

## Anthropogenic impact on the environment

### 1. GENERAL CHARACTERISTICS OF ENVIRONMENTAL POLLUTION.

For almost 40 thousand years, people have been trying to subdue nature, striving for a sense of comfort and security, promoting the evolution of the biosphere, and, consequently, irreversible human influences on nature become inevitable: cutting down and burning forests for agriculture, grazing, fishing and hunting wild animals, and much more.

As civilization developed, especially after the industrial revolution of the late middle ages, mankind became more powerful, more able to attract and use vast masses of matter to meet its growing needs.

Ultimately, there is a degradation of ecosystems, their deterioration as elements of the human environment, a decrease in the positive role in the formation of the biosphere, and economic depreciation.

### 2. ATMOSPHERIC POLLUTION.

Over cities and industrial areas, the concentration of gases in the atmosphere increases, which are usually contained in very small amounts or are completely absent in rural areas. Polluted air is harmful to health. In addition, harmful gases, combining with atmospheric moisture and falling in the form of acid rain, degrade the quality of the soil and reduce the yield.

Global air pollution affects the state of natural ecosystems, especially the green cover of our planet. The main cause of atmospheric pollution is the burning of natural fuel and metallurgical production.

The content of carbon dioxide in the atmosphere is gradually increasing and has increased by more than 10% over the past 100 years. It prevents thermal radiation into outer space, creating a so-called "greenhouse effect" there. Because of it, the average temperature of the atmosphere increases by several degrees.

The gradual destruction of the ozone layer, which has been observed in recent years, is particularly dangerous.

### 3. POLLUTION OF NATURAL WATERS.

A huge amount of water is used in industry. It absorbs 85% of all water consumed in cities, leaving about 15% for household purposes. If this rate of consumption continues, taking into account the growth of population and production, by 2100, humanity can exhaust all fresh water supplies.

In addition to the high level of consumption and, in the future, water scarcity is caused by its growing pollution due to the discharge of industrial waste into rivers, especially chemical production and communication wastewater. Bacterial

contamination and toxic chemicals (for example, phenol) lead to the deadening of reservoirs.

Harmful effects are also caused by mole rafting on rivers, which is often accompanied by congestion. Rivers and lakes also receive mineral fertilizers washed out of the soil by rains — nitrates and phosphates, which in high concentrations can dramatically change the type and composition of reservoirs, as well as various pesticides used in agriculture to control insect pests.

Significant contamination are exposed to the water of the seas and oceans.

#### 4. SOIL CONTAMINATION.

As a result of the development of human economic activity, there is pollution and changes in the composition of the soil. Destruction of forests and natural grass cover, repeated plowing of land without observing the rules of agricultural technology leads to soil erosion — destruction and washing away of the fertile layer by water and wind.

The most dangerous soil pollutants include mercury and its compounds. Mercury enters the environment with pesticides, industrial waste containing metallic mercury and its various compounds. Lead contamination of soils is even more widespread and dangerous.

Radioactive elements can also get into the soil and accumulate in it as a result of precipitation from nuclear explosions or when removing liquid and solid waste from industrial enterprises, nuclear power plants or research institutions associated with the study and use of nuclear energy. Radioactive substances from the soil get into plants, then into animal and human organisms, and accumulate in them.

#### 5. INFLUENCE ON THE ANIMAL AND PLANT WORLDS.

As a result of logging, plants in the lower tiers of the forest that are exposed to open habitat are adversely affected by direct solar radiation.

The animal world is also changing: species associated with the tree stand are disappearing or migrating to other places. Mass visits to forests by vacationers and tourists have a significant impact on the state of vegetation cover. In these cases, the harmful effect is trampling, compaction of the soil and its contamination. Woody plants are drying up.

The direct influence of man on the animal world consists in the destruction of species that are of food or other material use to him. The disappearance of a particular species leads to a decrease in the stability of biocenoses.

#### 6. RADIOACTIVE CONTAMINATION.

Currently, radioactive elements are widely used in various fields. Negligent attitude to storage and transportation of these elements leads to serious radioactive contamination. Radioactive contamination of the biosphere is associated, for example, with the testing of atomic weapons. When an atomic bomb explodes, there is a very strong ionizing radiation, radioactive particles are scattered over long distances, infecting the soil, reservoirs, and living organisms.

## 7. CONCLUSION.

Due to the increase in the scale of anthropogenic impact, especially in the last century, the balance in the biosphere is disturbed, which can lead to irreversible processes. This is due to the development of industry, energy, transport, agriculture and other human activities without taking into account the capabilities of The earth's biosphere.

A person cannot be a guarantor of their own environmental safety as long as they continue to violate the stability and biotic regulation of the natural environment.

Even now, humanity is facing serious environmental problems that require immediate solutions: pollution of the natural environment with gaseous, liquid and solid substances and industrial waste, the deterioration of ecological systems, often even the death of unique natural complexes, the reduction and disappearance of populations of certain species of plants and animals, the danger of irreversible changes in the structures of geographical areas.

Negative anthropogenic impacts remain the most acute environmental problem with priority social and economic importance, and environmental protection and rational use of natural resources are among the most urgent environmental issues.

## 8. LIST OF REFERENCES.

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