



The study of air pollution at the present stage

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ABSTRACT

This article deals with the problem of air pollution at the present stage. The issues of atmospheric air pollution and the health of the population associated with it have been studied. Also, an analysis of atmospheric air pollution at the present stage was carried out from the point of view of preserving nature and civilization.

Keywords:

Atmospheric air pollution, explosives and toxic substances, water and air pollution, UN Conference, black rain, black snow, hydrogen fuel.

Introduction

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 the form of waste, which turns into pollution of the planet's atmospheric air. Despite the efforts of international organizations to prevent this undesirable process, there is a steady increase in all-scale pollution. For several generations, the inhabitants of the planet have been sounding the alarm, trying to draw attention to these problems.

It should be noted that 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 began to threaten the quality of life of the population 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.

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.

Literary Research

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. At the same time, air pollution at the present stage,

along with other environmental disasters, imposes a huge burden on the vital activity of the human population.

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-environmental 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.

Referring to the data of the source [1], 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, the destruction of the ozone layer - 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.

In the materials of the site [2] it is noted that in the seventies of the last century the world realized

the need for an urgent solution to 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.

Academician N. Moiseev [3] believes that for a long time the main practical tasks of ecology were reduced precisely to environmental protection. But in the 20th century, this traditional thrift, which also began to gradually fade under the pressure of developing industry, was no longer enough. The degradation of Nature began to turn into a threat to the very life of society. This led to the emergence of special environmental laws, to the creation of a system of reserves like the famous Askania-Nova. Finally, a special science was born, which studies the possibility of preserving the relic sites of Nature and endangered populations of individual living species. Gradually, people began to understand that only the richness of Nature, the diversity of living species ensure the life and future of man himself. Today this principle has become fundamental. Nature has

lived without man for billions of years and now will be able to live without him, but man cannot exist outside a full-fledged biosphere. The problem of its survival on Earth rises to its full height before humanity. The future of our biological species is in question. Humanity may face the fate of dinosaurs. The only difference is that the disappearance of the former rulers of the Earth was caused by external causes, and we can die from the inability to use our power wisely. It is this problem that is the central problem of modern science (although, perhaps, this is not yet realized by everyone).

According to the authors of [4], at the present stage of human development, perhaps, the hottest problem is how to preserve nature and civilization, since no one knows when and in what form this or that catastrophe can occur. For thousands of years, man lived, worked, developed, but he did not even suspect that the day might come when it would become difficult, or maybe impossible, to breathe clean air, drink clean water, grow anything on earth, since the air is polluted, the water is poisoned, the soil is contaminated with radiation or other chemicals. All this is a real threat to the entire civilization. And what can be the conclusion? Another Chernobyl or Fukushima, or maybe even worse. So maybe we should think about it? Each person must be aware that the whole civilization is on the verge of death, and whether we survive or not is the merit of each of us. There is no doubt that the inventive human mind will eventually find a replacement for them.

The authors of [5] give an example of atmospheric air pollution caused by a military conflict that took place on the territory of Kuwait and nearby areas of the Persian Gulf after Operation Desert Storm in early 1991. Retreating from Kuwait, the Iraqi invaders blew up more than 500 oil drilling rigs with explosives. wells. 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. A large amount of oil spilled here from the blown up terminals and tankers. 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.

According to the information [6], we can give an example of atmospheric air pollution in the northern part of the territory of the People's Republic of China (Fig. 1). As can be seen from the figure, after a terrible sandstorm, the area was completely covered with dust-sandy layers of dirt.

As you know, air pollution at the present stage is one of the problems of mankind, which affect the problem of the relationship of the human race to nature. The process of air pollution has no boundaries and frameworks. Since even the most powerful state is not able to solve such a problem alone, therefore, extensive international cooperation is needed to solve the problem. At the present stage, people more and more often interfere with the natural environment, thereby violating the natural balance and forgetting about the need to maintain biological balance in it. Therefore, at this stage, the issue of maintaining the ecological balance is very acute and requires immediate solutions. Most of all, environmental degradation is affected by: the destruction of forests, the lack of clean fresh water, the destruction of the ozone layer, the pollution of the waters of the oceans, more and more desert territories appear, and the deterioration of people's lives in huge megacities.

Methodology

Currently, the threats to the environment are increasing on Earth. 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 an increase in the number of population, unevenly distributed across the continents. Overpopulation as a result of the population explosion in the underdeveloped Asian and South American countries is forcing the expansion of spaces taken from nature.

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 Mesopotamia 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.

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 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.

We would like to note that the health of the population is directly related to air pollution at the present stage. In particular, polluted air causes respiratory diseases such as asthma, cardiovascular and other ailments. At the present stage, the level of atmospheric air pollution exceeds several times the maximum permissible standards in all countries. Meanwhile, it is polluted atmospheric air that contributes to the development of various kinds of diseases, sometimes incurable. As a rule, clogged rivers bring toxins, chemicals and pathogens. In addition, the lack of drinking water, accompanied by climate change, contributes to the spread of dangerous infectious diseases, which will negatively affect the health of the population, especially the

unformed health of the younger generation. Nevertheless, we trumpet everywhere that the future belongs to the youth! Which one is asked? Sick, crippled by health, perhaps unable to correctly assess the problems that arise at every step, which can harm him.

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 you can see, the upward trend in atmospheric air pollution at the present stage has an upward trend, and this negative factor negatively affects the health of the population, and above all, the health of the younger generation. All this can lead to the fact that, perhaps, the day will come when it will become difficult, or maybe impossible, for a person to breathe clean air, drink clean water, grow anything on earth, since the air is polluted, the water is poisoned, the soil is contaminated with radiation or other chemicals. As you can see, air pollution poses a huge threat to humanity and not many people are aware of it.

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