

СЕКЦИЯ: ГЕОГРАФИЧЕСКИЕ НАУКИ

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ANTHROPOGENIC LOAD OF THE NURA RIVER BASIN

Abstract. *This article is considered the historical stages of the geoeological situation a river basin of Nura. The main regions of conversion the researching territory are studied. Based on the classification of anthropogenic impacts identified the influence of industrial enterprises on the environment a river basin of Nura.*

Keywords: *economics, industry, innovation, business, micro-economics, entrepreneurship, statistics, programs, venture, company.*

Аннотация. *В данной статье рассматриваются исторические этапы геоэкологической ситуации в бассейне реки Нура. Изучены основные районы преобразования исследуемой территории. На основе классификации антропогенных воздействий, выявлены влияния промышленных предприятий на окружающую среду бассейна реки Нура.*

Ключевые слова: *экономика, индустрия, инновации, бизнес, микро-экономика.*

Anthropogenic factors are caused by various forms of human influences on the individual components of the environment in general and geosystems. They cover the processes occurring in the course of direct human impacts on the environment or indirectly owe their origin technogenesis. For quantitative and qualitative characteristics of anthropogenic factors using the concept of anthropogenic load. It characterizes the amount of direct or indirect anthropogenic impacts on the environment.

Anthropogenic factors are usually related to the side effects of interaction between society and the natural environment. Most often they appear as random, one-time impacts on the natural environment and geosystems accompanying purposeful human activities. These effects may be in the nature of intentional (planned, expected impacts) and unintended (unexpected consequences) impact on geosystems [1].

There are several versions of the classification of anthropogenic of environmental factors developed by different authors. I.P. Laptev offers to classify them based on the following criteria: nature, origin and time of action, for the duration of human impacts, the ability to accumulate in the nature and type of human activity [2].

Human impact on the natural environment r.Nura pool can be associated with its industrial development. All studies were conducted in the basin left behind a certain environmental effects. In this connection, geo-environmental situation can

be considered at different stages: 1) pre-industrial stage, 2) stage of industrial development, and 3) stage of agricultural development of the basin, and 4) the current stage of basin formation.

Pre-industrial stage (Paleolithic - 30th of XX century). Archaeological sites indicate that the basin r.Nura including neighborhoods Karaganda, back in the Paleolithic man lived. He was engaged in hunting, fishing, gathering plant foods. In the Neolithic in the river basin. Nura appear basics of agriculture. Parking this period are found on p. PMCU Late Neolithic - Green bar. Since the 2nd millennium BC (Bronze Age), the ancient population of the region originates pastoral - agricultural economy with a predominance of cattle. This is confirmed by archaeological excavations settlement Suybulak (Karkaralinsk) and the ancient irrigation system.

In stage a major role in shaping the initial geo-environmental impact on the environment is played by holding the fortified lines along the road of the Siberian Cossacks. As a result of these works appear first settlements - village: Karkaralinsk (1824), Ulytau (1841), Aktau (1837), etc. In 1833, A. Baizhanov opens first Karaganda coal, and in 1834 Popov in the tract Berikkara (Karkaralinsk) opens the first and serebrosvintsovye copper deposits. First - Stefanovsky fertile plant in the history of the pool industry r.Nura gave 30 thousand pounds of silver and lead (10 tons of lead per year). In the 80 -ies. XIX century. start mining coal deposit in the tract Karagandybasy. Since the late 40s. XIX century. 30 -ies. XX century. r.Nura the basin to form local sources of environmental destabilization had Koyandinskaya Fair (Koyandinsko - Botovskaya), which annually conducts auctions. It was located in the river valley near the mouth of r.Taldy oz.Karasor 50 km from the village Koyandy. Creating conditions favorable for the development of regional trade and economic ties Koyandinskaya Fair attracted merchants from Russia and Central Asia. In 1905-1910 years.

Analysis of the pre-industrial stage of development of the region shows that economic activity began to have transformative impacts on the environment. During this period there is a change in the geo-ecological situations pool r.Nura from environmental well before the formation of local sources environmental destabilization.

Stage of industrial development (30th. XX century. – 50th. XX c.). During the years of Soviet power Karaganda region and become one of the largest industrial centers in Kazakhstan. Karaganda coal basin played an important role in the industrial development not only of the Republic of Kazakhstan, but also the whole of the USSR (now CIS) since the Karaganda coal supplied with Enterprise Middle Volga region, the Urals, Bashkiria, etc. The pool was the third coal base USSR. Coalfield development led to the establishment of other industries.

In the early 30s of XX century. in connection with the construction of several large industrial enterprises in Kazakhstan produced hydrogeological studies I.I. Filimonov and D.N. Bourtsev. In the article «Prospects reclamation in Central Kazakhstan» (1930) summarized the materials reclamation expedition in Central Kazakhstan and former subdivisions district land offices, who worked on the rivers Tokrau, Bakanas, Nura and Sarysu [3].

In the future hydrological work in the basin continued hydrogeologists V.Y. Grinyov, S.V. Komissarov, A.P. Vykhodtsev, I.I. Bozhkova etc. (and trust

Kargeolbyuro Kazahuglerazvedka). At the same time, except for waters of the Lower Jurassic sediments studied fissure water limestones and volcanics, which is carried by water and rail stations working settlements. At the same time were organized permanent stationary surveillance regime of groundwater in boreholes, mines.

This period coincides with the war and postwar years. After the war, was commissioned and reconstructed 17 powerful mines, including began development of coal deposits in Saran Tentek, Sherubainura, Shakhan. Over the years, coal production in the basin has increased by 62%, with overall company of the country at 49.8%, were commissioned 9 mines and coal mines with a total capacity of 24 million tons per year and 4 large concentrators - 3,757 million tons of coal per year.

Observed the development of negative processes: salinity, flooding, wind and water erosion, degradation of soils and vegetation. Issues of environmental management were not implemented in a timely manner, due to weak administrative control right from the relevant departments and organizations for nature protection.

Stage of agricultural development of the basin (50th XX century. – 80th gg.XX in). During these years, the need to expand the resource base for industrial enterprises in the Southern Urals received significant scale geological survey and exploration, as well as hydrogeological work in areas designed and built railroads and mining. This line of work especially increased during the Great Patriotic War. Note some of them. In 1944 1948 gg. Kazgeolupravleniem (M.B. Gamaley, A.A. Emelyanov, V.A. Kurdukov, N.I. Timpani) summarized extensive factual material on groundwater as combined hydrogeological maps, which mainly displayed on the first surface aquifers [4].

The modern stage of development of the basin (90th. XX century - the present state). The most important direction of research and studies in the 70s - 80s of the XX century in Kazakhstan becomes hydrogeoecological with funds and aerospace monitoring, the emergence of which is connected with the resolution of water and environmental problems in the basin of the lake. Balkhash, the Aral Sea, and later, in the 80s - 90s, mining areas, the Caspian Sea, etc [6].

In 1997-98gg. studies have been conducted on mercury pollution of the river Nura funded programs Inco-Copernicus, Intas-Kazakhstan and the UK Foreign Office. New INTAS project aimed at the study of microbiological processes, including the formation of methyl mercury in sediments and floodplain soils of the Nura River, currently coordinated by the Institute of Soil Ecology Nyuherberga (Germany). In connection with the acquisition of independence of Kazakhstan 's economy began to develop slowly, as in market conditions appeared liability, closed and open society. Many enterprises in the region have started to work on the basis of investment income, the industry is also developing small and medium business (company buying back foreign investors). In 1996, Karaganda confectionery factory was bought by British company «UIG», JSC «Karaganda Candy», Karaganda brewery acquired Efes Beverage Group and formed a venture of FE «Efes Karaganda Brewery», etc. In the present stage of intensive coal industry continues to evolve, which occupies 26.3 % of total productio. According to RU «Tsentrkaznedra» in Karaganda coal basin there were 24 mines, 5 and 7 sections Mining and Processing Plant. Reset mineralized mine water leads to contamination of surface and groundwater, waterlogging and salination and large areas of land. Wastewater chemical plants also had a detrimental effect on their surface and internal water investigated territory (Valley Sherubainura). At this stage,

there was an increase of anthropogenic pollution r.Nura pool, increase the content of chemical elements and their compounds and particles (mercury, phenol, oil, etc.) in a variety of natural ingredients and littering territories. Worsening environmental problems occurred in some natural areas and the situation became tense crisis.

Analysis indicates that the mining industry has become cause of the intensification of environmental problems in the region. With the development of the mining industry and the chemical industry having piles - mounds dumps. Heaps long time (since the start of operation of a coal deposit and still) pollute the atmosphere, where the ecological and economic damage is not taken into account.

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