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Stasevich A., Chuprina K.

The Depletion of Natural Resources

Belarusian National Technical University
Minsk, Belarus

From the first generation the world's population lives with a constant fear of environmental disasters. Logging of forests, pollution of the ocean, destruction of the ozone layer - we have heard these words in our lives hundreds, maybe thousands of times. Humans have interacted with and influenced their environment from the very moment their species emerged. In fact, this influence reached a noticeable scale only in the eighteenth century, with the beginning of the industrial revolution. At this moment, man left the natural cycle of nature and began to impose his own rules on the planet.

The earth began to change, but we saw it far away at once – our civilization was carried away by other things: the extraction of fuel, alloy and other minerals. All these substances, excreted naturally and withdrawn by man, returned to nature, but in a slightly different form. It all turned into global pollution of soil, water and air and became the root cause of the ecological crisis. And the intensity of this process continues to grow rapidly, and humanity will have to eliminate the serious consequences of the ecological crisis in the near future. And one of the most important problems today is the problem of depletion of natural resources. The lack of natural resources directly affects half of the world economy, and indirectly – absolutely all sectors of the economy. The modern world economy is characterized by extremely high rates of extraction of natural resources in comparison with their ability

to renew: overcutting of forests, overgrazing of livestock on pastures, overfishing, low quality of agrotechnical measures during tillage and depletion of its fertility, pollution of water bodies and watercourses with industrial emissions up to the impossibility of their further use, air pollution in large cities, etc. The formation and progress of society are associated with an increase in the depletion of natural resources.

Reduction of natural resources can be classified into two types: depletion of non-renewable fossil energy resources of biogenic origin (coal and oil). Despite the existence of the necessary supply of such minerals, now some countries are developing the use of alternative inexhaustible sources of energy: wind, ebb and flow, solar radiation, etc. And the second type: reduction of renewable resources (soil and forest). The depletion of the soil cover of the land is associated with erosion, which strongly affects the volume of the fertile layer. It has been proven that a number of the most ancient civilizations have disappeared due to the excessive use of the soil layer. For example, the Sahara Desert was once the richest province of the Roman Empire. Now all sorts of parts of the globe are becoming deserted due to deforestation, the destruction of shrubs and the grass layer. Due to the continuous plowing of the soil, dust storms, wind and water erosion of the soil layers appear [1]. To ensure society at a particular moment of development, natural resources are divided into real and potential. Real natural resources are those that have been explored at this stage of the development of society, their reserves are quantitatively determined and are actively used by society. As society develops, they change. For example, at the initial stage of the formation of the industry, whale oil was freely used as a fuel; at the present stage of development of society, one of the leading energy resources is electricity generated by hydro-heat and nuclear power plants. Potential natural resources are resources that have been explored at this

stage of the development of society, and often quantitatively determined, but are not used due to one or another primary reason (poor technical equipment, lack of appropriate processing technology, etc.) For example, potential land resources are allowed count desert, mountainous, swampy, saline and permafrost areas. Despite the enormous need for arable land and land resources, people are unable to develop these lands for agriculture: large investments are needed.

The resources without which human life is impossible include, first of all, air and water, and in addition energy and raw materials. The problem of water resources is considered one of the most acute in the world. Fresh water is an insignificant part of the Earth's water balance - it is only 3%. Its main part is concentrated in the ice of the Arctic and Greenland, while rivers and lakes account for a very small share. Energy resources are shown by reserves of fossil fuels, including oil, gas, coal, oil shale. Raw materials are, first of all, mineral raw materials, which include components necessary for industrial production [2].

Since the second half of the 20th century, the scale and rate of extraction of mineral raw materials (oil, gas, coal, minerals) has greatly increased. At the same time, an impressive part of the currently known reserves of mineral resources lie in difficult conditions or are represented by relatively poor deposits. Their development requires much more capital investments than before, and a more advanced production and processing system. The use of electricity is increasing at a similar rate. Thus, the main sources today are still non-renewable material resources: oil, coal, gas, peat, uranium. The search for "fresh" alternative energy sources and the introduction of energy-saving technologies are very slow. Economists have calculated that the total cost of obtaining energy from unconventional sources (sun, wind, sea tides, geothermal waters) is 15-30 times higher than the average costs

associated with the production and transportation of oil from the Middle and Middle East to Europe. The development of nuclear energy is held back by the negative attitude of the world community. Energy saving itself does not have the ability to become an alternative to energy sources.

Currently, society is preparing to use the energy of thermonuclear fusion. However, the scenario of scientists for the future assumes that the energy well-being of the developed countries of the world will, as before, be created most of all at the expense of economically underdeveloped oil-producing countries. At the same time, even if the growth rate of oil consumption does not grow, its proven reserves will probably last for about half a century.

There is currently no clear information as to how long a society can consider itself to be supplied with fossil fuels and minerals. However, it is obvious that their savings are exhaustible and non-renewable. Therefore, developed countries are now focusing on the development of non-material-intensive industries, such as, for example, electronics. The energy revolution of the 70s taught a lot about the energy resources of the Western countries. Since then, fundamental measures have been taken and implemented for a significantly more economical use of oil products, and strategic reserves have been built. For Belarus, as well as for other countries, it is a problem of depletion of natural resources. For example, a nuclear power plant in Ostrovets has now been built, which means that the amount of consumption of non-renewable material resources for fuel production will increase. This cannot be avoided, because the search for new alternative sources takes a very long time. But our country, like many others, is not standing still and is looking for solutions to this problem.

Society at the moment comes to understand that the elements of economic activity are just an element of human

activity, which means that the development of the economy should be analyzed as part of a broader concept of the formation of society as a whole. Of course, economic development implies great benefits from the use of natural resources.

However, after they are depleted, society will face new challenges that could lead to its complete disappearance. In the world economy, the problems of preservation and reproduction of the natural environment are gaining importance. Thus, natural resources have become the most key factor in wars and confrontations in the history of mankind, and this may become a problem in international relations in the future. It is no coincidence that the onset of the ecological crisis was combined with the post-industrial scientific and technological revolution. During the scientific and technological revolution, conditions are being formed that remove technical limitations in the use of all kinds of natural resources. Industrialization processes have significantly increased the power of people over natural processes, and at the same time, the number of the population that lives in direct contact with nature is decreasing.

As a result, the inhabitants of industrialized countries have become even stronger to believe that their mission is to conquer nature.

References:

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