

UDC 33**Stratification of the complex economic stimulus for sustainable development****Anastasiya S. Zaveryukha**

Graduate Student,
Financial University under the Government of the Russian Federation
125993, 51, Leningradski av., Moscow, Russian Federation;
e-mail: shas95@inbox.ru

Abstract

Decades of rapid development of science and technology, which defined the main features of industrial society, clearly demonstrated the productive power of science. However, the process of increasing and using this force was one-sided, focused on the conquest of nature. This did not make it possible to sufficiently disclose and apply the environmental forces of science. With all the wealth of industrial society in recent decades have not been in the required amount planned, funded and conducted research important for the society of natural processes and phenomena, their anthropogenic changes. During the formation of industrial civilization science has developed as a huge branched and continuously operating system of cognitive activity. On the subject-content basis of science and directly related activities can be divided into several relatively Autonomous echelons. Each of them has its own cognitive guidelines – key issues that guide the process of knowledge and practice of knowledge. This schematization highlights only those pragmatic issues that determined the direction of scientific research, the formulation of most of the tasks of theoretical research and innovation. The solution of permanent problems of survival of Homo sapiens requires new knowledge that modern science in the right amount has not yet been developed. Although there are significant reserves in many areas of life Sciences, the preservation of the common good, natural resource wealth and climatic well-being on the planet.

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Keywords

Social requirements, economic security, sustainable development, progress, society.

Introduction

Studies of global warming and climate change have been initiated with great delay. The complex of negative ecological, economic and social consequences of physical changes in the earth's ecosystem has not been sufficiently studied, despite the relevance of geodynamic effects on the life of society. Climate change forced to change the structure of the economies of regions and entire countries and the course of economic history. From year to year, environmental damage and the resulting economic losses caused to countries of all continents are growing [Rostokinskii, 2014, 41]. The devastation of settlements and human-developed territories, the number of human casualties from droughts and floods, hurricanes, typhoons, tornadoes, tsunamis, as well as man-made disasters provoked by them, have reached unprecedented levels in recent years. According to the world Bank, the total damage from natural disasters for 1980 – 2012 amounted to about 3.8 trillion dollars, with 74% (2.8 trillion dollars) of this figure due to extreme weather events. The average amount of direct damages increases Annually: if in 1980 they amounted to about 50 billion dollars, in the last decade they have approached 200 billion. Most notable losses are small developing countries that are unable to handle them yourself.

Main part

According to experts of the world economic forum, these losses are several times higher – due to climate change, the world economy annually loses 1.5 % of GDP or 1.2 trillion dollars. These figures are projected to double by 2030. And for the poorest countries in the world, economic losses can reach 11 % of GDP due to lower yields and increased losses in agriculture.

These estimates characterize only the currently obvious economic damage, which can be estimated. But in addition, global warming generates a lot of environmental and social damage, which cannot be correctly calculated [Dolgikh, 2018, 35]. The first is the reduction of biodiversity, degradation of landscapes, desertification, the melting of the polar caps and the rise in global sea level, depletion of biological resources of the ocean and so on.; the second is the increase in the number of environmental refugees, the growth of unemployment, poverty and social tension, the shortage of drinking water, food and comfortable living space, and so on.

It should be noted that modern climatology and scientific and public discussions about global warming are highly politicized. They face different points of view, including the complete negation of the greenhouse effect and related concerns, which are considered far-fetched for the sake of obtaining new research grants by climatologists. Such views protect the interests of large industrial corporations that emit large amounts of CO₂, but want to do business as always.

To overcome this trend, we need strong scientific arguments about its dangers, the political will of governments and the agreement of countries and peoples to move to a resource-saving way of life, which is impossible without curbing consumption. Technological transformation of the economy should be aimed at creating new production facilities on the basis of eco-technologies. To do this, it is necessary to develop and implement a new scientific, technical and innovation policy, radically different from its prototype of the industrialization period. So far, these conditions are only partially fulfilled, which does not allow to overcome the inertia of the world-system movement to an ecological catastrophe.

The paradigm of nature-saving development is a call to reassess the results and prospects of development. Reaction to the expansion of Homo sapiens in nature (the ecosystem of the Earth), turned into ecophony NTP and the limitless expansion of the market economy, was the paradigm of green

development or (in the Western version) new environmental paradigm (new ecological paradigm). She presented a clearly articulated alternative to the anthropocentric worldview and consumer attitude to Nature, which became the cause of the global environmental crisis [Peng Wei, 2019, 92].

This worldview paradigm reflects the understanding of the fundamental dependence of society on the state of the earth's ecosystem (its limited resources and climate variability), the inseparable unity of the processes taking place in nature and society.

The postulates, principles and conceptual apparatus of the paradigm of nature-saving development were approved in the atmosphere of analysis and versatile criticism of trends and results of unrestrained economic growth of industrial countries in the second half of the twentieth century. Was developed the basic notions of eco-development (ecodevelopment), the need for environmental and economic sustainability (sustainability) of society, development without destruction (development without destruction). Development and discussion of these ideas gave rise to the concept of sustainable development (sustainable development), which the world community adopted the Agenda 21 at a meeting in 1992 world conference on environment and development in Rio de Janeiro.

This concept was recognized not only by a wide range of scientists and experts, but also by social movements, political circles and governments of the world [Porfiriev, 2019, 25]. The presentation of the paradigm of nature-saving development and its consolidation in the world public consciousness contributed to the emerging global movement for sustainable development, which marked milestones such as Stockholm-72, The report Brundtland-87, Rio-92, Rio+5 (New York-97), Rio+10 (Johannesburg-2002) Rio+20 (riode-Janeiro-2012). Within the framework of this movement, many international forums and conferences, seminars and round tables were held, which stimulated the institutionalization of environmental policy and civil environmental initiatives in most countries of the world.

Difficulties in implementing the concept of sustainable development. The effect of recognition of the concept of sustainable development was impressive: “No other scientific idea in the natural and social disciplines, in the decisions of world and national forums and conferences had not previously had such a wide public response”.

However, as the subsequent development of events has shown, the idea of ecological and economic sustainability of society, necessary for its survival, was too radical and difficult to implement. First of all, the interests of rich countries and peoples, all economic actors – producers and consumers, financial oligarchs and those in power-were touched upon. The demand for a radical revision of the original ideological postulates and values of modern civilization, human relations to nature, fundamental transformations of all types of material and spiritual production and social relations has become clear [Shultz, 2019, 22].

Society as a whole was not ready for the implementation of the Agenda 21 on most of its items, not able to change or slow down those socio-economic mechanisms, the unwinding of which inevitably brings post-exuberant time (in the terminology of W. Catton), which will end with a global environmental disaster.

For many reasons, it has not been possible to proceed with the consistent implementation of the Agenda. First of all, due to the lack of long-term strategic thinking, responsibility and political will of big business and power structures to understand the growing risks and correct the environmentally dangerous situation for the world system. The result was a failure in environmental education and too slow re-profiling of scientific, technical and innovation activities to address the challenges of society's transition to sustainable development.

The real course of world events after the publication and wide discussion of the concept of

sustainable development showed: all the trends of "economic imperialism" criticized by environmentally oriented scientists and publicists (in G. Daly's terminology), recognized as unreasonable in the long term, resource-based economies have not weakened, but, on the contrary, are gaining strength [Antonyan et al., 2014]. The same applies to scientific and innovative areas that "work" on the idea of subordination of nature and the relentless ecological expansion of society. The time has come for active globalization, creating a single global market dominated by transnational corporations (TNCs).

It is worth recalling that TNCs and other Pro-globalization forces, three years after Rio 92, created the world trade organization (WTO), an instrument of globalization and external regulation of national economies. According to A. Yablokov, this was the response to the adoption of the concept of sustainable development by the world community (represented by national governments and civil movements). Big business in its own way understood the words "sustainable development" – for him "it means to make a profit indefinitely, that's all." Therefore, in the economic and political lexicon there are such terms as "sustainable economic growth", "sustainability of the market economy", which profane the idea of creating an environmentally sound society and deny the idea of creating an "economy based on wisdom" (according to G. Daly).

After Rio 92, interest in the concept of eco-sustainable development gradually began to wane as awareness of the difficulties of its implementation began to grow. The study of the new concept of human development recognized and adopted by the world consensus in 1992 was accompanied by criticism of its content, starting with the concept of "sustainable development" [Rostokinskii, 2011, 70]. All aspects of the economic, social, technological, cultural, international political, geopolitical, socio-psychological and individual psychological transformations called for by the agenda 21 have been criticized from different national, class and professional positions. At the same time, the assimilation and numerous interpretations of the concept of sustainable development were not without distortions and erosion of its basic meanings, as well as substitution of a number of concepts.

For the lack of intellectual support for the movement for sustainable development, a certain share of the blame is borne by the scientific communities of industrial countries. Rather, the considerable part of scientists who are increasingly subordinating their activities not so much to satisfaction as to kindling the material needs of man and virtual needs created for profit. Commercialization and strengthening of servility of science in business only exacerbate the situation of nature determination, increase global environmental hazards and risks. Such engagement of science leads to the weakening of its main social function – unbiased knowledge of reality and obtaining objective knowledge necessary for the reasonable arrangement of society and the survival of Homo sapiens.

But despite the above-mentioned changes in the global context in which the concept of sustainable development is now perceived, its principles and objectives have not lost their universal and specific humanistic significance. Like decades ago, they outline a normative (though rather idealized) model for the future of an environmentally sound society. Critics of this concept have not yet offered any reasonable alternative and consider the further improvement of the mechanisms of the inflationary economy to be the main thing. But neoliberalism, which dominates in the modern world, in practice means unlimited economic growth and accumulation of capital due to the increasing use (environmentalists believe looting) of natural resources [Lovanov, 2018, 50].

The paradigm of nature-saving development offered a philosophical basis for the development of new models of development of the world system. The initial imperative is to radically change the nature of each country's economic development, put it in line with resource constraints and make it environmentally safe. Hence the need for a critical re-evaluation of the NTP held, previously

established research methods, areas and areas of research of nature, society and man. It is necessary to revise the practices of applying the already acquired knowledge, many of which are not adequate to the tasks to be solved by society on the way to an eco-sustainable future.

In contrast to the ideology of neoliberalism, the concept of eco-sustainable development considers the unbridled economic growth that pumps natural resources into goods and services that are turned into waste, with an increasingly short lag, to be disastrous. The main conclusions of the concept are that for the survival of mankind should significantly reduce the consumption of non-renewable mineral resources (primarily energy), reduce the deterioration of the natural environment. This requires rationalizing and balancing social needs and economic development, necessarily subordinating them to environmental imperatives.

Opposition of worldview paradigms. To date, there are two opposing in the sense of reflection of what is happening in the system "nature – society".

One – apologetics of scientific and technological progress (NTP), values of market economy and consumer society. It is based on the unwavering belief that economic growth and its processes should and will continue indefinitely in the earth's space and time, and all emerging problems can be successfully solved with the help of science and new technologies [Pham Hai, 2019].

Another is criticism of these phenomena from different moral and ethical, environmental, socio-political, national, ethno-cultural, religious and other positions. Its adherents operate numerous facts that negative environmental and social consequences of successful scientific and technical progress and continuous expansion of the market economy, the triumph of the ideas of liberalism. They are surprised by the lack of understanding or conscious ignoring by apologists of economic growth (according to the principle "after us at least a flood") of the obvious:

- infinite growth on a planet with finite size and resources is impossible and will inevitably lead to disaster;
- industrial society has already gone beyond its resource limits and will not be able to cover its growing needs at the expense of constantly decreasing resource base;
- the increase in production is mainly due to the increase in the use of non-renewable energy and material resources of the planet, the extraction and performing of which are focused on the efforts of the previously established science and innovation;
- the development and involvement of renewable energy resources in the economic turnover is slower than it is necessary to preserve the natural balance of energy and matter exchange disturbed by industrial civilization. The relevant R & d is carried out with considerable delay and insufficient volume;
- each subsequent generation of earthlings will live in much worse environmental conditions than the current one, with the inevitable tightening of resource constraints;
- as the deficit of natural resources worsens, the struggle for their possession (up to the outbreak of regional wars) between countries and communities with different levels of economic development and resource availability will intensify;
- the world-system as a whole will become even more unstable and unstable, and the prospects for its development will become grimly uncertain.

If we add to this the obvious consequences of the global environmental crisis – the deterioration of climate and economic conditions, the future reduction of the oikumene due to the rise of the sea level – the strategy of increasing economic growth seems unreasonable and dangerous for the current and next generations of earthlings.

Dangerous knowledge is being developed in many areas of fundamental and applied research

related to the development of new types of weapons. In recent years, this phenomenon is noticeable in the field of biotechnology, genetic engineering and medicine, which requires civil control of research and improvement of health and environmental legislation.

The current level of each existing eco-technological complex of the technosphere and the country as a whole is determined by the ratio between ecophobia and ECOFILM technology that prevailed in the previous period of industrial development. Changing this ratio in favor of eco technology is a common strategic challenge for the scientific and technical, innovation, industrial, agricultural and other policies.

Thus, in General terms, the prerequisites and logic of examination of innovations and technological systems developed on their basis are clear. In their assessment as a Manager, the principle of presumption of danger is proposed – in environmental, medical, social and socio-political aspects. Following this principle means changing the passive to this day science, technology and innovation policy, which reinforces the successes and trends of the NTP from the past, when almost no detailed environmental and social assessment of innovations was carried out, and the relevant legislation has not yet been developed.

The methodological advantage of the paradigm of nature-saving development is its ecosystem nature and global vision of the processes and phenomena of human development. It reflects a holistic view of reality called "the development of society in nature", serves as the basis for a more adequate understanding of the world and its problems. Ecosystem principles and criteria, radical updating of methodological positions and conceptual apparatus for the world-wide description, analysis and evaluation of all environmental and social problems of modern society are brought to the fore.

Consideration of the problems raised in the article leads to the main conclusion: the development of science and innovation must be subordinated to the moral imperative – to ensure the survival of Homo sapiens in the future, commensurate with the existence of the biosphere. For science, technology and innovation policies, this means that they should direct R & d to meet all the vital needs of society, not just the economic needs aggressively cultivated in the consumer society. The first need of the society is to preserve healthy and resource-rich environment for modern and future generations, to maintain peace and social stability [Rauf, 2018, 88].

Given the circumstances, the author believes that one of the most important scientific tasks at the moment is to study the state of environmental R&D. On the basis of the analysis of modern and impending environmental problems it is necessary to develop models of full-structural balanced scientific and methodological support of the practice of environmental management. Modern society, which for the sake of survival must get rid of the above defects, must decisively change the front of fundamental and applied research in favor of expanding the volume and thematic diversity of R&D aimed at preserving the basic conditions of life on the planet and the territory of each country, region, city.

Irrational use of natural resources for many years, structural changes that took place in the national economic complex of the state, as well as the low level of ecological consciousness of society, led to a significant deterioration of the environment. The main reason for these negative changes was the lack of effective legal, administrative and economic mechanisms of environmental management, which did not consider the rational and efficient use of natural resources. In this regard, special attention is paid to the problems of preservation, restoration and improvement of the natural environment [Smol, 2019]. Therefore, the primary task of the modern stage of social development is to preserve the state of the environment, building relationships between economic systems and nature, which is achieved by ensuring the environmental safety of systems of different levels.

Conclusion

In-depth theoretical bases of justification of a role of ecological safety in development of economic systems on the basis of generalization of the basic theoretical developments concerning ecological safety and definition of essence of the concept "ecological safety" which, unlike existing, is considered, as a component of national safety, as a condition of protection of ecological interests of living beings and preservation of environment that is reached by means of a complex of tools and influences interests of present and future generations, what was done in order to deepen the theoretical foundations of the relationship of environmental safety and environmental and economic development.

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Разнообразие комплекса экономических стимулов для устойчивого развития

Заверюха Анастасия Сергеевна

Студентка,
Финансовый университет при Правительстве Российской Федерации,
125167, Российская Федерация, Москва, Ленинградский просп., 56;
e-mail: shas95@inbox.ru

Аннотация

Десятилетия бурного развития науки и техники, которые определили основные черты индустриального общества, наглядно продемонстрировали производительную мощь науки. Однако процесс наращивания и использования этой силы был односторонним,

ориентированным на покорение природы. При всем богатстве индустриального общества в последние десятилетия не было недостаточно запланированных, профинансированных и проведенных исследований, важных для общества природных процессов и явлений, а также антропогенных изменений. За время становления индустриальной цивилизации наука развивалась как огромная разветвленная и постоянно действующая система познавательной деятельности. По предметно-содержательной базе наука и непосредственно связанные виды деятельности можно разделить на несколько относительно автономных частей. Каждая из них имеет свои собственные когнитивные ориентиры – ключевые вопросы, которыми руководствуется процесс познания и практика познания. Эта схематизация выдвигает на первый план только те прагматические вопросы, которые определили направление научных исследований, постановку большинства задач теоретического исследования и инноваций. Решение постоянных проблем выживания Homo Sapiens требует осознания, что современная наука в нужном количестве еще не разработана.

Для цитирования

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Ключевые слова

Социальные требования, экономическая безопасность, устойчивое развитие, прогресс, общество.

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