



Ecological Problems of Uzbekistan at the Present Stage

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Abstract: Environmental issues in the modern world are common to all mankind, since all countries and populations living in all countries of the world are involved in the environmental drama. This article analyzes the issues of ill-conceived economic activity of mankind in many countries of the world and the global environmental problems associated with it, the consequences of which negatively affect the health of the population. The environmental problems of Uzbekistan at the present stage are also considered.

Keywords: Environmental disaster, UN conference, sustainable development, Earth Summit, black rain, black snow, Aral Sea disaster, Uzbekistan global goals, rat fertility, air quality index.

Introduction

Currently, the number of threats on Earth is increasing, representing a great danger on a planetary scale for the environment. Some dangers of local significance, others have become universal. Modern environmental problems are a change in nature that disrupts its structure and activity. The cause of the global ecological crisis is the growing conquest of nature by man, the development of new technologies that have almost completely transformed the face of the globe. This was also influenced by the population explosion, and unevenly distributed across the continents. Overpopulation as a result of the population explosion in the underdeveloped Asian and South American countries forces us to further expand the spaces taken from nature.

Thanks to the scientific and technological revolution, social and economic progress, the world has changed radically in the second half of the twentieth century. The working conditions and quality of life of people have significantly improved, including the growth of well-being, the level of health care, education, social security, and culture. At the same time, progress, having raised a person to its modern level, showed its reverse negative side associated with the depletion of the Earth's resource potential, the extensive nature of the exploitation of these resources, overpopulation, and a number of crisis phenomena in the social, economic, and political spheres. It became clear that the extensive path of development has exhausted itself.

The uncontrolled intrusion of man into nature, its soulless exploitation for centuries, especially with the beginning of the industrial revolution, has led to the fact that the state of ecology has begun to threaten the quality of life of people and the very existence of mankind. Over the past half century, there have been a huge number of local environmental disasters that have negatively affected the environment. People return the benefits received from nature back to it in a spent form, which turns into pollution of the planet. And this process is growing every year. For several generations, residents have been sounding the alarm, trying to draw attention to these issues.

Literary research

Dangerous human intervention in nature has increased dramatically, the scope of this interference has expanded, it has become more diverse and now threatens to become a global danger to all civilization and humanity. The greatest danger is represented by major accidents, catastrophes of technical systems at industrial facilities and transport, as well as natural and environmental disasters. As a result, the socio-ecological consequences they cause are comparable to large-scale military conflicts. On all continents of the Earth, thousands of potentially dangerous objects are operated with such volumes of stocks of radioactive, explosive and poisonous substances that, in the event of an emergency, can cause irreparable damage to the environment or even destroy Life on Earth. As a rule, humanity in the process of life certainly affects various ecological systems. Examples of such, most often dangerous, impacts are the drainage of swamps, deforestation, the destruction of the ozone layer, the diversion of the flow of rivers, and the discharge of waste into the environment. In this way, a person destroys the existing ties in a stable system, which can lead to its destabilization, that is, to an ecological catastrophe.

As is well known, humanity is faced with ever-increasing contradictions between its growing needs and the inability of the biosphere to provide them without collapsing. As a result, socio-economic development has taken on the character of an accelerated movement towards a global environmental catastrophe, while not only meeting the vital needs and interests of future generations of people, but also the very possibility of their existence is threatened. The idea arose to resolve this contradiction on the path of transition to such a civilizational development that does not destroy its natural basis, guaranteeing humanity the possibility of survival and further incessant, i.e. managed and sustainable development.

The materials of the site [1] indicate that in the seventies of the last century the world realized the need to urgently solve the problems of ecological balance on the planet. For the first time at a high political level, this topic was raised in 1972 in Stockholm, at the UN Conference on the Human Environment. It was recognized that environmental problems have taken on an alarming scale, and in order to solve them, it is necessary to unite the efforts of the entire world community. The Stockholm Conference has significantly intensified environmental action at all levels. However, it soon became clear that the degradation of the global biosphere is proceeding at a faster pace than the efforts being made. To analyze the reasons for this situation, in 1987 the World Commission on Environment and Development prepared the Our Common Future Report, also known as the Brundtland Report, in which the term "sustainable development" appeared for the first time - that is, such development that preserves resources for future generations while meeting the needs of current generations. The Report identified overconsumption in developed countries and poverty in developing countries as one of the key causes of environmental degradation and showed the need for the world community to join forces and help the developing world to save our planet.

According to the source [2], in June 2012, 20 years after the conference on environment and development in Rio de Janeiro, the countries met again at the Rio + 20 summit, where they discussed the emerging problems of the "green" economy, sustainable development and poverty eradication. Rio+20 also gave people the opportunity to imagine how we would like to see the world in 20 years. Gathered at Rio+20, country leaders, together with thousands of representatives from the private sector, NGOs and other groups, worked together to develop a strategy for how to reduce poverty, promote social justice and ensure environmental protection measures take into account all factors. Rio + 20 is an important milestone in a series of major UN conferences, the central of which was the "Earth Summit" - the 1992 UN Conference on Environment and Development, which put sustainable development issues at the top of the agenda of the United Nations and the international community.

Referring to the data of the source [3], we can state that it is far from the first generation in a row that humanity lives with a constant and obsessive fear of environmental disasters. Deforestation, ocean pollution, ozone depletion - we have heard these phrases in our lives hundreds, if not thousands of times. Man has interacted with and influenced his environment since the very beginning of his species. However, this influence reached a truly tangible scale only in the eighteenth century, with the beginning of the industrial revolution. At that moment, man left the natural circulation of wildlife

and began to dictate his own rules to the planet. The planet began to change, but we noticed it far from immediately - our civilization was busy with other things: the extraction of fuel (coal, gas, shale, oil), metal and other minerals. All these substances, bred in the natural way of nature and seized by man, returned to nature, but in a different form. It turned into a global pollution of soil, water and air and became the cause of the ecological crisis. And the intensity of this process continues to grow at a catastrophic pace, and the serious consequences of the ecological crisis will have to be eliminated by mankind in the near future.

The authors of [4] give an example of an ecological catastrophe caused by a military conflict that occurred in Kuwait and nearby areas of the Persian Gulf after Operation Desert Storm in early 1991. Retreating from Kuwait, the Iraqi invaders blew up over 500 oil wells with explosives. A significant part of them flared up and burned for six months, poisoning a large area with harmful gases and soot. From wells that were not inflamed, oil gushed out, forming large lakes and flowing into the Persian Gulf. As a result, close to 1554 km² of the sea surface, 450 km of the coastline were covered with oil, where most of the birds, sea turtles, dugongs and other animals died. Flames burned 7.3 million liters of oil every day, which is equal to the volume of oil that the United States imports daily. Clouds of soot from fires rose to a height of up to 3 km and were carried by winds far beyond the borders of Kuwait - black rain fell in Saudi Arabia and Iran, black snow - in Kashmir (2,000 km from Kuwait). Air polluted with oil soot had a harmful effect on people's health, since the back contains many carcinogens.

In the work of the source [5], it is noted that, in addition to the rich and diverse natural environment of Uzbekistan, decades of neglect of the environment in the Soviet Union, combined with distorted economic policies in the Soviet south, made Uzbekistan one of the most serious environmental crises in the CIS. According to the review of environmental problems in Uzbekistan, presented by Naturvernforbundet, Factsanddetails and Countrystudies, it will be possible to see the ill-conceived nature of human economic activity in the country. The heavy use of agrochemicals, the diversion of vast amounts of irrigation water from the two rivers that feed the region, and the chronic lack of water treatment facilities are some of the factors that have caused huge health and environmental problems. The devastation of the environment in Uzbekistan is best illustrated by the Aral Sea disaster. Due to the diversion of the Amu Darya and Syr Darya for cotton and other uses, what was once the world's fourth largest inland sea has shrunk over the past thirty years to about one-third of its 1960 volume and less than half its 1960 geographic size. The desiccation and salinization of the lake has caused severe storms of salt and dust from the dried seabed, damaging the region's agriculture and ecosystems, and the health of the population. Desertification has led to large-scale death of plants and animals, loss of arable land, changing climatic conditions, depletion of crops on cultivated land that remains, and destruction of historical and cultural monuments. Many tons of salt are reportedly transported up to 800 kilometers each year.

As noted in the materials [6] in the period 2016–2018. In Uzbekistan, intensive work was carried out to determine the National Sustainable Development Goals based on the global Goals. The work on defining national goals and objectives brought the global Goals closer to the realities of Uzbekistan and the concepts used in the country. However, the absence of national targets equivalent to some of the global environmental targets is difficult to explain. Some national environment-related indicators have a more limited coverage than the corresponding global indicators. A significant shortcoming is that Uzbekistan has not reflected in the national documents the global indicator 3.9.1 on mortality from air pollution, in the internationally agreed formulation of this indicator. Problematic aspects of Goal monitoring include the lack of data and methodologies for the vast majority of national environmental indicators. It was further noted that since 2019, the national portal “Sustainable Development Goals” has been operating in Uzbekistan. The portal provides centralized access to information resources on the implementation of national goals and objectives. As of May 2019, the portal provides data for approximately one third of the national indicators. At the same time, it was also stated that the State Committee on Statistics collects a significant amount of data related to gender issues, but statistics relating to gender issues in relation to environmental issues are not collected. This is an important area for further development, given the need for sex-disaggregated

information to monitor the implementation of the 2030 Agenda for Sustainable Development (Agenda 2030).

Methodology

The uncontrolled and reckless use of scientific achievements, the spread of large industrial enterprises, in addition to benefits, caused a lot of harm to the environment - widespread pollution of water, air and soil. Under the influence of negative human impact on nature, the structure of the natural landscape is distorted, the natural resources of the planet Earth are depleted.

The process of atmospheric air pollution under the influence of anthropogenic factors in the modern world is becoming one of the global environmental problems, the consequences of which will negatively affect the health of the population of all countries of the planet Earth. This problem is relevant today for all regions where the energy, mining, metallurgical, chemical and other sectors of the economy are intensively developing. Increasing air pollution is the main cause of various diseases worldwide. As a result of air pollution by small particles of aerosols, ash and dust, it is accompanied by a negative impact on human life, animals, plants, soil cover and water basins. UN Special Rapporteur on the Environment David Boyd stated in his 2019 annual report that 7 million people die each year from the effects of air pollution.

For many millennia, people almost did not feel the restrictions from the environment. And if they saw that in the nearest district the amount of game exterminated by them decreased, the cultivated soils or meadows for grazing livestock were depleted, then they migrated to a new place. This process has been repeated for centuries. The natural resources of the Earth seemed inexhaustible. Only sometimes such a purely consumer approach to the environment ended in failure. More than nine thousand years ago, the Sumerians, in order to feed the growing population of Mesopotamia, began to develop irrigated agriculture. However, the irrigation systems they created eventually led to waterlogging and salinization of the soil, which was the main reason for the death of the Sumerian civilization. The Maya civilization, which flourished in what is now Guatemala, Honduras, and southeastern Mexico, collapsed about 900 years ago, mainly due to soil erosion and silting of rivers. The same causes caused the fall of the ancient agricultural civilizations of Interflaves in South America. The cases cited are only exceptions to the rule that said: draw from the bottomless well of nature as much as you can. And people scooped from it, not looking back at the state of the ecosystem.

It should be noted that clean air around settlements almost completely disappears, rivers turn into sewers, piles of garbage, landfills, crippled nature are everywhere - such is the striking picture of the crazy industrialization of the modern world. Atmospheric air pollution is the most serious environmental problem of modern cities; they cause significant damage to the health of citizens and green spaces. Over large cities, the atmosphere contains 10 times more aerosols and 25 times more gases. At the same time, 60 - 70% of gas pollution comes from road transport. In general, vehicle emissions are significantly more toxic than emissions from stationary sources. Along with carbon monoxide, nitrogen oxides and soot (for diesel vehicles), a running car releases into the environment more than 200 substances and compounds that have a toxic effect. Among them, heavy metal compounds and some hydrocarbons, especially benzopyrene, which has a pronounced carcinogenic effect, should be distinguished.

As you know, benzopyrene is a polycyclic aromatic hydrocarbon that is present in gaseous industrial waste, car exhaust, tobacco smoke, food combustion products, smoked products, it is saturated with smoke from the combustion of sewage sludge. Conducting studies on the effect of benzopyrene on the fertility of rats, scientists have found that sperm motility in males decreases sharply under the influence of the substance. The same data were obtained from men who work in conditions of chemical pollution. In addition, benzopyrene is a substance that accumulates in soil and water, from where it enters plants and food. Of course, the human body defends itself against toxicants from the environment and removes them from the body. But it has been established that adolescent boys whose parents live in areas with increased technogenic pollution have a reduced ability to remove harmful substances from the body. So, pollution interferes with our genetics.

There is no need to talk about the dangers of exhaust gases emitted during incomplete combustion of gasoline - just breathe for a couple of minutes at the exhaust pipe of a working vehicle. Few people think about where these gases go in the environment. Meanwhile, the green spaces of cities and suburbs are not able to process the amount of carbon dioxide, carbon monoxide, lead oxide and nitrogen that the city produces daily. Nitrogen oxides have an inhibitory effect on the development and functioning of the nervous system of humans and animals, lead oxide causes irreversible changes in the circulatory system. Scientific studies on this topic have been around for a long time, but no car holding company will ever tell you: "Driving a car is dangerous for your health!" Just because car sellers will lose a lot of money if the demand for cars suddenly drops, the owners of oil corporations will lose a lot of money in the same way ... Therefore, a completely different slogan is actively promoted: "A car is not a luxury, but a means of transportation!" "stem and immunity, carbon monoxide blocks the transfer of oxygen by hemoglobin in the blood.

It should be noted that some scientists characterize the current situation as a crisis of civilization, focusing on the inevitability of its collapse if the problems of development and ecology are not found in the 21st century. qualitatively new solution. There is hope that it may be associated with the transfer of transport to environmentally friendly hydrogen fuel, the mastery of the energy of thermonuclear fusion. Hypothetically, such a decision can also be associated with the expansion of the resource base of development through the development of other planets in the solar system. It cannot be ruled out that the recognition of the reality of the crisis of civilization will lead to a change in the criteria for progress that have developed at the dawn of the industrial era. They assumed that a constant increase in the standard of living and consumption is the highest value. The turn towards post-material values puts emphasis on the quality of life. The most important indicator in this case will be the state of the environment that is safe for humans and the possibility of eating environmentally friendly products. Achieving a new quality of life implies, in addition to measures to protect nature, a reasonable self-limitation of consumption in developed countries, the adoption of measures on a planetary scale to solve the problems of former colonies and dependent countries.



Fig.1. Illustration of air pollution in Tashkent.

In order to determine the degree of air pollution, the value of the average air quality index (AQI) is used. In this perspective, I would like to focus on air pollution in the city of Tashkent. According to the World Air Quality Index portal, on November 27, 2022, the average AQI in Tashkent was 139, which corresponds to the "unhealthy" level, which is illustrated in Figure 1. In this regard, they asked

residents and guests of the capital not to go out if possible and, if necessary, wear masks. In early December, dust storms were recorded in the south of the country - in the city of Termez. Despite the winter time and when there is heavy snow around, according to the monitoring station, the value of the air quality indicator as of December 8, 2022 in Tashkent, the AQI reached 137 units. All this suggests that the ecological situation is not rosy.

As you can see, the trend of growing environmental catastrophe at the present stage is characteristic of all countries, including the Republic of Uzbekistan. With the introduction of more and more powerful, complex technological processes into production, the damage caused to civilization and humanity as a result of industrial accidents, catastrophes, natural disasters and other extreme situations leading to irreversible consequences, which is an increased danger to the life and health of the population of the entire Earth, is increasing.

Conclusions

From all of the above, it follows that the time has come to sound the alarm publicly in order to warn the peoples of all countries about the impending danger threatening humanity and civilization. Humanity today has no more serious concern than to find the strength, find the means, find the mind to get along with nature and resolve social conflicts. Otherwise, we will have to return to some semblance of the Stone Age, a dark era of violence and cultural degradation.

As a conclusion, I would like to quote the words of Academician N. Moiseev: "The original meaning of any knowledge, any scientific discipline is to comprehend the laws of your own home, that is, that world, that environment on which our common destiny depends. From this point of view, the entire set of sciences born of the human mind is an integral part of a certain general science about how a person should live on Earth, how he should be guided in his behavior in order not only to preserve himself, but also to ensure the future of his children, grandchildren, their people and humanity as a whole. Ecology is a science directed to the future. And it is built on the principle that the values of the future are no less important than the values of the present. This is the science of how to pass on Nature, our common home to our children and grandchildren, so that they can live better and more conveniently in it than we do! So that everything necessary for people's lives is preserved in it.

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