory of the Sary-Ertash biosphere reserve for the needs of "Kumtor Operating Company" 4,380 hectares of land was expropriated without conclusion of the examination, which is a violation of environmental legislation. Only after the issuance of the recommendation of Interagency Commission on Kumtor in 2011, on the prohibition of conducting any works in the reserve, where I was the Deputy Chairman of the Commission, Centerra Gold company has stopped the installation of exploratory wells in the reserve.

Dynamic of chemical toxicants 1999-2012 at bottom (river) sediments

- Comparing different chemical elements concentrations at the bottom (river) sediments of the upstream areas of Kumtor river which is not exposed to mine facilities with their concentrations at the KZS point where clearly shown a consistent increase in the content of heavy metals of "Kumtor spectrum": tungsten, molybdenum, cadmium, cobalt, chromium, arsenic, lead, copper, manganese, antimony, tellurium and silver at downstream sections of Kumtor river. The analysis results conducted in 2012 shows that the majority of heavy metal concentrations at the end of the mixing zone as compared to 1999 is increased in 4-6 times. All of these testifies on the steady trend of increasing concentrations of heavy metals in sediments below the mine. A huge amount of waste (about 2 billion tonnes) will remain after mine closure in the upper reaches of the Naryn River forever, it will be obvious that the systematic accumulation of pollution from industrial wastes in the bottom (river) sediments of the Kumtor river inevitably cause further secondary pollution of surface waters in the basin of the Naryn River and the gradual migration of pollutants in the valley densely populated areas of Kyrgyzstan.

Civil society actions and independent expertise

- 1998 –protests of villagers,suffered from cyanide accident
- 1999 -2000 – independent expertise and monitoring conducted by me and our organization with attractiong independent geologists, glaciolgists etc.
- 2005 – protests of villagers of 3 villages demanding compensation for damage and diseases
- 2005 – (after first revolution), state commission formed with including civil society, independent experts . Agricultural damage was paid to inhabitants of suffered villages.

Civil society actions and independent expertise

- 2011 – Intergency comission created, with including independent experts, civil society. I invited Robert Moran , expert ,parliament sent him official invitation, but company didn't permit him to go to the site. Interagency report prepared Sary-Chat Ertash reserve lands were returned to reserve, By ToR prepared of HDC 'Tree of Life" juridical analysis done by Stuart Levit from Science and PP organization (USA) of agreement of 2009 on Kumtor.
- 2012 – parliamentarian comission on Kumtor created,They did also financial –economic analysis, juridical evaluation.
- 2012-2013 State comission on Kumtor did work and gave reccommendations . Bu not all recommendations were implemented.
- 2013 – protests in Saruu village near Barskaun.People were unsatisgfied by untransperent work of Issyk-kul developmennt fund, supported by Centerra and ecological impact of Kumtor
- 2003 -2014 there many protests against new deposits opening in different regions of Kyrgyzstan. People say: "put things in order at Kumtor first."

Recommendations

- - Do not conduct development works at sensitive zones – glaciers, heads sources of rivers, biosphere reserves and protected areas.
- -To ban cyanides in gold mining industry like in some European countries.
- Apply the best practices during the deposits development, in particular, to use non-cyanide technologies during the gold extraction.
- - - Consider all alternative options before deposits' development, with inclusion into the cost-benefit analysis on restoration of the natural capacity of the area concerned.
- - Transparency and access to information, general public participation before the beginning of projects on deposits development.
- - Observance of the Declaration of Rights of the Indigenous Population – and free informed consent for deposit development

Recommendations

- Kyrgyzstan is the participant of the International Extractive Industry Transparency Intiative since 2004 . Adoption in 2013 in Sydney during the Global Conference on EITI of a new standard, which is includes not only financial indicators on payments to the budget from companies, but also environmental and social indicators, will allow to apply it as an effective tool for local communities participation in decision making process during exploration and development of the deposits. In the new edition of the Law of KR on Subsoils there are certain articles are included on Recultivation Fund of the companies immediately upon commencement of their operations and introduction of the notion on social package, which has to be ensured by the companies in the area of operations. Our organization Human Development Center “Tree of Life” coordinates activity of the Consortium on national and sub-national level with organization of public receptions for the general public.

Recommendations

- Differentiated approach is of essence in the regions of Kyrgyzstan. In those areas where agriculture is developed in a bigger extent and the population getting their incomes from livestock and crops cultivation, it is necessary to avoid intensive development of deposits with natural minerals. And in contrary, in those regions where people traditionally living in towns and settlements with coal and other pits and the budget collected due to the operations of these mining enterprises, it should be promoted development of the extractive industry, but in compliance with high standards on environmental and industrial safety.