

## ENVIRONMENTAL PROBLEMS AS A GLOBAL SECURITY THREAT

*Zakirova Rufina Ilgizarovna*

*Tohirov Quvonchbek Musurmon o'g'li*

*Muhammad al-Xorazmiy nomidagi Toshkent axborot texnologiyalari universiteti*

Environmental problems are one of the basic global threats to international security now. The basic environmental problems are the reduction of an ozone cloud, global warming, pollution of the atmosphere, greenhouse effect, pollution of the World Ocean, and reduction of a variety of the biological kinds living on the Earth. In present article the reasons, consequences and approaches to the decision of these problems are considered.

**Keywords:** international ecological security, environmental problems, reduction of an ozone cloud, global warming, pollution of an atmosphere, greenhouse effect, pollution of the World Ocean, reduction of a variety of the biological kinds living on the Earth.

Today, building a coal-fired power plant or cutting down rain forests, even if it happens on the other side of the world, is a devastating blow to our nation, an act of aggression like sending warships to bombard New Orleans, Miami or Harwich. Politicians have a responsibility to force countries to limit their carbon emissions, and if they refuse, they must protect us by bombing their power plants and sending troops there to protect the rainforests.

**Norman Moss<sup>1</sup>**

Environmental problems became more acute in the second half of the twentieth century as a result, firstly, of the unrestrained growth of consumption in developed countries aimed at satisfying secondary needs; secondly, accelerated industrial modernization of developing countries on the principle of "first you have to get dirty in order to get rich"<sup>2</sup>; thirdly, the activities of TNCs that bring dirty industries to countries whose governments are silent so as not to lose investments ("imported stability")<sup>3</sup>. The main environmental problems include the reduction of the ozone layer, global warming, atmospheric pollution and the greenhouse effect, pollution of the World Ocean and the reduction of the diversity of biological species living on Earth. All these problems are related

<sup>1</sup> Moss N. The Politics of Global Warming. L., 1991. P. 41.

\* Drobot Galina Anatolyevna - [gdrobot@mail.ru](mailto:gdrobot@mail.ru), Kochetkova Elena Vladimirovna - [l\\_only@mail.ru](mailto:l_only@mail.ru)

<sup>2</sup> Slovesnaya N.G. Environmental Safety: Lessons of Developing Countries. Moscow, 1993.

<sup>3</sup> Imber M.F. The Environment and the United Nations // The Environment and International Relations / Ed. by J. Vogler, M.F. Imber. N.Y., 1996.

among themselves and can be divided only conditionally. This article examines the causes, consequences and approaches to addressing these challenges.

Reduction of the ozone layer. The ozone "shield" is located in the country at an altitude of 7–8 km at the poles, from 17–18 km at the equator, and everywhere up to about 50 km above the earth's surface. Ozone is "thickest" in the layer 22-24 km above the Earth. The essence of the problem is the reduction of the Earth's ozone layer and the formation of ozone holes. Ozone is destroyed for several reasons. Firstly, chlorofluorocarbons (CFCs) destroy the ozone layer. Secondly, the ozone layer is destroyed by space rocket launches and airplanes. Thirdly, the destruction of the ozone layer is facilitated by the action of mineral fertilizers. Fourthly, nuclear explosions also contribute to the depletion of the ozone layer. Fifth, steam plays a very important role in ozone destruction. Sixth, ozone depletion is caused by the influx of ozone-depleted surface air masses to the poles due to intense vortex circulation of the atmosphere and thermal anomalies in the ocean<sup>4</sup>.

Seventh, ozone depletion is associated with an increase in solar activity with peaks in 1957, 1968, 1979, 1989 and 2000.

Thinning of the ozone layer can lead to serious consequences for humanity is not a good idea. As you know, ozone protects the Earth from 66 thousand people die from these diseases every year. Each lost percentage of ozone on a global scale causes up to 150 thousand additional cases of blindness due to cataracts, the number of skin cancers increases by 2.6%, and the number of diseases caused by a weakened human immune system increases significantly<sup>5</sup>. The Montreal Protocol, which was signed on September 16, 1987, made the greatest contribution to solving the problem of ozone layer reduction. The Montreal Protocol and subsequent agreements aim to reduce chlorine concentrations to pre-ozone hole levels<sup>6</sup>. The Montreal Protocol has banned the production and consumption of 100 ozone-depleting chemicals of such chemicals has been reduced by more than 90%.

Global warming (greenhouse effect). Atmospheric emissions of carbon dioxide, water vapour, methane, chlorofluorocarbons and some other gases are creating a phenomenon in which much of the heat remains on the Earth rather than being dissipated into outer space. Compared to pre-industrial times, by 2005 the average global temperature had increased by 2°C. and by 2030 it could increase by 4.5 °C. In the future, warming will only intensify as a result of a number of natural processes. The reason for the greater (than predicted) warming may be the inability

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<sup>4</sup> Allen J. Tango in the Atmosphere: Ozone & Climate Change // NASA Earth Observatory. 10.02.2004 // <http://earthobservatory.nasa.gov/Study/Tango/>

<sup>5</sup> Meteorologists note the reduction of the ozone layer over the Arctic // <http://last24.info/read/2006/09/16/77895> 16/09/2006

<sup>6</sup> Nature. 1990. N 344. P. 729—734; New Scientist. 1990. June. N 48—51.

of the warming ocean to absorb the estimated amount of carbon dioxide from the atmosphere. American scientists have found that global climate change can no longer be stopped.

S. Solomon, in a report published in the journal "Proceedings" of the National Academy of Sciences of the United States, writes: "People mistakenly believed that if carbon dioxide emissions could be stopped, temperatures would drop and return to normal in 100 to 200 years. This is not true."

Global warming will be accompanied by an intensification of precipitation as well as the rise in the level of the World Ocean (by 2030 - by 20 cm, and by the end of the century - by 65 cm). Such sea-level rise could result in flooding of low-lying areas, destruction of coastal marshes and marshes, destruction of coastlines, increased effects of storms flooding coastal areas, and increasing salinity of coastal waters and bays. A projected 65 cm rise in sea levels would put 800 million people at risk. Low-lying coasts of countries such as the Netherlands, Bangladesh, Egypt, Indonesia, Maldives, Mozambique, Pakistan, Thailand, Gambia, Suriname will be flooded. The processes of expansion of desert and semi-desert lands are not excluded.

The transformation of the Earth's climate and environmental challenges will lead to millions of refugees in the foreseeable future. Today, according to the UN, there are 25 million people in the world who have become refugees as a result of environmental disasters, and their number is growing. The United Nations predicts that up to 200 million people will be forced to flee their homes by 2050. They will have to seek refuge from rising sea levels, floods and droughts that will make vast areas impossible to live in. In 2007 alone, 11.5 million people became refugees. Each rise in sea levels by a centimetre will force 1 million people to resettle in the world. In the coming decades, global warming, increasing water scarcity and shrinking agricultural land will be a decisive factor in migration.

Migration flows will be directed around the world, which will create a real threat to global security.

In the face of the global threat of climate change, in 1992, at the United Nations Conference on Environment and Development in Rio de Janeiro, which was called the "Earth Summit", the United Nations member states signed the United Nations Framework Convention on Climate Change (UNFCCC). In particular, it called on developed countries to assist developing countries in protecting the environment. It has been ratified by most states, including the United States. The Convention does not contain quantitative obligations, so an additional document was developed to determine them, the Kyoto Protocol, according to which in 2008-2012 the developed countries that signed it must reduce emissions of the six main greenhouse gases by 5.2%. The United Nations Conference on

Climate Change was held in Kyoto in 1997. Developed countries have argued that in the twenty-first century, it is the "global South", where some countries are developing at an extremely rapid pace, that has become the main source of emissions into the atmosphere. Today's data confirm the correctness of Western experts. China, according to some data, is ahead of the United States in terms of greenhouse gas emissions and has become a world leader in this indicator. In turn, China, India, as well as many acceding countries, insisted that they should not be subject to restrictions on emissions of harmful substances into the atmosphere. Two arguments were put forward: first, that the emissions of developed and developing countries are not currently comparable, and second, that developing countries cannot economically afford to reduce such emissions.

Despite the differences, the Kyoto Conference concluded with the signing of the Kyoto Protocol, which was approved by 159 States. However, only a few dozen countries have signed and ratified this protocol.

These are mostly small, often island countries, for which, on the one hand, the Kyoto Protocol is not too much of a burden, on the other hand, they are the most vulnerable as a result of the greenhouse effect. China, which is projected to become the world's largest emitter of greenhouse gases, has not joined the Kyoto Protocol. During the presidency of B. Clinton, the United States, which produces the largest amount of pollution, joined the international Kyoto Protocol. However, soon after joining the White House, J. In January 2001, the United States withdrew its signature from the document. The current President of the United States, Barack Obama, ordered the National Environmental Protection Agency to revise the existing and approved by the previous administration of J. Bush Jr. standards for permissible air pollution standards.

The Kyoto Protocol has been ratified by the Russian Federation. According to Articles 4 and 12 of the Convention, the Russian Federation is obliged to regularly develop and submit to the Conference of the Parties to the Convention national programmes and communications detailing policies and measures to regulate anthropogenic emissions and sinks of greenhouse gases, as well as measures to adapt to climate change. In the field of fundamental sciences, within the framework of the State Scientific and Technical Program "Global Changes in the Natural Environment and Climate", with the active participation of scientists of the Russian Academy of Sciences (Y.A. Israel and others), scientists and specialists of the State Committee for Hydrometeorology and Meteorology and other departments and ministries of the Russian Federation, research was carried out on the problem of anthropogenic climate change. Practical aspects of this problem, in particular, the methodological framework for the creation of information systems on climate change and their

forecasts and methods for assessing the consequences of climate change, have been developed within the framework of the Roshydromet lead programme. In the Russian Federation, a number of state scientific and technical, federal target and departmental projects are being developed or are already being implemented.

Economic, energy and environmental efficiency of all stages of extraction, conversion, distribution and use of energy resources, as well as improving the efficiency of agriculture, forestry and other sectors. These programs should become the basis of the Federal Target Program for the Prevention of Dangerous Climate Change and Its Negative Consequences.

Atmospheric pollution. Pollution of the atmosphere is one of the most acute environmental problems of a transboundary nature and of concern to the entire world community. The United States is the main source of global emissions. China is rapidly approaching them. Germany is the largest air polluter in Europe. Large megacities are especially affected by air pollution, which is primarily due to exhaust emissions. According to the World Organization (WHO), more than 1 billion people currently live in inadequate human settlements. However, while rich countries legislate and spend a lot of money to combat exhaust fumes and other sources of air pollution, the poor are unable to do so. As a result, the situation often turns out to be critical.

In 2000, Asia surpassed Europe in emissions of sulfur anhydride, and by 2010 it is projected to surpass Europe and the United States combined. Over the past decade, the region has experienced industrial growth of 9%. Even in the context of the global financial crisis, when the world's leading economies are experiencing a recession, in 2009 the World Bank forecasts China's economy to grow by 7.5%. Air pollution in South and Southeast Asia is increasing due to the backwardness of the material and technical base, the predominant development of dirty industries, the rapid growth of small and medium-sized enterprises, and an inefficient system of pricing and taxation. are caused by China and India due to the use of coal as the main energy source, the production of which in the region is constantly increasing.

In India, coal provides 60% of commercial energy. With the expansion of the coal sector, carbon dioxide emissions are constantly increasing. The countries of South and Southeast Asia will have to pay a high price for air pollution. Economic losses from air and water pollution are estimated at an average of 5% of GDP produced in the region.

Waste is another problem of our time. It is associated with the deterioration of the quality of the environment, causing mass diseases and death of people. The main source of solid waste in the world is the United States, followed by Japan.

The "signalmen" in the production of hazardous waste are the United States and India. At the beginning of the 21st century, Russia was in danger of becoming a dump for foreign nuclear waste. Liquid radioactive waste is most produced in the United States and Canada, and in Europe in France. less often they are processed at special plants. In developing countries, the treatment of such wastes is difficult due to the lack or inadequacy of equipment. Acute problems with waste disposal also arise in Russia.

Atmospheric pollution leads to the problem of acid rainfall. The name "acid rain" covers a complex complex of impacts of man-made air pollution on humans and the environment, the main consequences of which are the growth of allergic diseases of the respiratory organs, loss of yields of agricultural plants, drying out of forests, and fishless lakes. Acid rain arose in Western Europe and North America in the late 1950s and is now of global importance, mainly due to increased emissions of sulphur and nitrogen oxides, as well as ammonia and volatile organic compounds. The first economically tangible consequence of acid deposition was the loss of fish resources: hundreds of lakes in Scandinavia and the British Isles became fishless.

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