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R E F E R A T

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ECOLOGY

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Ecology

We live on a very beautiful planet – on the Earth. Our planet has very rich resources: the bright blue of the sky, fresh, crystal-clear mountain lake water, the rich green of the mountains slopes, wild flower, picturesque views – all these sceneries of nature fill us with admiration.

That's why those who live in cities prefer spending their days off and their holidays far from the noise of the city, to be closer to nature. Perhaps they like to breathe fresh air or to swim in clear water because the ecology is not so poor as in the cities.

Ecology is the study of the ways in which organisms (plants and animals) depend upon each other and upon their surroundings. Each organism requires conditions in order to be able to live and breed. These conditions are its environment by changing the ecological conditions.

So, pollution is one of the most burning problems of nowadays. Now millions of chimneys, cars, buses, trucks all over the world exhaust fumes and harmful substances into the atmosphere. These poisoned substances pollute everything: air, land, water, birds and animals people. So, it is usually hard to breathe in the large cities where there are lots plants. Everything there is covered with soot and dirt. All these affect harmfully.

Water pollution is very serious, too. Ugly rivers of dirty water polluted with factory waste, poisoned fish are all-round us. And polluted air and poisoned water lead to the end of the civilization. So, nowadays a lot of dead lands and lifeless areas have appeared. Because our actions and dealings can turn the land to a desert.

So, we see that our environment offers an abundance of subject matter for discussion. The problems and prospects of the blue planet interest not only scientist and futurologists, but also politicians, industry, the public – and above all, young people! There is hardly a young person who is not concerned with the preservation of our natural habitat. To recognize environmental problems and master them, to reduce and avoid environmental pollution, to discover and develop

ecologically sound technologies – there are the essential building blocks for our future.

Whether scientist or politicians, bankers or student, whether Greek, Norwegian, Hungarian or Finn ... all are encouraged to make a contribution towards protecting the environment. Dedication and the courage to change one's way of thinking are called for.

We are to stop pollution. So, we can grow plants and trees, to purify waste, to start urgent campaigns in order to preserve environment For example, in 1989 in Australia, Sydney. In a year the same kind of action was held all over Australia and it was called "Clean up Australia" the following years 110 countries hold the similar actions within the ecological program of the UNO.

Nowadays there are many different pressure and interests groups in British, which try to find solutions to the problems of pollution at the national and international level. So they are groups of people with a common interest in trying to draw the public attention to environment problems, to influence the government decisions.

Greenpeace is a very famous pressure group. It started functioning in 1971. Its headquarters are at Amsterdam, but it operates in 25 countries worldwide. The aim of Greenpeace is to protect wildlife of toxic wastes, nuclear tests.

"Friends of the Earth" (FoE) is one of the British pressure groups with an international reputation. Its general aim is to conserve the planet's resources and reduce pollution. FoE was established in 1971 and now it operated in 44 countries worldwide. It campaigns among other things, for recycling and renewable energy, and the destruction of wildlife and habitat. The main campaigning issues of the FoE are:

- The protection of all animals and plants in danger of extinction.
- An end to the destruction of wildlife and habitats.
- A program of energy conservation measures, etc.

So, a number of campaigns resulted in:

- The ban on other hunting in England and Wales

- And indefinite delay in the construction of the Commercial East Breeder Reactor, etc.

But not only great groups can influence the problem of pollution. So, different people have their own opinions on this problem:

- The continued pollution of the earth, if unchecked, will eventually destroy the fitness of this planet as a place for human life. (B. Commoner).
- The Earth has enough for every man's need, but not for man's greed. (Ganlui).

And I agree with them because it is really so. And terrible examples prove them.

The Baltic Sea is a special case. Because it is such a small sea and it becomes dirty very easily. Its water changes slowly through the shallow straits. As many as 250 rivers run into the Baltic. There are hundreds of factories in these rivers and millions of people live along them. Quite a lot of big cities lie on its coast. All these combined with the active navigation of the sea naturally affects the state of the sea water and the shore line flora and fauna. People suffer from the water pollution; cancer deaths increase people's concern.

And there is no escape from this ecological crisis without organizing a single body dealing with the environmental problems, developing and carrying out a nationwide program of environmental protection and co-operating with international schemes.

Population Fears.

Scientists now predict that by the year 2050 the population will be doubled what is today. The fact remains that the rate of food production fell behind population growth in many of developing countries. The annual fish catch already exceeds what the world's oceans can successfully sustain. If we go on using our natural resources at today's rates, we will have used up the entire reserves of copper, natural gas and oil by the year 2054.

But the problem ahead lie not so much in what we use but in what we waste. What faces us is not so much a resource crisis as a pollution crisis. The only solution is to try to change the areas of consumption, technology and population. Changes in technology must be backed by slower population growth. And it can be achieved by education in health and women's rights. And there is a little hope of reducing consumption over the next half century.

The earth has been getting hotter because we are producing too many greenhouse gases. These gases hold heat. Trees and plants help to take gases, such as carbon dioxide from the atmosphere, but we have now destroyed too many trees. There aren't enough trees and plants to do this job. We make carbon dioxide when we burn wood or drive cars. Other dangerous gases are in refrigerators and spray cans. Polluting gases fall as acid rains. Acid rain is a kind of air pollution. It is caused by factories that burn coal or oil or gas. These factories send smoke high into the air. The wind often carries the smoke far from the factories.

The rain in many places isn't natural and clean any more. It's full of acid chemicals. When it falls in lakes, it changes them too. The lakes become more acidic. Acid water is like vinegar or lemon juice. It hurts when it gets in your eyes. It also kills the plants and animals that usually live in lake water. As a result of air pollution only 2-3 per cent of healthy babies are born in Yaroslavl and people cannot bathe in the Volga river.

The pollution of air and the world's ocean, destruction of ozone layer is the result of man's careless interaction with nature^ a sign of ecological crises.

As a result of man's careless interaction with nature some rare species of animals, birds, fish and plants disappear forever. For example, the Blue Whale, the Panda, the California Big Tree are on the verge of extinction now. Many animals have gone forever, as their habitats have been destroyed at an alarming rate, 340 miles a day!

The truth is that we use animals or parts of animals for jewellery, clothes, soaps, etc. All the moment we are using 1000 of animals every year for tests of things,

like shampoos to find-out if they cause any irritation. Some of the animals go blind or ever die from these tests. We kill whales for their oil, which we use for cosmetics and soaps. A lot of expensive jewellery are made from ivory, from the horns of elephants and rhinos. African elephants are disappearing fast. People continue to kill animals to wear fur coats. Some of these animals like fox are in danger or extinction.

Believe it or not but every ten- minuter one kind- of animal or plant dies out forever. If nothing is done about it one million species that are alive today will have become extinct twenty years from-now.

One of the most important problems now is the rubbish problem. Many people find it easy to drop anything on the ground. They think that it is very little, but very big garbage heaps appear from small wrappers. Littering isn't very dangerous, but trash in the streets looks ugly, on the nature it spoils the view. Littering is very awful when wind carries scraps of paper and cans go under one's feet, rotting food attracts birds and rats, which carry disease. There are many countries, which have a law against littering. But in Russia there isn't such a law. That is why many cities in our country are as garbage heaps.

One of the most horrible ecological problems is nuclear power, because nuclear weapons could destroy the world. Nuclear weapon tests increase the amount of radiation in the atmosphere. Nuclear power produces high-level radioactive waste, which can be dangerous for thousands of years. Nuclear explosions on the ground caused irreversible changes in the chemical composition C^y of the upper atmosphere.

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As a result of the Chemobyl tragedy in April 1986[^] about 18 per cent of the territory of Belarus were polluted with radioactive substances. A great damage has been done to the republic's agriculture[^] forests and people's health. The consequences of this explosion at the atomic power station are tragic for the Belarussian nation.

Some scientists are pessimistic about our problems. They suppose that we have already reached the point of no return. Others are more optimistic and believe otherwise.

Global warming

“Global warming” has been introduced by the scientific community and the media as the term that encompasses all potential changes in climate that result from higher average global temperatures. Hundreds of scientists from many different countries are working to understand global warming and have come to a consensus on several important aspects. In general, Global warming will produce far more profound climatic changes than simply a rise in global temperature.

An analysis of temperature records shows that the Earth has warmed an average of 0.5°C over the past 100 years. This is consistent with predictions of global warming due to an enhanced greenhouse effect and increased aerosols. Part of the current global warmth is associated with the tropical El Niño, without which a record global temperature would probably not have occurred.

The Earth's climate is the result of extremely complex interactions among the atmosphere, the oceans, the land masses, and living organisms, which are all warmed daily by the sun's energy. This heat would radiate back into space if not for the atmosphere, which relies on a delicate balance of heat-trapping gases - including water vapor, carbon dioxide, nitrous oxide, and methane - to act as a natural "greenhouse," keeping in just the right amount of the sun's energy to support life.

For the past 150 years, though, the atmospheric concentrations of these gases, particularly carbon dioxide, have been rising. As a result, more heat is being trapped than previously, which in turn is causing the global temperature to rise. Climate scientists have linked the increased levels of heat-trapping gases in the atmosphere to human activities, in particular the burning of fossil fuels (coal, oil, and natural gas for heating and electricity; gasoline for transportation), deforestation, cattle ranching, and rice farming.

As the Earth's climate is the result of extremely complex interactions, scientists still cannot predict the exact impact on the earth's climate of these rising levels of heat-trapping gases over the next century. The current best estimate is that if carbon dioxide concentrations double over preindustrial levels, according to the scientific possible scenarios, an atmospheric doubling of carbon dioxide could occur as early as 2050.

In 1995, scientists with the Intergovernmental Panel on Climate Change - the authoritative international body charged with studying this issue-reached a conclusion in the Second Assessment Report, which summarizes the current state of scientific knowledge on global warming, also called climate change. For the first time ever, the Panel concluded that the observed increase in global average temperature over the last century "is unlikely to be entirely natural in origin" and that "the balance of evidence suggests that there is a discernible human influence on global climate."

Freak weather

Freak weather has been introduced by the scientific community and the media as the term that encompasses all potential changes in climate. Hundreds of scientists from many different countries are working to understand strange phenomena.

As freak weather is the result of extremely complex interactions, scientists still cannot predict the exact impact on the Earth of these phenomena and find the explanation of them.

El-Nino is one of these phenomenon. Every few years something mysterious happens in the Pacific. Vast areas of the surface of the Pacific begin to warm up. As a result, the wind weakens. A great sweep of warm water sloshes eastwards. These warm waters usually arrive off the coast of South America shortly after Christmas. That is why they are known as El-Nino, which is Spanish

for the Christ-Child. It seems that El-Nino affects the weather of North America and the Atlantic, too. In 1983 severe storms caused havoc in the United States and Europe, these and severe drought in Africa, India and Europe could be traced back to El-Nino. Scientists call El-Nino world weather upset.

Crop circles phenomenon is not a modern one. They are mentioned in academic texts of the late 17th Century. Since then some eighty eyewitnesses from as far away as British Columbia have reported crop circles forming in under twenty seconds; cases are often accompanied by sightings of incandescent or brightly-coloured balls of light, shafts of light or structured flying craft. Serious attention was given to the simple circles in 1980 in southern England. The designs appeared primarily as simple circles, circle with rings, and variations on the Celtic cross, they developed straight lines and created pictograms. Research and laboratory tests suggest that microwave or ultrasound may be the only method capable of producing such an effect.

There are a lot of other unusual weather phenomena such as flying saucers, tornadoes, blood rains about which people think they are God signs.