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ESSENTIAL ISSUES OF ENVIRONMENTAL PROTECTION

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Abstract

This article discusses environmental issues, the negative impact of harmful substances on the environment, the desertification process, the negative impact of industrial facilities on the environment, the improper use of water resources, the negative impact of these factors on human health, and disease prevention measures.

Keywords: atmosphere, pollutants, ecology, erosion, natural landscapes, fluorine compounds, transport, chemistry.

Introduction

It is known that ecology and environmental protection is one of the most pressing issues today. It is known that the waste of the chemical industry is one of the main sources of air pollution. Therefore, in order to prevent air pollution in our region, including the republic, and to improve the environment, it is necessary to reduce anthropogenic impacts on nature. This requires the creation of special areas for various wastes, further improvement of waste processing technologies, equipping enterprise pipes with modern filters to prevent the release of toxic gases into the atmosphere. It is also necessary to avoid the use of toxic substances in industrial

production, to improve production technologies, to use river water in coordination with neighboring countries in the region, to prevent the discharge of waste into water sources, to avoid the use of toxic chemicals in agriculture, to improve biological protection of plants, and to develop methods further to prevent the degradation of the biosphere of natural reserves.

Atmospheric air pollution has a negative impact on the environment, including climate, water, soil, flora, animal and human health. As a result of air pollution, there is a significant change in the microclimate of large cities and industrial centers. In these areas, aerosols in the air absorb most of the sunlight and transmit it less to the ground. As a result of the increase in the concentration of pollutants, the number of cloudy and foggy days in such places is increasing, and the number of sunny open days is decreasing.

Main part

Therefore, one of the most pressing issues today is to reduce the release of pollutants into the atmosphere and the environment, to organize the orderly and efficient use of natural water resources, to prevent damage to the ecosystem and human health.

Ammonia accounts for 14.4% of total waste in our country. This is due to the outdated production technologies at chemical plants in Kokand, Navoi, Fergana, Chirchik and Samarkand.

Nitrogen oxides account for 10% of total immobile waste sources and 8.2% of transport wastes in the country. The fuel and energy, chemical and petrochemical industries are the main sources of nitrogen oxide emissions (Table). The share of this complex is 86.8% of this waste in the country. Energy networks account for 26.7% of this waste in the industry. Today, the main capacity of the thermal power system and thermal power plants has been used for more than 30 years. In this case, fuel exploitation efficiency is 33-35%. Low fuel efficiency increases the release of pollutants into the atmosphere and has a negative impact on the level of air pollution in the cities and settlements where these facilities are located. Especially atmospheric air of Tashkent, Almalyk, Angren, Fergana, Navoi and Kokand are is relatively polluted with nitrogen oxides.

It should be noted that more than half of the total pollutants emitted into the atmosphere are carbon monoxide. Cars emit up to 70% of carbon monoxide into the urban atmosphere. Near machine-building plants and at intersections with strong traffic flow, the level of air pollution with this component is high. Fuel and energy, chemical and petrochemical industries account for 53.8% of carbon dioxide emissions in the country.

Dust consists of solid particles, the dispersion and component of which depends on the formation of these particles (natural or anthropogenic). It contains minerals, soluble salts, metal oxides and organic compounds. The unprotected sandy soils in the territory of Uzbekistan, the Kyzylkum, Karakum deserts and the dry part of the Aral Sea, the surface of the saline soils are the major natural sources of dust in the atmosphere. The migration of sand and salts from the dry part of the Aral Sea under the influence of wind reaches an average of 40-45 million tons per year. The main sand and salt migration process takes place in an area of 100 km along the coast of the Aral Sea. The dust content of the island is 25-48% of sulfate salts, 18-30% of chloride salts, and 10-20% of carbonate salts [1].

General dusting of the atmosphere is observed in 28 industrial cities of Uzbekistan. Dust in urban air contains a structure formed as a result of combustion. The dust that accumulates around industrial centers contains various minerals, metal oxides, silicates, dry matter, fluorides, arsenic oxide, antimony and selenium. Metal compounds such as cadmium, copper, lead, nickel, zinc, and manganese have been found in the dust of large industrial cities [1].

The level of pollution of the environment, air and water basins is higher than the established norms, and large areas are turning into landfills. The natural landscapes in the region are changing and there are problems in the development of flora and fauna. Hazardous environment has a negative impact on the population, especially children's health. Atmospheric air is also seriously affected by industrial and residential wastes. Currently, the amount of toxins in more than 200 cities around the world is much higher than normal. Nitrogen and carbon oxides are increasing in the atmosphere [2].

In particular, the Tajik Aluminum Company (TALCO) State Unitary Enterprise is designed to produce 800,000 tons of primary aluminum per year, emitting 400-500 tons of hydrogen fluoride and other toxic gases per year [6]. This leads to the deterioration of atmospheric air

and the ecological system, flora and fauna, adversely affecting the health of the population of Sariosiya, Uzun, Denov and Oltinsoy districts of Surkhandarya region, which borders the Republic of Tajikistan. As a result of TALCO's activities, the amount of hydrogen fluoride in the atmosphere in the northern districts of Surkhandarya region exceeds the maximum allowable concentration by an average of 1.8-2 times, and even 3-4 times in summer. This is also a very serious environmental damage.

It should be noted that as a result of pollution of the atmosphere, soil, water, gardens are being destroyed, crop yields are declining sharply. In yields, for example, in fruits and vegetables there is 11-19 times and in wheat - 5-6.5 times higher than the maximum allowable concentration of fluorides. Livestock also declined. Studies show that fluoride in milk is 9-13 times higher and in meat it is 10.9% higher than normal [6]. TALCO waste is a major cause of an increase in various chronic diseases among the population, primarily women and children. The increase in endemic, exotic diseases associated with goiter, fluorosis, osteodystrophy, osteoporosis, osteomalacia, rickets and other metabolic diseases among the population and in the animal world is caused not by natural factors but by air pollution of industrial wastes.

At the same time, the natural areas of the Aral Sea remain ecologically unsatisfactory. As a result of the full and irregular use of all water resources in the Aral Sea basin, water almost does not reach the sea. This brings the withdrawal of sea water, resulting in salinization of the surrounding lands, a sharp decline in crop yields. The Aral Sea crisis, the complete disappearance of the sea, is the largest ecological and humanitarian catastrophe in human history, affecting more than 35 million people living in the sea basin. By 1994, the water level of the Aral Sea fell to 32.5 m, the volume was less than 400 cubic km, and the sea's surface area was shrunk to 32.5 thousand. sq. km, the mineralization of water increased to times [6].

What is being done here today is astonishing. It is no coincidence that the Aral Sea region has been declared as a zone of environmental innovations and technologies. The Ministry of Emergency Situations was tasked with planting saxauls in the arid area of the Aral Sea region. [7].

Creating protective forests began on December 17, 2018. A total of 507 pieces of engineering and farm construction machinery and equipment, 217 pieces from the Republic of Karakalpakstan, 290 pieces from 11 regions of the country, were mobilized to the dry area of the Aral Sea. A headquarters was set up on the dried bottom of the island, 45 kilometers from Muynak. To date, sand storage ditches have been built on 77,997 hectares. Saxaul seeds were sown and seedlings were planted on 27,215 hectares. In addition, 18 flights were carried out with the help of planes, and saxaul seeds were sown on a total area of 4,400 hectares. The scientists are involved in this work and soil analysis are being conducted.

More than 1,300 people are involved in the activities carried out on the dried bottom of the island, 900 of them are involved in collecting seeds and the rest in sowing. 2018 planted saxaul on 500,000 hectares, saxaul and other desert plants planted on 460,000 hectares in 2019 give confidence in the future development of livestock and biodiversity in the region [7-8].

By April 2020, planting seedlings and sowing seeds have been accomplished on another 700,000 hectares. This was achieved by sowing 2,400 tons of desert plants such as saxaul, shrub and halóstachys seeds.

In science, the saxaul is a miracle of nature. An 8-year-old saxaul holds 10-12 tons of sand. The saxaul releases oxygen and prevents air pollution, which is the environmental significance of the current effort. The appearance of humus in the place where saxaul is planted expands the chances of other plants to grow as well. According to the results of research and observations, wildlife and birds are now beginning to breed on the Aral Sea area. After the emergence of forests, pastures will appear in the area, and livestock will develop. This will be a solution to economical problems and, as a result, the social situation of the population will improve.

There will be opportunities to conduct research on the cultivation of medicinal plants, beekeeping and livestock development. Toxic salts flying on the Aral Sea area are spreading to other regions of the country by hot winds, reducing agricultural productivity by 20-30%. Planted desert plants are also important in preventing such adverse environmental conditions. The salt storm that hit Karakalpakstan in 2018 has left many people worried. The damage of this salt-mixed dust to agriculture was studied on the spot by experts and scientists. It was

found that the salty sands settled on the leaves of agricultural crops, covered the top, burned and dried the leaves. Since then, bronchial asthma and allergic rhinitis have spread in the region. To prevent such problems, it is necessary to create saxaul-forests.

Turning the dried bottom of the Aral Sea into a forest can be a solution to such environmental, economical and social problems. When no action is taken on this problem, the situation would have worsened in 20-30 years. At the same time, the use of inorganic mineral fertilizers, herbicides, pesticides and other chemicals for over the years with dozens of times higher than the established norms, and also the discharge of waste into unsuitable areas pollute the soil, atmospheric air, groundwater and surface water [4]. In addition, the wind-spreading of radioactive sand in landfills in the cities of Zarafshan and Uchkuduk in Navoi region has become a real threat to the environment in the surrounding areas.

Strong winds are also a disaster that causes serious damage to human lives and economic objects. This disaster is of long-duration and destructive. The speed of this disaster reaches 30-90 m/sec. In Central Asia, the wind speed is 40-60 m/sec, in Khavas and Bekabad districts of Uzbekistan - 50-60 m/sec. As a result of the emergence of strong winds, i.e., the disturbance of the balance in the atmosphere, the air flow moves at a very high speed, and in some places, it turns into a winding motion [3].

Drought is also specific to Uzbekistan, which received almost no attention in the past. However, at present time, such a catastrophe has been observed in our region due to extreme environmental degradation in recent years, misuse of water resources and other reasons [4]. Drought creates conditions for the death of people, the drying up of trees and crops, the outbreak of strong fires and the spread of various diseases. In recent years, fertile lands are losing their fertility as a result of water and wind erosion, the rising of groundwater, drought, contamination with heavy metals and other toxic chemicals. As a result of excessive accumulation of toxins in the soil, its physical, chemical, agrochemical and biological features are changing.

These measures, in turn, prevent pollution of the atmosphere and the environment with heavy metals and toxic gases, reduce the negative impact of the environment on human health, ensure efficient use of water resources, prevent their pollution, preserve biodiversity, obtain

environmentally friendly agricultural products. ecologically clean biospheres and nature reserves will be preserved.

Conclusions

In conclusion, the release of pollutants into the atmosphere and the environment, the lack of measures to neutralize them, the erratic use of natural water resources and other resources have a negative impact on the ecosystem, and thus on human health and wildlife. If serious measures are not taken now, it will pose a serious threat to the environment and, most importantly, to human life and health.

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