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ENVIRONMENTAL MANAGEMENT AS A GUARANTEE OF SUSTAINABLE AND SAFE DEVELOPMENT OF WORLD CIVILIZATION

Abstract. Due to the rapid development of technological progress in world civilization, there are more and more environmental challenges that may threaten the existence of mankind as a species. In the cultural-historical dimension, we live in 2022 and come to understand that our future depends on our actions "here and now". Future has all the tools to ensure survival, but only if we use them properly. Environmental management could become a guarantee that humanity might maintain living conditions on the Earth for many future generations. This requires the creation of protective mechanisms and new worldviews of post-industrial society. Mankind is more and more mastering new means and stepping on natural processes in such a way that nature loses and almost no longer has its own protective mechanisms. We must remember and consider that the protection and preservation of nature is an integral part of our worldview and the position from which we look at this world. This is indicated by nooethics - a new science of the ethics of human intellectual activity. And every time we turn back to look at the teachings of V. Vernadsky on the noosphere. V.I. Vernadsky argued that man himself creates a new living space with his intellect, he also changes the environment with his intellect, and therefore the future of this world depends on the products of his intellectual activity. Our species has interfered with the protective mechanisms of

nature, hinders its self-regulation and now, to save life on Earth, we must establish new rules of the game. When we talk about civilization, we mean big cities built that is, the external world of material objects, which is transformed by man. Civilization and science alone cannot ensure sustainable and secure development: it requires purposeful management, environmental awareness, which includes the full range of intellectual, moral and aesthetic achievements of mankind.

Keywords: ecological management, noosphere, nooethics, human activity, world civilization, technological progress, safe development, ecological consciousness, life on the Earth.

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ЕКОЛОГІЧНИЙ МЕНЕДЖМЕНТ ЯК ЗАПОРУКА СТАЛОГО ТА БЕЗПЕЧНОГО РОЗВИТКУ СВІТОВОЇ ЦИВІЛІЗАЦІЇ

Анотація. У зв'язку зі стрімким розвитком технічного прогресу у світовій цивілізації з'являється все більше екологічних проблем, які можуть загрожувати існуванню людства як виду. У культурно-історичному вимірі ми живемо у 2022 році і розуміємо, що наше майбутнє залежить від наших дій «тут і зараз». Майбутнє має всі інструменти для виживання, але лише за умови, що ми їх правильно використовуємо. Управління навколишнім середовищем може стати гарантією того, що людство зможе підтримувати умови життя на Землі для багатьох майбутніх поколінь. Це потребує створення захисних механізмів та нових світоглядів постіндустріального суспільства. Людство все більше і більше опановує нові засоби і наступає на природничі процеси таким чином, що природа втрачає і практично вже немає своїх власних захисних механізмів. Про це треба пам'ятати і зважувати, що захист і збереження природи - це невідємна частина нашого світогляду і позиції з якої ми дивимося на цей світ. На це вказує ноетика - нова наука про етику інтелектуальної діяльності людини. І щоразу ми повертаємося назад, щоб подивитися на вчення

В. Вернадського про ноосферу. В.І. Вернадський стверджував, що людина сама своїм інтелектом створює новий життєвий простір, також вона своїм інтелектом змінює довкілля, і тому майбутнє цього світу залежить від продуктів її інтелектуальної діяльності. Наш вид втрутився в захисні механізми природи, перешкоджає її саморегулюванню і тепер, щоб зберегти життя на Землі, ми повинні встановити нові правила гри. Коли ми говоримо про цивілізацію – ми маємо на увазі збудовані великі міста, тобто зовнішній світ матеріальних об'єктів, який є перетворений людиною. Самі по собі цивілізація і наука не можуть забезпечити сталий та безпечний розвиток: тут потрібне ціленаправлене управління, екологічна свідомість, що включає в себе весь спектр інтелектуальних, моральних та естетичних досягнень людства.

Ключові слова: екологічний менеджмент, ноосфера, нооетика, діяльність людини, світова цивілізація, технічний прогрес, безпечний розвиток, екологічна свідомість, життя на Землі.

Formulation of the problem. Nowadays, the current level of education and the general spread of technology contributes to the fact that more and more people are coming to understand the order of universe. But are people really aware of the available resources and their quantity, energy sources and their using, the creation, distribution and consumption of universal goods? Our time is characterized by a global environmental and energy crisis, and in case the Earth depletes all its resources or becomes so polluted that it becomes unfit for human life – some scientists are looking for life on other planets. Instead, supporters of opposing positions consider it fantastic and point out that human life, in the usual sense for us, exists only on planet Earth. If we wish to reserve existing life on Earth for our generations – this should be our main task. Clearly realize that only our actions "here and now" are our future. [1] According to scientific theory, about 20 million years have passed in order to create conditions for human life. But in the cultural-historical sense, we can talk about the countdown only from the moment of the emergence of organic life. All mechanical and physical phenomena in nature are reversed, so time matters only to living organisms. Theories of human immortality are related to the sphere of fantasy. A man could live forever in the historical and cultural sense, because one's spirit is beyond some time and some space. But every human has a body and every biological organism has a stage of birth, growth, maturity, old age and death. No matter, how much molecular genetic technologies, robotics and nanotechnologies develop, human life on earth is still temporary and limited. Of course, depending on the conditions, a person can live more or less years, but still a person lives his age and more important his inner perception of time – sometimes years pass as five minutes, and sometimes one day feels like a hundred years.

Analysis of recent research and publications. The well-known Ukrainian scientist, naturalist, philosopher, founder of geochemistry, biogeochemistry and radiogeochemistry V. Vernadsky explains the unity of man and the biosphere, that

man is dependent on nature, he coexists with it, belongs to it and at the same time transforms it. This unity of natural and human, the focus of man on the use and transformation of its environment V. Vernadsky calls the noosphere. [2] The importance of this concept and its ethical orientation is characterized by the following principles: the principle of growth of scientific thought; the principle of internationalization of science as the spiritual unity of mankind; the principle of criticality; the principle of moral responsibility of scientists; the principle of creativity; the principle of sociality of science. Man in the process of his life has mastered the airspace, designed aircraft and missiles, man has also delved into the depths of geological strata, extracting resources and embedding artificial structures, man has built submarines and descended to the bottom of seas and oceans. 114 years ago, Antoine de Saint-Exupery outlined the main task of humanity facing each of us: "We learned to fly in the sky like birds, we learned to swim in the water like fish, there is only one thing left – to learn to live on earth as humans". Everything we have as human beings must be used to create a harmonious life on Earth and to form an ecological picture of the world.

Nooethics is a new step in the implementation of our tasks. Nooethics is the ethics of human intellectual activity. [3] Now there are fewer and fewer manual professions – people are increasingly realizing themselves in creative and intellectual activities, as an organizing order, a new living space. All these human actions form the noosphere – the biosphere with the features of consciousness. In 1901, Richard Maurice Bucke [4] distinguishes the types of consciousness in the following hierarchy:

- "Simple consciousness", awareness of the body, which has many animals;
- "Self-awareness", awareness of consciousness, which is possessed only by people;
- "Cosmic consciousness", awareness of the life and order of the universe, which is possessed only by people who are enlightened.

The purpose of the article. The world in which we live is the result of human purposeful activity and creative work. It is this tree and this garden grows here, because the person planted it, the person chooses what kind of vegetation will grow and why here. [5] Of course, crop production is also spontaneous and V. Vernadsky pointed to this, but the laid communications, pipes, overpasses are built by man purposefully. All trade and migration routes operate on this basis. [6] Due to the pandemic and the introduction of lockdowns, it will be necessary to reconsider the purpose for which people travel and, as a result, to reorient the infrastructure so that the population could satisfy at least most of their desires locally. Moreover, in conditions of limited movement, it is necessary to fulfill the needs and interests of people, thus providing services and places where people can go and what they are interested in. There is a whole niche in the entertainment market, where you can go out with your product or service. These can include the rental of tourist equipment, the sale of food in places of recreation, clubs that bring together a small group of

people according to their interests. In the development of infrastructure, the nearest places for recreation, which are aimed at maintaining the mental, physical and social health of people, play an increasing role. During the quarantine period, we want to return to all living things on our planet. When most people are forced to stay at home for a long time, we understand the value of nature and land, the benefits it has given to us, because we often miss fresh air in the city, walks in parks, gardens, forests, trips to the sea. [7] What factors force a person to migrate? Every year the labor migration of the population of Ukraine grows more and more. Due to the deteriorating economic situation in the country, the population travels abroad for employment. This migration is called cyclical, as people go to work for a certain season, then return to the country, and then go to work again. According to statistics, about 4 million Ukrainians are labor emigrants. In addition, people go on vacation, to their relatives, or travel to study, work, trade, purchase, transportation of products. Due to the pandemic in the world, in 2020 a huge number of ships, steamships and planes stopped. It can be observed that when the number of flights decreased, in a short period of time we observed that the environmental situation improved. Especially in the rivers where commercial overpasses passed daily, we can see a significant improvement in the environment and the water has become 15-25% cleaner.[8]

Presenting main material. Today, most of the world's population is concentrated in cities. In the struggle for comfortable living conditions – man declares war on nature by building megapolicis. The role of cities in the life of population is growing, as cities have better employment conditions and means of subsistence. How is the life of the inhabitants of the city radically different from the peasants, for example? Locals are cut off from land and livestock, they do not grow or produce food. The population of cities is dense and people buy products completely from A to Z. Also, the problem of waste disposal is more acute in areas with high population density, waste disposal is very different in cities and rural areas [9]. The cultivation and production of food is now industrialized. This has its advantages, it is less dependent on weather conditions, able to meet the food needs of the masses. In 2020, due to the spread of coronavirus infection, adjustments are being made which include prevention the import of products from abroad, we need to review what products we import and whether we have the conditions to grow them locally so that people could get products quickly and inexpensively, without the risk of bringing contaminated products.[10]

Of course, men's relationship with the environment is determined by their nature management culture. In this regard, we can distinguish two opposite positions. Position "nature itself will cope with all challenges" and we can do anything. The opposite position, when a person feels guilty for environmental pollution and tries in every way not to harm, litter, use or throw away anything. Man cannot interact with nature at all, because in order to ensure his vital activity man must look for what to eat, what to wear and where to warm up. To keep a needed balance, a person mustn't

just use everything necessary to meet one's needs, but also try to think wisely about a variety of inventions, technologies and innovations. The most environmentally friendly solutions can be found in architecture, in particular to build a roof and exterior in such a way that during the day the triangular blinds are adjustable according to the angle and position of the Sun. You can also look at changes in tailoring. Reproduction of floral patterns, imitation of natural silhouettes – all this is used not only to have the external beauty of clothing, but also the use of environmentally friendly materials and technologies of fabric processing, which are less harmful to humans. For example, textile production can be replaced by natural materials such as nettle, hemp or flax. Textile production seriously pollutes the environment through biochemical emissions: 20% of polluted wastewater and 8-10% of greenhouse gases that provoke climate change, and their waste usually ends up in landfills rather than recycling. Not only fashion designers but also other industries are looking for alternative natural materials. For example, the company Ananas Anam invented and patented a safe innovative material: from the tops of the pineapple it makes "leather", identical to the natural one, which is used in the production of furniture, shoes, bags [11]. Another biotechnology company, Ecovative Design, is studying the root structure of fungi and is trying to use mycelium to produce environmentally friendly building materials to replace foam. Throughout human history, not as much plastic has been used as it is used today. For hundreds of years people have been making products mainly of wood, then of metal, and only for the last 10-20 years people started to use disposable products on a daily basis. Technology is not standing still, it has already been invented to add substances from crab shell to make the plastic decompose. Plastic eco-bags, which are decomposable, have already entered the market.[12] But nevertheless, the increase in waste should logically come to increase attention and responsibility for the nature management culture.

From the school curriculum, students receive information on which resources of the planet are divided into two categories: renewable and non-renewable. The first category includes resources that are available in unlimited quantities (hydro, solar, wind, geothermal, hydraulic energy, energy of sea currents, waves, tides, temperature gradient of sea water, temperature difference between air mass and ocean, Earth's heat, animal biomass, vegetable and household origin). Non-recoverable are those that are not able to recover quickly in a quick period of time. They can only recover during geological cycles and need to recover over hundreds of millions of years. These include minerals, fuel, non-metallic and metallic minerals. Excessive use of not-renewable resources has led to a number of environmental problems, including global warming, acid rain and ozone depletion. When a person picks up a tool, he not only receives a tool, but can use it as a weapon. This proves once again that man lives by different rules than nature. Man is constantly studying the world, he is studying himself and how to behave naturally, live life working and harmonizing with the environment is the question for every of us. From the point of view of

environmental challenge management, we can also distinguish two extreme positions – the first, extremely optimistic when we believe that we know everything about available resources, their use and disposal. The person is fully informed and has all the data to manage this process. The opposite position of such cognitive agnosticism, whose supporters believe that we do not know and will not be able to know how the extraction and use of natural resources, how artificial materials decompose in nature and as a consequence of such an attitude – lack of attention to such significant processes as production, use and destruction of products. The golden mean here will be an understanding of the situation that we are guided by what we know, evaluate what we have researched and invented, while understanding that new data can constantly appear, new technologies appear that will change the whole process, can dramatically increase the amount of garbage (such as disposable utensils during a pandemic), which will increase the load at times. That is, for effective and successful operation, first of all it is necessary to determine the position from which there will be control and management of these processes [13]. How omnipotent man is and how he transforms the world into his desires and how much he must obey the laws of nature. And here humanity is faced with a new problem: how to rationally use the product of their own intelligence, how to minimally harm the environment and make information technology as accessible as possible for the population. That is why people as individuals and as communities all over the world extremely need to know and use in their everyday work and life environmental management which is a rather new modern scientific way of reacting on such great threats with planet pollutions nowadays.

Environmental management is based on the following principles: prevention of problems, prevention of critical events, responsibility for damage, integration of efforts to implement environmental programs at different levels and areas of knowledge, the formation of environmental awareness, systematic and consistent work on solving environmental problems. Therefore, environmental management involves:

- inclusion of environmental requirements in the set of traditional economic goals of each organization;
- coordination between production functions, production infrastructure and environmental safety;
- compliance with environmental regulations;
- saving and rational use of all types of resources;
- informing the population about the nature of the organization (enterprise);
- observance of safe working conditions;
- minimizing the impact on the environment in general and on each object in particular [14].

The formation of these basic principles is influenced by the system of universal priorities and values. Principles of ecological management are the principles according to which the system of ecological or environmental management as a

whole is formed, functions and develops. The main principles of environmental management are: the right to a healthy and productive life of every person in harmony with nature; responsibility for the environmental consequences of management decisions; integration of ecological laws into the theory and practice of society according to the theory of sustainable (balanced) development; the sovereign right of each state, in accordance with the UN Charter, to exploit its own resources of the environment; cooperation in the spirit of global partnership of all countries for preservation, protection and restoration of a healthy and integral condition of the Earth ecosystem; development of science through the exchange of scientific and technical knowledge; prevention of environmental risks, negative situations; introduction of ecological innovations and economic tools of ecological management, etc. [14]

The principles of environmental management are combined with the requirements of harmonization in the management context, like activities aimed at overcoming discord, achieving coherence in the environmental field. Environmental management applies to all areas of human activity without exception, achieving coherence is a requirement for balanced development (sustainable development, where harmoniously combines environmental and social components). Such harmonization is possible only if humanity is guided by environmental awareness and culture, adheres to certain restrictions, influences the activities of transnational corporations, and so on. Environmental management is designed to perform a set of functions, each of which is focused on overcoming specific environmental problems. The function of environmental management is a type of activity due to the need for division of labor and specialization in the field of management in order to effectively solve a set of environmental problems [14].

As far as man can rule nature – in the twentieth century, artificial seas were built as proof that even the seas and mountains are subject to man. After all, such phenomena are often dangerous, leading to climate change uncharacteristic of the area and nature takes revenge. Artificial dams and bays are much more likely to cause damage to the area and the local population than similar natural ones.

And the functions of environmental management cover a set of activities necessary for the management of environmental processes. The study of practical problems of society shows that the functions of environmental management are specified in the rational use of all types of resources, conservation of protected areas, waste management processes, the study of environmental causes of morbidity and more. To ensure the implementation of environmental management functions based on compliance with its principles, it is necessary to create international, national, corporate, public environmental management systems all over the world. Coordination of the interests of the state, entrepreneurs, population in each settlement or region of the state is especially important, as legislative and regulatory documents change, privatization and rent of environmental objects rises, and their condition becomes worse [14].

For the archaic era, people had a mythological worldview, the bearer of this worldview is the community, where it was believed that the actions of one person can be punished by another member of the community. History is constantly turning and repeating itself – even such a mythological understanding of people's actions works today. Someone pollutes the river, and someone else can be poisoned by drinking water from it. It is everyone's responsibility to the team. It is pure not where we clean, but where we do not litter – we all should remember this well-known basic rule of building the simplest ecological system. To ensure the proper functioning of public life should be the formation of ecological worldview in people and reasonable management of mutual exchange, development and well-being to create new worldview foundations of post-industrial society.

Conclusions. In the XXI century, man lives in the noosphere, which, unlike the biosphere, does not have its own control mechanisms. To preserve humanity as a species, we must establish protective mechanisms – and there are responsibility, spirituality and love, for all ages and for each epoch, especially nowadays. Democritus, a representative of the philosophy of antiquity, described love as a force that unites and harmonizes, and the opposite hatred – breaks and destroys. So each of us should choose the right direction: to the life and love through the care of the world around us, not to the irresponsibility which is evil, because it can lead to death of all the mankind. But the prudent management and organization of the noosphere means the sustainable and safe development of world civilization. So, our fate is in our own hands.

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