

## TO THE QUESTION OF GLOBAL PROBLEMS OF MODERN CIVILIZATION

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Many scientific works claim, that humanity is approaching the global ecocatastrophe. The main reason for it is determined by the impetuous growth of the Earth population. It causes the necessity of the continuous growth of the industrial production, power engineering and also the use of ecologically dangerous kinds of fuel. The elaboration of the energy- and resource-saving, as well as zero-discharge technologies will no doubt slow down the process of the destruction of the biosphere.

The problem of the global warming of the climate especially acute in the least decades and its consequences also belongs to the analyses of the influence of man upon the Earth landscapes. However, we should keep in mind, that the main reason for this process is not the growth of the carbonic acid concentration in the near-ground strata of the atmosphere and other anthropogenic factors, but natural regularities. In the Earth evolution ice ages were-followed by inter-ice periods. It is especially typical for the anthropogen. In the course of the following several thousands of years we faced the gradual warming of the climate, as the inter-ice age has come. With this natural process of warming collide the well-known anthropogenic factors. That is why in the course of the last 25-30 years the climate has really become the warmest in comparison to the more that a century-long period from the beginning of the instrumental observations.

The progressive degradation of the landscapes, the abrupt reduction of the species diversity of the living organisms are connected with the pollution of all the habitats of the organisms, the recourse depletion. These processes are accumulating and in many regions they have already reached and exceeded the permissible limits. The stability of the geosystems especially of the local level has been broken давно.

Man never took into consideration natural laws and regularities, never thought about the consequences of his vital forces. The reason for that lies not only in the fact that he was unaware of them in most cases. He has just been and remains потребитель in his relations with nature.

The evolution of civilization must be under rigid control. It is necessary to increase the effectiveness of the use of all natural recourses, especially those of the biosphere.

Despite the existence of various kinds of monitorings only some restricted facts about temporal changes of the geosystems are available for us.

The surface field studies, especially expeditionary, are actually stopped. We just can suppose that we can study the accelerating global changes better on

the grounds of the space surveys, and according to the results of mathematical and computer-based modeling.

The acceleration increase of the processes of economic development of the society, unreasoned use of natural recourses have caused, as it has been stated, the instability of natural landscapes. These problems of the society have a global character at present.

The individual activity of man and society in general seems unpredictable. That is why natural laws have lost the guarantees of the stable development.

Man's unlimited greediness, his criminal use of the natural resources, the myth of their inexhaustibility have caused the beak of the dynamic balance of the evolution of the system nature-society.

Man should have long ago realized that he is only part of nature that is independent from anything but its own laws and regularities. The earth nature, which he has turned into a poisoned planet, possesses such important qualities as self-preservation and self-development.

At present the natural environment has lost its ability of self-regulation and self-cleansing, as the stability limit has been increased. It can be accounted by the fact, that the annual products of the productive activity of man increase the biomass of the dry land landscapes, produced by the biosphere. These man-caused substances are alien to the natural-qualities of the environment and stimulate the rapid degradation of landscapes. It is already impossible to revive the natural landscapes.

The life of man as well as other living beings has temporal restrictions, but nature is in space and eternal in time, though there is nothing permanent in it except the changes. Man has always realized nature as object of the intensive uncontrolled and unpunished use of its riches, which he can appropriate.

Sensible co-existence with natural environment has been realized by man only in theory. In fact he does nothing and he may even be unable to solve many global problems, which he has himself created on the local and regional levels. It is already impossible to slow down the development of technical progress. But the pollution of the habitats of the living organisms, ruthless эксплуатация of mineral resources, actual elimination of the rest of the resources, decrease of the natural fertility of the soils, deterioration of the water, air quality, excessive forest felling, the elimination of many species of animals is not the inevitable consequence of the development of the production progress and human civilization. One of the reasons for the global ecological problem is man's striving for the unrestrained growth of the consumption and enrichment. This all proves the criminal attitude of man to his living environment.

Man acts in such a way as he is aware of the temporal limits of his existence on the Earth and in the Universe. But to leave good reminiscences of his existence for the future generations he has to solve at

least some of the problems created by him and first of all ecological problems.

The development of the natural environment and human society are interrelated and irreversible. That is why the destruction of the Earth landscapes and their natural environment in general is sure to cause the degradation of humanity as part of the biosphere. It is impossible to change the routes of development of human civilization.

Thus the appearance and the intensification of the global problems is caused by the ignorance, low level of culture. These problems are various. To the most important aims, the solving of which determine the conservation of civilization belongs the turn from the criminal to the reasonable use of nature. It is necessary to stop pollution of the environment, to decrease the intensity of the use of the traditional energy and all kinds of resources, stop the impetuous growth of the earth population. The natural environment quickly loses its natural qualities under the pressure of man-caused changes. That is why modern civilisation is bound to die if man won't solve the ecological problems in the nearest future. [1]

Thus man without taking into consideration the natural laws of the development of biosphere has turned it into such a state, which according to the words great Russian scientist V.I. Vernadskiy is in no way close to the notion of "noosphere". i.e. the sphere of the living and the sensible. .

#### References:

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#### LANDSCAPE MONITORING OF THE NATURAL ENVIRONMENT OF BIOTA

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Nature has developed complex bounds uniting living organisms with their natural environment into one entity. The landscape biota includes the whole of all the living organisms that most keenly react upon the changes in their habitat, especially its pollution. It is necessary to carry out monitorings of the state, evolution, dynamics and degradation of the separate natural components or processes as well as ecological monitorings of all the habitats. But they are always local, fleeting, and that is why ineffective, and the most essential is, that they don't permit to make long-term regional and moreover global prognoses. Monitorings usually make use of a great amount of data. However, the united data fund of the pollution of the habitats of biota as well as of territorial and water landscapes on the whole is essential. All the monitorings, which determine the maximum permissible concentrations of the substances dangerous for biota

and man won't save the existing ecological situation. - It is no doubt necessary to take into account the established norms of the maximum permissible concentrations or maximum permissible levels. However, all lands of pollution do not produce separate, but united influence upon the landscapes, thus creating critical conditions for the life of biota, causing rapid reduction of species diversity of living organisms and landscape degradation.

AH monitoring programmes with the aim to control the state of the separate natural components must have a landscape base. This will allow the most secure and objective estimation of the ecological and biological qualities of the habitat of all living organisms including man.

Landscape monitoring is based upon the system analysis of the structure of the habitat of living organisms. Such habitat is constructed by the geosystems of all levels of organisation, which are remarkable for their integrity and dynamics, possess migratory and accumulative characteristics of natural and man-caused substances. The interrelation of the five main natural components (Hthosphere, water, air, flora and fauna) is the basis of the balanced state of natural complexes.

They hardly submit to the anthropogenic influence including the man-caused one. Especially resistant is geoma of the landscapes, i.e. geological and geomorphologic conditions of the life of biota, which is temporally and spatially dynamic. The stabilizing role of landscape geoma has a determinant impact upon the bioproductive, water and migratory conditions of chemical elements in geosystems. It determines the stability potential. The first and foremost aim is the choice of standard individual monitoring geosystems in every type of landscape. These standard monitoring regions must be first of all geosystems of the protected natural territories. The main aim of the creation of the reserved, territories must become their preservation for the purpose of comparison with familiar degrading geosystems. They must be created in all natural zones of the world and on all genetic species of the geologic measures with all the year round complex observations and must not be restricted to the studies of ecosystems, flora and fauna only. Then we could foresee many undesired consequences of the man-caused influences.

These unique natural objects as well as natural resources created by Nature for us must be under rigid control of the State and must not be transferred to private any propriety or rented. They must be a base for models of restoration of the spoiled and degraded individual landscapes of the same type. Landscape mapping of these geosystems with the use of aerial and space survey will let us determine the degree of danger of the man-caused pollution for biota and the migration conditions of the man-caused substances.

Landscape monitoring provides a possibility to follow the temporal changes of loadings upon biota,