

ECOLOGICAL CHANGES IN UZBEKISTAN

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The Earth is the only planet in the solar system where is life. If you look down at the Earth from a plane you will see how wonderful our planet is. You will see blue seasons and oceans, rivers and lakes, high snow-capped nature mountains, green forestland fields, 1 or centuries man lived in harmony with nature until industrialization brought human society into conflict with the natural environment. Today , the contradictions between man and nature have acquired a dramatic character. With (he development of civilization man s interference in nature has increased. Ever)- year the worlds industry polluters the atmosphere with millions of tons of dust and other harmful substances. The seas and rivers arc poisoned with industrial waste, chemical and sewage discharge. People who live in big cities are badly affected by harmful discharge front plants and city transport and by the increasing noise level which is a bad for human health as lack of fresh air and clean water.

Among the most urgent problems arc the ozone layer, acid rains, global warming, toxic pollution of atmosphere, disappearance of forests, contamination of underground waters by chemical elements, destruction of soil in some areas, threat to some flora and fauna representatives, etc.

The word "ecology" ("Okologie") was coined in 1866 by the German scientist Ernst Haeckel (1834-1919). Ecological thought is derivative of established currents in philosophy, particularly from ethics and politics.1'1 Ancient Greek philosophers such as

Hippocrates and Aristotle laid the foundations of ecology in their studies on natural history. Modem ecology became a much more rigorous science in the late 19th century. Evolutionary concepts relating to adaptation and natural selection became the cornerstones of modern ecological theory'.

The ecological problems in Uzbekistan are far from being satisfactory. Air pollution for example in such industrial cities of Uzbekistan as Ferghana. Navoi, Zarafshan, Almalyk, Akhangaran, Chirchik, and Kokand exceeds all tolerable limits several times over. The reason lies in the discharges into the air from plants, factories, and thermal power stations. Andijan was considered one time an necessitated the closure of shops at the local engineering and hydrolysis plants. Another aspect of the problem is the food we eat. In the past, people could cat without thinking much of the consequences. Today, the problem of safety is very much in the fore when we go to the market to buy water-melons, musk-melons, or tomatoes. These and other products

are so loaded with nitrates and other chemicals due to excessive application of mineral fertilizer that they pose a dangerous health.

The problem of the Aral Sea has also developed onto a major social and ecological issue.

It is the result of thoughtless water management of the cotton plantations. The level of the Aral Sea has dropped and it is now rapidly drying up. A serious ecological disbalance has entailed irreparable damage to people. There has been a sharp increase in the disease rate of hepatitis, various intestinal infections and child mortality has soared.

The largest scale of ecological organization is the biosphere: the total sum of ecosystems on the planet. Ecological relationships regulate the flux of energy, nutrients, and climate all the way up to the planetary scale. For example, the dynamic history of the planetary atmosphere's CO₂ and O₂ composition has been affected by the biogenic flux of gases coming from respiration and photosynthesis, with levels fluctuating over time in relation to the ecology and evolution of plants and animals. Ecological theory has also been used to explain self-emergent regulatory phenomena at the planetary scale: for example, the Gaia hypothesis is an example of holism applied in ecological theory. The Gaia hypothesis states that there is an emergent feedback loop generated by the metabolism of living organisms that maintain the core temperature of the Earth and atmospheric conditions within a narrow self-regulating range of:

tolerance.

The Earth was formed approximately 4.5 billion years ago. As it cooled and a crust and oceans formed, its atmosphere transformed from being dominated by hydrogen to one composed mostly of methane and ammonia. Over the next billion years, the metabolic activity of life transformed the atmosphere into a mixture of carbon dioxide, nitrogen, and water vapor. These gases changed the way that light from the sun hit the Earth's surface and greenhouse effects trapped heat.

There were untapped sources of free energy within the mixture of reducing and oxidizing gasses that set the stage for primitive ecosystems to evolve and, in time, the atmosphere also evolved.

Soil is the living top layer of mineral and organic dirt that covers the surface of the planet. It is the chief organizing center of most ecosystem functions, and it is of critical importance in agricultural science and ecology. The decomposition of dead organic matter (for example, leaves on the forest floor), results in soils containing minerals and nutrients that feed into plant production. The whole of the planet's soil ecosystems is called the pedosphere where a large biomass of the Earth's biodiversity organizes into trophic levels. Invertebrates that feed and shred larger leaves, for example, create smaller bits for smaller organisms in the feeding chain. Collectively, these organisms are the detritivores that regulate soil formation.1120611:071 Tree

roots, fungi, bacteria, worms, ants, beetles, centipedes, spiders, mammals, birds, reptiles, amphibians and other less familiar creatures all work to create the trophic web of life in soil ecosystems. Soils form composite phenotypes where inorganic matter is enveloped into the physiology of a whole community. As organisms feed and migrate through soils they physically displace materials, an ecological process called bioturbation. This aerates soils and stimulates heterotrophic growth and production. Soil microorganisms are influenced by and feed back into the trophic dynamics of the ecosystem.

Ecological problems have no borders. European states solve these problems together: the necessary measures are taken, congresses and conferences on these questions are organized, and these questions have already the reflection of many countries.

The activity of many public organizations is directed to protect environment. One of the most known organizations is «Greenpeace», whose purpose is prevention of environment degradation. This organization was founded in 1971 by the activists from the USA and Canada and it has representations in 25 countries of the world. «Greenpeace» acts against nuclear tests, radiating threat, pollution of the environment by waste industrial products, to protect the animal world, etc.

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