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CURRENT PROBLEMS OF MODERN ECOLOGY IN UZBEKISTAN AND MEASURES TO STABILIZE EMISSIONS INTO THE ENVIRONMENT

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Abstract
This article examines environmental problems in different regions of Uzbekistan and their solutions

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Introduction

The nature of the interaction of society with the environment has recently caused concern in wide circles of the public. The human environment is becoming increasingly polluted, and its ability to self-regulate is falling catastrophically. Diseases that were previously either not observed at all or were local in nature are spreading widely. They are called "diseases of civilization".

Both the natural and social environments need protection and improvement. People experience a feeling of discomfort and get sick both from the violation of the ecological balance in nature and from the pollution of the social environment.

The ecological state of the Republic of Uzbekistan is extremely worrying. The soil, air and water are polluted. Mineral extraction is carried out irrationally, nature is becoming impoverished. Nature also suffers from the intensive collection of fodder, medicinal, edible herbs and shrubs. Intensive collection of raw materials, unregulated grazing of livestock, recreational load on landscapes lead to a reduction in the country's biomass reserves.

The level of environmental culture of the entire society plays an important role in preserving the natural environment and solving environmental problems. In order to form and develop ecological culture among the population, it is necessary to create a special methodology of ecological education, based on which and with the help of which people could control their actions and actively form ecological culture.

Analysis of the real ecological situation in Uzbekistan shows that in the medium term - 10-15 years - a complex of new ecological problems may arise here in connection with this; the existing ones - the Aral crisis, water shortage, land degradation, deflation and soil erosion, the consequences of irrational use of natural resources and others - will worsen.

In the current economic conditions in the Republic, a tendency of "anti-ecological" nature of development of the national economy has emerged. Intensive development of natural

resources, oil, gas, non-ferrous and rare earth metals in the regions has led to the degradation of land and water resources, pollution of the air basin.

Let's consider the polluted places today in the Republic of Uzbekistan.

The main polluter of the air basin of Tashkent region is the Almalyk Mining and Metallurgical Plant (AMMP). Not to mention the mountains of slag polluting the surrounding area of this enterprise - the content of selenium, cadmium, phosphates in groundwater at a distance of 5 km from the dam of the AMMP tailings exceeds the maximum permissible concentration (MPC) by 8.3 times. In Almalyk there is a large lead halo near the Kalmakyr deposit (600-800 mg / kg). In the valley of the Akhangaran River, 3 km from the Angren coal deposit, a halo of soils contaminated with heavy metals (Cu, Pb, Zn, Fe, Ni) has formed. High concentrations of lead and cadmium are noted in the soil horizon. For example, in the cities of Akhangaran and Angren they are 350-500 mg / kg, which exceeds the MPC by tens of times. Radionuclide contamination has been detected at uranium mining sites in Zafarabad (Kyzylkum), where the gamma radiation intensity ranges from 200 to 1500 μR/hour, reaching 2500-3000 μR/hour in some places.

The source of radiation hazard is the tailings of the Navoi Mining and Metallurgical Plant (GMZ-1), located on the left bank of the Zarafshan River. The tailings area is 630 hectares, the dam height is 15 m. The radioactivity of the tailings reaches 90 kBq/kg, and the gamma field level on the tailings dams ranges from 300 to 500 μR/hour. An increase in groundwater mineralization with an increase in the concentration of SO4, chlorine, iron, selenium and manganese ions has been recorded. In the area of Uchkuduk there is a warehouse of balance uranium ores with a volume of more than 3 million tons. The exposure dose rate is 10-400 μR/hour.

Summarizing all the above, the environmental situation in the Navoi region can be called critical.

Intensive development of gas and oil fields has led to large-scale land subsidence, which can affect not only the change in the landscape, the nature of the plasticity of the terrain, but also

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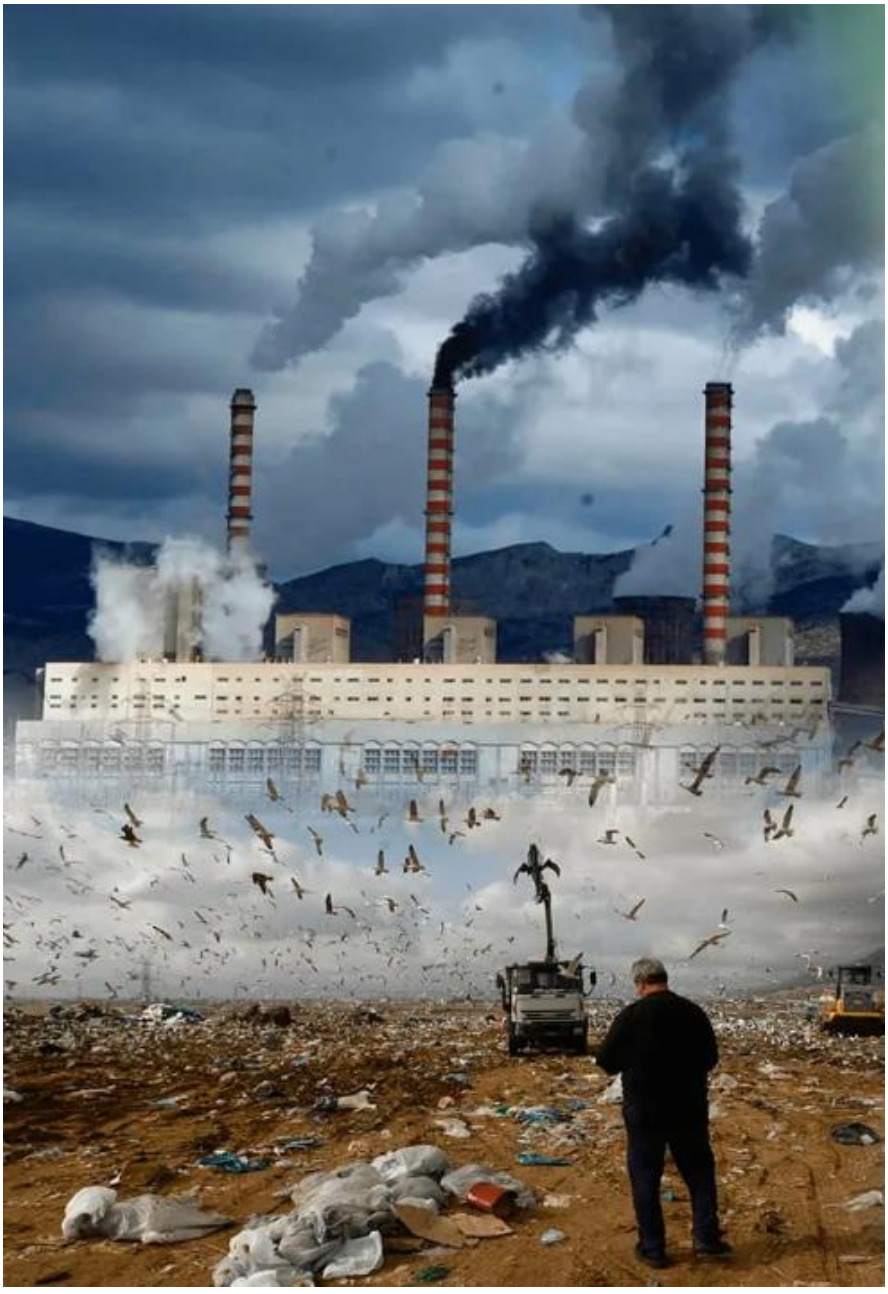
the dynamics of the newest and modern structures. The main environmental problem of the area is the supply of high-quality drinking water to the population. There are facts of groundwater pollution with phenols and oil products. The Kashkadarya River is polluted by the utilities of Karshi and Shakhrisabz, the mineralization of the water is up to 1220 mg / l, which exceeds the MAC by 1.2 times, and the content of oil products in it reaches 0.41 mg / l. An increase in the incidence of gallstone and urolithiasis among the population has been noted. The Bukhara Oil Refinery is the main polluter of the district's water resources. The content of phenols and oil products in the water exceeds the MAC by 2-3 times. High content of oil products in the soil is observed in the area of the village of Mubarek and on the territory of the Karaulbazar station. Fresh groundwater reserves are depleted, the region is experiencing a shortage of drinking water. Water mineralization is up to 1.5 g / l, and its hardness is 11-12 mg-eq.



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Abandoned agricultural airfields, where organochlorine pesticides are still stored, including magnesium chlorate, which was used as a cotton defoliant, are also sources of environmental threats.

The water resources of the Zarafshan region are contaminated with heavy metals - waste from the uranium and gold mining industries. Increased levels of strontium, lead and zinc in water and soil are noted. In some places, increased levels of nitrates and pesticides in water and soil are noted, exceeding the MAC by 4-6 times. The supply of quality drinking water to the population is unsatisfactory.

A shortage of quality drinking water, problems with water supply to the population of rural areas. Land degradation as a result of their swamping, soil contamination with nitrates and pesticides. The population mainly uses surface water for household needs, which contributes to the spread of acute gastrointestinal diseases. Shortage of drinking water is an acute problem in the Bakhmal district of the Jizzakh region. In the vicinity of the village of Egizbulok in the Farish district, a tailings dump of extremely toxic pesticides and pesticides is located on an area of 5 hectares.

The most difficult area from an ecological point of view, where a number of problems are concentrated. The "leader" in terms of the amount of damage caused to the environment is the oil and gas production and mining industries. Gas and oil leaks, occurring due to outdated infrastructure, lead to air pollution with methane, of which on average about 1 million tons per year are burned and released into the atmosphere. Burning "torches" over the Fergana Valley are a clear symbol of mismanagement and incompetent attitude to nature. Water and land resources contaminated with heavy metals in the Tashlak district, in the area of the Fergana chemical plant, the Kokand superphosphate plant, near the tailings of the UzOlmosOltin enterprise, in the area of the oil wells of the Mingbulak oil field are sources of increased danger to the environment and public health. This is rightly pointed out in the article by the Deputy State Committee for Nature Protection of the Fergana Region S. Dzhabbarov "Recycling oil waste". In the northwestern part of the mountainous framing of the Fergana Valley in the area of such deposits of rare metals as Chadak, Cherkisar, Pap, Uyghursay, there are local soil contaminations with arsenic, lead, strontium, manganese, beryllium. The intensity of the gamma field on the surface of the dumps is 300-450 μR/hour. Sources of environmental threats here, as in the Bukhara region, are also abandoned agricultural airfields, where organochlorine pesticides are still stored. The soils in the Fergana region are the most polluted with DDT and other pesticides: in some areas the pollution level exceeds 38-39 MAC. The use of a new method of cultivating cotton under film aggravates the degradation of land resources, since a huge amount of film is buried in the ground every year, despite the fact that the decomposition period of polyethylene film is at least 100 years.

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Much has been written and said about the significant scale of the environmental problems of the Aral Sea and their impact on the environment and public health. These problems must be solved today: tomorrow may be too late. Could anyone have imagined twenty years ago that the drying up of the Aral Sea would be so rapid and irreversible? Meanwhile, the associated global warming in the Central Asian region is a bitter reality of today

As we know, everything in nature is interconnected. The loss of just one link in the chain pulls others along with it, leading to the emergence of a whole series of new problems. The Aral crisis and its consequences in terms of the scale of impact on the environment and climate is an unprecedented phenomenon that has no analogues in the world. This is a problem not only for the Central Asian countries: it must be solved by the entire world community.

Obviously, to overcome the degradation of the Aral Sea, fundamental research by leading experts is needed, who will assess the size of the catastrophe on a quantitative basis and propose priority areas of action aimed at solving the problem. Timely resolution of environmental problems helps to identify and prevent possible social, economic, political conflicts that can lead to tension in society or conflicts between states. At the Dushanbe Water Forum held in August 2003, the president of the NGO "Perzent" Oral Ataniyazova raised the issue of the social and economic nature of the impact of the drying up of the Aral Sea on the population. In fact, environmental degradation in these areas, as is known, has led to a sharp decline in the health of the population. In this regard, I would like to propose introducing a single standard for assessing the health of the population in areas of environmental tension. Obviously, it would be reasonable to take the average life expectancy and mortality rate (differentiated by gender and age) as parameters for characterizing the health of the population. Other indicators can be determined and compared only with a complete survey of the population using a single method. In the absence of this, the real picture of the impact of the polluted environment on the health of the population very often remains unknown. During his economic activity, man influences nature, adapting it to his interests and needs. At the same time, he processes natural elements, concentrates them, redistributes them over the territory, and sometimes directly uses them as finished products.

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The relationship between society and nature during human economic activity consists of the interdependent action of three components of the economy - the natural environment, means of production and labor resources.

Environmental protection means protecting the nature around us: air, water, soil, vegetation and wildlife from the destructive impact of man.

Today, the pollution of nature with waste from both industrial and non-industrial activities of people continues to grow.

Almost all sectors of the national economy, in the sphere of consumption in everyday life and recreation, by-products are formed, which are generally called waste. Sometimes waste emissions exceed certain threshold values so much that they slow down or hinder the use of natural resources, pollute the atmosphere, water, soil, and through them food products, and also reduce aesthetic values.

A person breathes air, drinks water, eats food of plant and animal origin, walks on the ground - all this is a vital necessity. But if the earth's lithosphere, atmosphere, hydrosphere and biosphere are subject to intense uncontrolled anthropogenic impact, then all of the above actions will become the road not to life, but to death. Since polluted air, water, food saturated with harmful substances are poison for the human body.

The strongest negative impact on nature is exerted by the activities of industrial enterprises. The state regulates their work in the environmental sphere with the help of relevant regulatory and legal acts. But businessmen themselves must be responsible for environmental issues and worry about the future. One of the effective means in the fight to preserve natural resources is to conduct an environmental assessment of the state of the environment, as well as industries and enterprises.

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Having become an independent state, the Republic of Uzbekistan pays great attention to environmental protection, rational use of natural resources, as well as urban development problems of the country.

Tashkent is located in the subtropical continental climate zone. Due to the proximity of the mountains, the city receives an average of 400 mm of precipitation per year, which is significantly more than in the flat semi-deserts and deserts of western Uzbekistan. Over the past century, the annual precipitation has increased by more than 60 mm, which is due to both fluctuations in atmospheric circulation and changes in measurement methods (in the 1960s, rain gauges were replaced by precipitation gauges at Soviet weather stations, and corrections for precipitation gauge wetting began to be introduced). The maximum amount of precipitation (802 mm) was recorded in 1969, the minimum (141 mm) in 1917. The driest months are July (4 mm of precipitation) and August (1 mm), the wettest is March (69 mm). Precipitation usually falls as rain (98 days a year), less often as snow (27 days) and rain with snow (14 days). The snow cover in Tashkent is unstable and during the winter it lies for a total of 32 days. Its height is usually several cm, but in some years it reaches 30-40 cm, and in January even 50 cm. Fogs are observed 17 days a year, mainly from November to March (maximum - in December, 6 days), thunderstorms also 17 days a year (from March to August, maximum - in May, 5 days). From the north, the city is covered by mountain ranges, so frosts due to the invasion of cold masses of northern air here are very short-lived, although during clearings the temperature sometimes drops to -20 ° C and below. In summer, dry air over the foothills quickly warms up and the temperature often reaches +35+40 ° C.

The minimum temperature in the history of the city was -29.5 ° C (December 20, 1930), the maximum +44.6 ° C (July 18, 1997). The 40-day period of windless summer heat, known as chillya, is an integral part of Tashkent's urban culture

Spring and autumn come early. This is mainly due to the fact that the air warms up and cools down quickly in the city due to the absence of seas and oceans nearby. But low air humidity allows it to cool down faster in the shade and at night, which makes the heat easier to bear. This is significantly different from Sochi, despite the fact that the average annual temperatures in Sochi (+14.2 C°) and Tashkent (+14.8 C°) are almost the same.

The average annual temperature is +14.8 C°, wind speed is 1.4 m/s, air humidity is 56%. Days with fog, thunderstorms and dust storms have been recorded in Tashkent since 1940. At the same time, due to general global warming, the annual number of days with fog has decreased from forty to fifteen on average. It fell especially sharply between 1970 and 1988. Over 107 years of meteorological observations, the average annual temperature within the city increased by an average of +0.018 degrees per year, and this warming was most noticeable in the winter, when temperatures rose by an average of +0.024 degrees per year. At the same time, the city no longer experienced 20-degree frosts: the absolute minimum temperature by the end of the 20th century rose by +9 degrees at once: from 20 to 11 degrees below zero. Moreover, the date of the first frost shifted towards the end of the year by almost a month. The date of the last frost shifted towards the beginning of the year by 13 days. As a result, the duration of the frost-free period in Tashkent has increased by more than forty days over the past 100 years.

A comparison of the city and region climate data obtained from the Dalverzin weather station, located approximately one hundred kilometers south of Tashkent, shows that in addition to

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global warming, Tashkent's climate has also warmed due to the growth of the city itself and, as a result, the strengthening of the warming effect of the metropolis's infrastructure. From 1933 to 2006, the warming effect of Tashkent's growth on its climate was more than +0.4 degrees. However, the warming effect was more noticeable in the summer, when the temperature increase was +0.6 degrees. Tashkent (Uzbek: Toshkent, Тошкент) is the capital and largest city of Uzbekistan, a city of republican subordination. The largest city in Central Asia by population (2,766,400 people[4]), the center of the Tashkent urban agglomeration, the most important political, economic, cultural and scientific center of the country, as well as an aviation, railway and automobile hub. Situated in the north-east of the country, near the border with Kazakhstan.

Tashkent is the 3rd city in the CIS[5] by population. It is one of the oldest cities in Central Asia - in 2009, the 2200th anniversary of the city was celebrated.

Tashkent is home to government agencies, foreign embassies, headquarters of most of the largest Uzbek commercial organizations and public associations. Sometimes Tashkent experiences an unfavorable environmental situation, when there is heavy smoke in the city, as a result of which visibility reaches no more than 1.5-3 km[15]. In these cases, the Tien Shan mountains, visible on the horizon when the air in the city is clean, are not visible or are extremely poorly visible

Thus, the content of harmful substances in exhaust gases depends on a number of conditions: the mode of movement of vehicles, the road topography, the technical condition of the car, etc.

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