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The Condition, Consequences and Danger of Biological Changes in Biosphere

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ABSTRACT

This article is devoted to the scientific analysis of the responsibility means that mankind has 3 dangers: the risk of war, ecological and spiritual poverty.

Keywords: *Biosphere, Dangers, Earth, Ecosystem, Harmony, Mankind, Measure, Photosynthesis, Stratosphere.*

1. Introduction

21st century put a great responsibility to the mankind. Feeling such responsibility means that mankind has 3 dangers: the risk of war, ecological and spiritual poverty. *The risk of war…* From the period of existence of mankind till nowadays only 292 years there were no wars. In the rest of years there were wars. Since then the military weapons and methods were improved upon. The primitive stone weapons were replaced by nuclear, chemical and even biological weapons. The ecological risk with its mortal consequences is no less bad than the risk of war. The danger of spiritual poverty means the decrease of love and kindness, increase of envy among people, to say in a word, the constant disappearance of the most valuable dignities.

2. Discussion

The history of mankind-at the first place, is using skillfully the natural resources and using them effectively for the increase of prosperity of social life. At the beginning of 20th century mankind used clean water, breath with a fresh air and the endless natural resources around him seemed to be endless, at every step all natural and vital delicacies seemed to be endless. But with the ten years mankind realized his being on the edge of danger. If the mankind being in counter with such ecological misfortune doesn't change the attitude to the biosphere, after several generations the mankind may have an in counter with an inevitable destruction. The attitude of man to the nature and the relation between the nature and man has become connected with the cultural, social and economic life. Now man realized that he is not the strongest, he is not the most powerful, that is he cannot surpass everybody. He can just live in harmony, together and unanimous with the nature. Man changes the nature and uses it willfully, satisfies his endless requirements with the natural output. Nowadays throughout the planet "EARTH" live over 6mlrd of population. In spite of the peculiarities of nations, colours, races, religions, knowledge and spiritualties, they have only one place to live-the earth, that is one planet. 1.1 mlrd of population of the planet "THE EARTH" live in areas where exist ecological narrow circumstances. In our planet there are 2,5-5,5 trillion ton of living substances-biomass. The whole weight of mankind in the EARTH is 200 mln ton. So, it turns out the indicators of numbers given above the common truth is clearly seen that saving the world depends on wise manufacturing works. How many ecosystems the mankind have spoilt, have forced to break down the rules of natural operation till nowadays? There are (not counting rocks and glaciers), only 50mln km² unspoilt, that is indestructible (harmless biological functions) areas. In order to bring to light

to our view-point, if we compare the alteration in the biosphere by mankind only from the beginning till the end of a century, then the alteration in the sphere of biosphere during the beginning and the end of 20th century are given in the table:

2.1 The important tendency of 20th century

Owing to decrease of ecosystem for 1%, our planet nearly in all till 40% of area preserved its purity; Owing to increase the concentration carbonic dioxide, the steam cover intensifies, that is to say releasing 30 mlrd ton of carbonic dioxide to the atmosphere:

- 150mln ton acid sulphurs;
- Spilling 10 mln ton oil outputs into the world oceans each year;
- The sharp decrease of the areas of forests, especially the decrease of the size of tropic forests for 200 thousand km² in a year;
- The increase of desert (turning into deserts of 60thousand km² area in a year);
- The decrease of biological species(disappearance from 5 to 150 thousand species out of 20 mln of species in a year);
- Every year getting 4 thousand km² rocks from the Earth crust, causes to the circumstances of hydro geological damage of Earth;

These numbers are only some annual negative species of anthropogenic activity in consequence of the necessity of natural needs, sensible needs. If this is the future life of only one man, if his life is connected with the life in the Earth, what are the factors of saving the life in the Earth? It makes no difference independent of animate or inanimate, in much or less quantity, each natural component are the important wealth-the great gift of the nature. None of them can be replaced with other. Air cannot be replaced by water, water cannot be replaced by diamond. The biosphere has its invariable biological rules. For instance, the power of Earth attraction, the eternal Sun, the structure of salt of the oceans, the structure of the atmosphere, the eternal of Veranda and etc. All kinds of ecological factors changes, the existence of invariable factors is impossible. But some ecological factors change in the circle of their alteration. Each ecological factor has the limit of positive influence. At the same time the volume of influence on exactly this factor may be too much or too less. In general classical ecology there is the optimum law for organism. The existing analyze of scientific ecological literatures brought us to one important view-point:

1. Possessing a very few quantity of components in compare with the rest components plays an important role in biosphere. Attached people to the specialties of chemistry, biology, agronomists know Justus Libikh very well. Especially his theory of plants' nutrition is very famous. His "minimum law" seems to attach a great importance in the sphere of biosphere. The quantity of ozone, carbonic dioxide, clean drinking water is very few, but their significance attaches a great importance. Thus, we will not be mistaken saying that the law of Justus Libikh is one of the laws which have the relation with biosphere.

There is a confirmation to our view-point. Though clean drinking water only 2%, 99% of that 2% is equal to glaciers. Drinking water is off a great importance for organism. Man should dink 10 ton of water in a year. But the acquisition of a kilogram biomass requires 500 kilogram water. Man drinks water or spends it for his needs. If we take the universal water supply 100%, only 2,5 % out of 100% suits to be drinking water(fresh water-S.H.).One liter of water of ocean contains from 3,5 to 35 grams of different kinds of salts.

If a kilogram of water doesn't contain over 1 gram of salt, such water is called fresh water.

If a man spends 60 tons of water for natural needs,300tons for vital needs per year, well then according to the scale of our planet for each person is spent 360% tons of water. At that times the supply of clean drinking water finished during 3-4 months. But clean fresh drinking water has a natural feature of self-filling up, supplying. As there is the circulation of water in the biosphere, the ecological components of natural-biological functions belonging to that circulation shouldn't lose their systems.

It is possible in actual fact to control each strict measure and the quality indicators of ecosystem and enormous process of biosphere? As far as we exactly know about the quantity and the indicators of quality of studying ecological components, so many things we'll learn about natural-ecological measures of above mentioned components and we'll realize how we should take care of them.

Natural ecological measure of chemical element or junction of biosphere	**Quantity of the phenomenon in biosphere in a consequence of anthropogenous activity of this element or connection**
1. *Carbonate anhydride – CO_2*. **With natural background 9 billion tons of CO_2 is sent to atmosphere in a year.**	1. In a consequence of anthropogenous activity (by industry, transport, and economic branch) 20 billion tons of $CO_2$is sent to the atmosphere in a year.
2. *Ozone – O_3*. **Everybody knows that ozone layer is 300 dobson and it is one of the main vital indicates of biosphere. 1 dobson is equal to 0,001sm. There are 3,3 trillion of ozone in stratosphere. If we collect this quantity of ozone in 20 ^{0}C degree, this thickness of layer contents 2, 5 – 3mm. If concentration of ozone layer lowers in 1 % it causes skin cancer disease to 2 %.**	2. In 1987 it was found that 40 billion km^2 square over Antarctica 200 dobson of ozone layer was decreased, practically, it is equal to 60 ^{0}C of Southern Circle. In 1966 on March and May found it was found that natural-ecological measure of ozone was less than 30 % in Northern hemisphere (in the large part of the Arctic and Eastern Siberia). The size of ozone's hole of stratosphere reached 3000 km. Destructive element Chlorinefluorinecarbons (CHFC) of ozone layer consists of (CCI_3F) Freon-11; (CCI_2F_2) Freon-12; methyl bromide and gallons. Chlorinefluorinecarbons synthesized since 1940, and used for preparing support seats for automobiles and for motor conditioner. Methyl bromide adds to motor patron as an

	extra element. Bromine which releases from atmosphere can destruct ozone layer 30-60 times more than chlorine. From Gallons, especially, Galon-1301 is used to put out a fire.
3. *Lead – Pb.* **Before industry appeared 11 thousand tons of lead fall into ocean in the cause of natural wind.**	3. Nowadays 43000 tons of lead is sinking into the ocean every year. Such pollution has been happening since 1940, that is to say from using $Pb(C_2H_2)$ tetraethyl lead as ant detonator for automobile petrol.
4. *Mercury – Hg.* **In the consequence of mountain chains from 2500 to 44000, in the cause of rainwater from 2500 to 15000 tons of mercury falls into ocean.**	4. 15000 tons of mercury falls into the ocean every year. Nowadays mercury "reserve" of the world ocean reached 100 – 200 million tons. Mercury badly effects to the photosynthesis process of delicate water plants.
5. *Chlorine gas – CL_2.* **Natural quantity of chlorine reaches from 10 tons to 100 thousand tons in a year.**	5. 850000 tons of chlorine is sent to atmosphere in the cause of anthropogenic factor.
6. *Oxygen – O_2.* **Oxygen contains 21% of atmosphere.**	6. Oxygen decreased to 10-12 billion tons in the cause of cutting trees in the forest in a year. If this indicate repeats, it will badly effect to the vital indicates of the atmosphere.

2.2 Health indicators of person

There are five quantitative indicators which show the health of the person. If any of them will not be set aside from their lower or higher indicators such person is considered to be healthy. They are as follow: (1) Quantity of cholesterol and alpha cholesterol of the organism. For example, it is normal if 100 ml of blood has 160-220 mg of cholesterol, (2) Quantity of sugar in blood, (3) Arterial pressure of blood, (4) Weight of body, exactly, quantity of fat in a body, (5) Quantitative indicators of prebet, beta-lipoproteid and triglycerine.

3. Results

These quantitative indicators are not simple ones. They define quality. That is to say they are natural-biological measures. Except the natural-biological measures which were mentioned above, there are also ecological measures for people. They are also important for the health of people. For example, if person stays in the excessively noisy place for 5 years, his ability of listening weakens. After 10 years he will have a disease of nervous system of hearing - neuritis and at last it will lead to deafness. As a result of each 1-2 dB excessiveness labor productivity decreases for 1 %. So, for the human health all inside and outside factors should be in norm. Biosphere is lively and single system as Human being.

3.1 The vital indicators of biosphere

Vital indicators of biosphere are its biological, chemical, physical, geological and proportional system of other vital indicators.

3.1.1 Indicators of a biological life of biosphere

These indicators include:

- Quantitative proportionality between plants (flora) and animals (fauna)
- Constant rule of Vernadskiy
- Ecological law and rules: Tinneman's rules (3 rules), Grinnell's rule, Lindeman's result; rule of 70% and others.
- Quantitative proportionality between "Primary" and "secondary" eco system.

In order that life was existed in biosphere there should be morass in certain quantity; lakes; fresh nature; "secondary nature" in some quantity; radioactivity; temperature; moisture; pressure; magnet square; certain number of animals; certain quantity of plants and life of animals and plants in suitable quantity to it. If there is no quantitative proportionality between plants and animals this tragedy will badly affect biosphere. For example, the numbers of squirrels can be found from the fir-cones. Carp is peaceful fish; its quantity is depended on the quantity of phytoplankton. But there is a quantitative proportionality between pikeperch and carp's quantity. Bio productivity of the water ecosystem between pikeperch and carp is depends on quantitative proportionality of relativity 30:1. If this ecological balance damages bio productivity, ecosystem's value lowers. Each of the plant or animal in biosphere has its own feature. 100 poplar trees keep 75, 00 kg of dust during a summer. Plane tree and apple tree also keeps dust in quantities. That's why plants are called "health guards".

3.1.2 Indicators of a chemical life of biosphere

There are always oxygen, carbonate anhydride in biosphere and even ozone in certain quantity in stratosphere. If the quantity of the ozone or oxygen increases or decreases from that necessary quantity, certainly, ecological destruction will happen. Chemical element of atmosphere, certain quantity of junctions, quantities of the carbonate anhydride in the air; natural measure of ozone layer are chemical, physical and biological indicators of drinking water, natural radioactivity of biosphere and chemical, physical and biological indicators, natural radioactivity of biosphere and etc. These are indicators of a chemical life of biosphere or natural-ecological measures.

If we pay attention to the next indicators of the natural and anthropogenic effects of some necessary ecol components which contents vital indicators of biosphere the following condition will appear.

4. Conclusion

So, simple truth is shown from the comparable sketch above.

- If mankind doesn't lose his vital indicates of environment he can live as a biological kind himself in biosphere. Therefore, intellectual ability of a person should be directed in a wisely character so that he could live. If aridity happens, humanity will come across to the hunger. If forests cut, humanity will be lacked of oxygen.

- An opportunity of the biosphere is not endless. If natural-ecological measure of ecological components of biosphere is balanced for anthropogenic factor, it can save its vital functions and can serve for mankind.
- Health of nature is primary. If the nature is healthy, certainly, people will be healthy also.
- The whole world of animals and the vegetable kingdom is community as we and you. It is our duty to take care of them for the future generation.

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Consent for publication

We declare that we consented for the publication of this research work.

Code availability

The programming code that we have used for this research is available and authors are willing to share when it is required.

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