

Aleksey Rudenko

Uzbekistan
vice-president of centre "Environment abode"
The chief of a detail ecology-technological consignment
"Kiziltepageology"
Tashkent of Uzbekistan
Uzbekistan

Problems of an ecology of Uzbekistan and business on industrial waste

Nature of the laws in Uzbekistan it is accepted about a thirty and about half-hundred act in country by-laws of the certificates. Despite of, it seemed the created legal basis, the situation all time is directed to the channel, necessary for the state. The economic cradles, which the payments of the enterprises for above permitted standard ejections, accommodation of scraps and contamination of an environment were per the ninetieth years, have studied not for long. Ecologists conducted monitorings of check, the payments acted in local and republican funds of protection of a nature, and then were directed on prime nature of need. Government in December 2000^ã has defined the new order: 20 % of payments - fund of protection of a nature, and 80 % - in the budget. There are costs, money is not present, the cradles do not stimulate. Now at the stage of development the next order of collection of payments with severity for above permitted standard contamination and failure of the payment for normative. Let's live - we see. And it is far from being the vivid example short rope in work ecologist. There is also detective with independent examinations, melodramas with scheduled complex checks of the enterprises and much other - brightly describing an inconsistency of items ecologists (civil servants, standing on the guard of health of the population) and managing subjects (which main purpose to make something for this purpose the population, but not harming it to health). Hardly who from present will agree behind the same automobile to become lame, blind or bald.

It as to state inspecting organs. Now about ecological work& which are carried out by the state enterprises. In Uzbekistan the state program on a geoecological inspection of territory of republic on 1998-2005^{ãã} acts, in which some state enterprises realizing practically all spectrum of ecological work& are involved: from ecogeochemistry map-making before target monitoring of objects. So, for example, by our results of conducted researches the geoecological map of Uzbekistan and Aral region of scale 1:1000000 is issued, in two years the work& on middle scale map-making (1:200000) are finished. By results of radioecological monitoring of cities is detected and not one ten ownerless sources of an ionizing radiation by a potency from hundreds $\mu\text{R/h}$ up to 1R/h is liquidated. Outcomes of biochemical researches of substratums of animals and person (blood, the hair, milk, meat etc.) in regions of a disposition of large industrial centres of the Tashkent area (Almalik, Angren, Chirchik, Bekobod etc.) has shown significant exceeding of concentration of heavy and toxic chemical elements in biosubstratums (up to hundred standartes), with simultaneous growth of parameters morbidity of the population on inspected territories. And the list can be to be continued and continue: Kungrad soda factory, As waste (Burchmulla), reflective furnace (Almalik), petroleum contamination of soils and waters (Tashlak) etc., and all this requires(demands) significant appropriations. The cares suffice: by results of work& are made of an operating slip in the executive and inspecting state organs. Sometimes information is perceived, is sometimes ignored. Like all as well as everywhere. However year from one year is felt increasing reluctance of the ministry of geology and mineral resources (to which our complex expedition concerns) to finance ecological work&. And it is clear a primal problem of a geological service of the state - gain of stocks of mineral wealths. And the large-scale researches should finance the interested enterprises, urban structures etc. Here that we also could need. The outcomes ecogeochemical of work& conducted by a detail ecologo-technological consignment in 1997-2002^{ãã} have shown, that by one from sources of periodic accumulation and the distributions of toxic substances are urban stations of an aeration (USA) of industrial centres, where will neutralize, disinfect and neutralize waste water. Whereas the sewer system of cities is arranged so, that the large part of a liquid part of dumpings with enterprises all the same appears on USA - that rigid settlings of stations of an aeration (spent active silt and the sand-organic material) is

contained by "storm" concentration of toxic elements and heavy metals exceeding in tens - hundreds of times ultimate concentration of elements for soils. Further sand-organic material formed on stations an aeration, after its dehydration remove on agricultural field of neighboring facilities as fertilizers (organic in dehydrate settlings of waste water makes 25-50 %), creating thereby local anomalous ecological plots irrigating of landscapes. In an outcome the whole gang of elements - polutions hits in soil and further in under horizon, increasing a natural landscape hum noise of soils on microelements. In developed countries there are ultimate concentration (standart) for deposits of waste water used on fields agricultural fieldes as fertilizers, and in countries « after Soviet Union of space » while such specifications are not present.

Among inspected USA of cities Almalik, Angren, Chirchik, and Tashkent, most metallrich of a settling are present in Almalik. The contents of a cadmium if to compare to maximum allowable concentration anyone from foreign countries, in 8 times is higher standart, zinc - in 3 times, cuprum - in 1,4 times, chromium - in 2,6 times etc.

By main links, heat-sink toxic elements and the heavy metals in a technological circuit of clearing of waste water, are site for sand, bioponds and silt of a site. Alongside with the high contents of zinc and cuprum in settlings USA of Almalik the availability of gold (up to 51g/t) and palladium (up to 19g/t) in industrial concentration representing interest for production is observed. Almalik and Angren are mining and processing cities of Uzbekistan. Similar situations it is possible prognosis and on other gold processing for cities of Uzbekistan - Navoy, Uchkuduk, Zarafshan. In tests of rigid deposits on Angren, Chirchik and Tashkent the contents of gold is smaller, than in Almalik but, on a comparison with content in earth s crust (0,004 g/t) and standartes on looses, the concentration of gold is quite compared. In Angren up to 3,23 g/t (average 1,58 g/t), in Tashkent up to 1,41 g/t. As have shown mineralogical of a research is exemplar junction represents a chloride palladium, that testifies to it technological an origin - as product of processing gold contenting of ores of neighboring deposits. The sizes of partiñles of a chloride palladium make the first microns. The gold in rigid settlings is in the form of a natural mineral -kalaverit with sizes of partiñles 5-7 microns (microanalyzer JEOL, Japan).

By us is developed and the technology of processing of deposits of waste water including extraction of useful components, with simultaneous decrease in a material a settling of heavy metals (patents of Uzbekistan ¹ IDP 04601 and IDP 04764) is patented. And in an outcome of application of our technology two problems are decided: deriving of an industrial concentrate of rare metals and decrease of the contents of toxic elements in settlings of waste water of farmland, used as fertilizers.

The simple account allows to compare the costs of production useful a component and appropriations for the average state ecological task during 1 year (10 mans). An amount of rare metal acting on USA with Almalik of mining-metallurgical combine (AMIC) make on the average on gold-150 kg / year, on a palladium - 90 kg / year.

Parameters	Cost, \$ - year
State ecological appropriation	- 35,978
The costs of production of gold and palladium in a concentrate from deposits USA under the own patents	- 33,985
Cost concentrate Au and Pd, for want of exit 60 % (1,5 \$ /g)	-216,000 *
The price Au and Pd in a final product, for want of exit in 60 %	-824,040

*a volume number profit not taxable during 3 or 5 years under the patents

The comparison of the above-stated parameters visually gives a picture of expediency of creation of the small enterprise on production of useful components by local technology. However my offers do not find yet understanding at a higher management. Moreover, the informing of a management AMIC on their losses of rare metals has not found the due response. Probably to fertilize farmland by gold, a palladium etc. useful and toxic metals will be yet one year.

Other important aspect - rational waste utilization of the mining-metallurgical enterprise is their salvaging. In that itself Almalik, within several decades the scraps from a various kind of processing productions, including from pyro-metallurgical on gold are accumulated. Beside cuprum works, on square 200 ÷ 200 i, within the last year, were justified mans from the local population - present "Klondike": one sort on a dump "ore", other attend to washdown it in little river with the help of of primitive equipment (aluminium basins, sieves and polyethylene plates from under mineral water). Age mans from 8 till 65 years of both floors. Poorly - is poor, but on inquiries getter per day it is possible by him

extraction up to 1gramm, if that will be lucky- 2g. Accept " a gold material " here - under evening the buyers approach and collect metal on knock-down prices - though in this concentrate there is not only gold, but also palladium and in a smaller amount - a silver. On rough accounts with above mentioned dumps (only on gold and palladium for want of 60 % an exit of a final product) is extracted of metal on the sum more than 500,000 \$, and " the black buyers " have paid for want of it of the order 70,000 \$. To the state of the profit any, but temporarily problem of employment of the population is decided which everyone has become more acute to be felt in village regions. And similar examples suffices. The ecology, social security and health of the population is links of one circuit in a health of the people of any country. Past in Tashkent (November 8, 2002) seminars on a problem of association of Uzbekistan to countries of the Stockholm convention on proof organic contaminants (POC) has underlined, that the continued effect POC on health of the people, aggravates development of illnesses immune and reproduce of systems, inherent defects at children and cancer rate of diseases. The association Uzbekistans to the Convention will allow to involve target appropriations on a solution of ecological and social problems

The riches depths are not boundless also nature does not suffer vacuum. All in the world is subject to the laws: "if where - that desappear, where - that necessarily will arrive. And which graduallies degradation are hidden while under dumps of scraps from mining and processing of productions irrigation of ground. From social ill-provided immigrates the experts and not only unradical nationality, and those which remain - as well as irrigation of ground of a gradually degradation and cease itself to respect - careave in small-sized trade. It is possible on it to object - pier time now such. It is not necessary! Not time, and the person does time. The business and ecology in the underdeveloped country is a plot similar jn animation "Hedgehog in a fog". However I the optimist, also wish to everyone, who works in an ecological orb to not lose courage, patience, the initiatives and perseverences - yes God will help to us!