

Svitlana Shara

# ANALYSIS OF THE WORLD'S SYSTEMS OF ENVIRONMENTALISM AND STRATEGIC DEVELOPMENT OF THE ECOLOGICAL AND ECONOMIC SYSTEM OF UKRAINE

*The object of research is economic theories and modern ecological and economic systems. The evolution of economic theories in each historical period of the development of social relations has been analyzed and the main economic schools that most accurately described the existing economic systems have been identified.*

*The work solved the problem of strategic development of the economic system of Ukraine based on the author's vision of the evolution of economic theories in the dynamics of development and their historicism, modern economic theory and the peculiarities of the development of certain scientific directions. Analysis of the development of economic systems indicates a logical sequence of development towards institutionalism, historicism and environmentalism. The author's own developments of the structural-logical scheme of the evolution of economic theories and economic theories of modernity, the institutional economic system and the structural-logical scheme of the environmental economy are given. Special attention is paid to the ecological revolution, the theory of V. I. Vernadsky and environmental aspects. The obtained results determine that the development of Ukraine should be based on environmental principles, environmental sociology, ecophilosophy and ecoethics. This is determined by the limitation of natural resources and the need for rational use and revitalization of territories and individual elements of the biosphere complex that suffered as a result of military aggression. Taking into account the significant geopolitical natural resource potential of Ukraine, ways of multiplication through the formation of an environmental institutional economy integrated into the European economic and ecological integral space are determined. The importance of water resources of Ukraine and the role of organic farming in the revitalization processes of the Dnipro basin are highlighted. Identified proposals for the formation of environmental sustainability of the economy and the socio-economic system, both in general and for individual natural-resource components. Special attention is paid to the systematic strategic management of the development of land resources and land-resource potential. This is possible if corruption is eliminated and the economy exits from the economic underground.*

**Keywords:** *limited natural resources, European integration of Ukraine, environmental economy, military challenges, ecological and economic development.*

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## 1. Introduction

The trajectory of the recovery scenario of Ukraine's economy and its further development requires taking into account the aspect of the need to form an environmental economic system in Ukraine.

Environmental and economic issues affect every European country and the world community as a global issue, and global and European integration processes require the development of a sustainable and safe environmental economy in every country. As well as obedience to the environmental and economic laws of regulatory policy and the development of the institutional environment, strategic state management, starting from the restoration of infrastructure to the diversification of individual industries, enterprises and branches of industry and agriculture.

The transition of the state's economy to military lines does not remove the strategic mission of Ukraine, as the breadwinner of the world, the ecological lungs of Europe, the innovative and scientific generator in the field of education and science. Ukraine is not only a capacious sales market, but also a supplier of unique resources and products to the European and world markets.

But this requires a change of internal economic paradigms, both in the production spheres and in the spheres of socio-economic and environmental life of the country.

Considering the experience of other countries on this issue, it should be noted that the government officials of Sweden, Norway and Finland have declared that environmental economic systems have been formed in these countries [1]. European countries pay special attention to green energy, green

metallurgy, organic farming, and energy conservation [2, 3]. If in Ukraine organic farming covers up to 1 % of production, then organic farming in Spain, France and Germany has reached the level of 20 % in the overall structure. The carbon tax and restrictions that exist in the EU countries, if the restrictions are implemented in Ukraine, will allow only 4 % of metallurgical industries to operate. The ecological and economic aspect of the structural transformation of Ukraine's economy requires closed-loop production, but in Ukraine the level of recycling of solid household waste is less than 5 %, while in EU countries it is 60 % [4]. The greening of the state system should be supported by an active policy of structural changes at the regional level, which is supported by the decentralization of budgeting and financial flows based on the experience of European countries and the growing technological lag behind European countries. If in European countries the number of scientists per 1,000 inhabitants increased to 21, then in Ukraine it decreased to 5. The share of innovative enterprises in Japan, the USA, Germany, Sweden, and Finland reached 60 %.

The imperatives of innovative development of the economy of Ukraine, taking into account the existing natural resource potential of Ukraine, should determine the actualities and trajectory of structural changes and development of Ukraine. Monitoring and relevant analytics should objectively assess both initial opportunities and existing risks and threats [5].

Ukraine's course on the formation of an environmental economy, organic farming, and green industry in the post-war period will allow it to reach the level of foreign investments of European countries, because only foreign investments will give impetus to development [6].

Therefore, *the aim of research* is to identify the historical patterns of development of ecological and economic systems and their influence on the economy of the countries of the world, world trends, trends and models, which will make it possible to form a paradigm of the ecological and economic model of the economy of Ukraine.

## 2. Materials and Methods

Research was conducted using theoretical scientific methods, where scientific analysis, synthesis and classification, as well as generalization allowed to determine the historicism of the development of economic systems in the direction of ecological and economic models of world economies.

Systemic and ecological-sociological methods made it possible to form structural and logical schemes, to reveal systemic interactions, development and interdependencies in the ecological-economic world.

In the course of the research, a sufficiently large number of theoretical works were elaborated, which helped to abstractly come to certain regularities of socio-economic development.

Scientific empirical methods of research were carried out in the assessment of statistical levels, ratios, correlations and dynamics of individual ecological and economic indicators for countries and regions.

## 3. Results and Discussion

The paradigm of the development of Ukraine's economy is to follow the path of civilized and modernized development of advanced economies of the world.

The stability and economic security of the country, as a combination of external and internal economic factors, lies in the energy of the development of investment, innovation, environmental, institutional factors and the strengthening of geopolitical integration processes of Ukraine into the system of not only environmental, but also military security of the world.

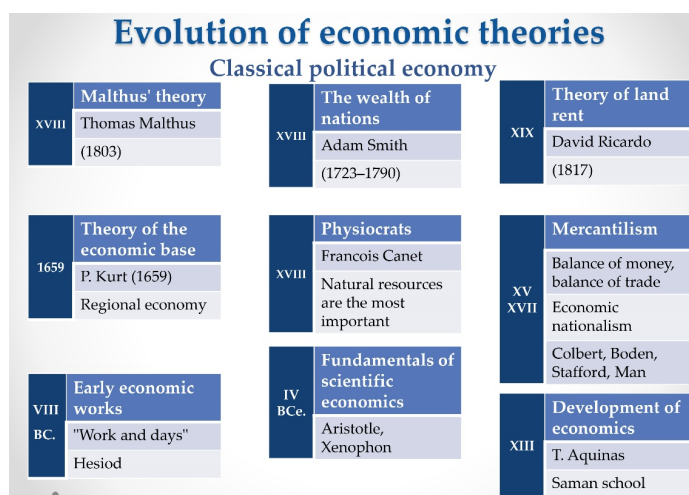
Different scenarios of the strategic development of Ukraine's economy are considered in different time perspectives and taking into account even rare vectors of influence, and various factors of economic growth are studied, especially in historical retrospect.

Economic theories and economic schools in every historical period of human development tried to describe the existing economic order of social relations and determine the ways of its progressive development. Modern geopolitical challenges are concentrated most in the ecological sphere, where the effects of global warming are deepened by the anthropogenic influence of mankind on the noosphere, with the deterioration of the environment and the formation of environmental risks for mankind. This was particularly acutely manifested in the disregard of ecological universal values by the aggressor state in the war against Ukraine.

Scientific methods and mechanisms of influence on production, consumption and mentality of mankind are being formed to overcome threats and modern environmental geopolitical challenges. A special place belongs to scientific works in the field of ecological economics. Effective incentives and economic sanctions can form an environmentally safe environment for human development [7–9].

Theoretical developments followed the path of institutional economic systems first, and then came to constitutional and environmental economic theories (Fig. 1–3).

Institutional balance of rights and interests ensures economic development, and institutional equilibrium reduces transaction costs at the point of equilibrium to zero. In particular, the institutional balance of economic rights and responsibilities of subjects of economic relations reduces transaction and corruption costs to zero and unshadows the economy in the field of nature management. For Ukraine, where 50 % of the economy is in the economic underground, and corruption has taken on everyday forms and does not cause public opposition, this is relevant, for example, a «bonus» to the owner of a share of 120 USD per 1 ha only for the transfer of land for rent is welcomed by society and supported.



**Fig. 1.** Evolution of economic theories

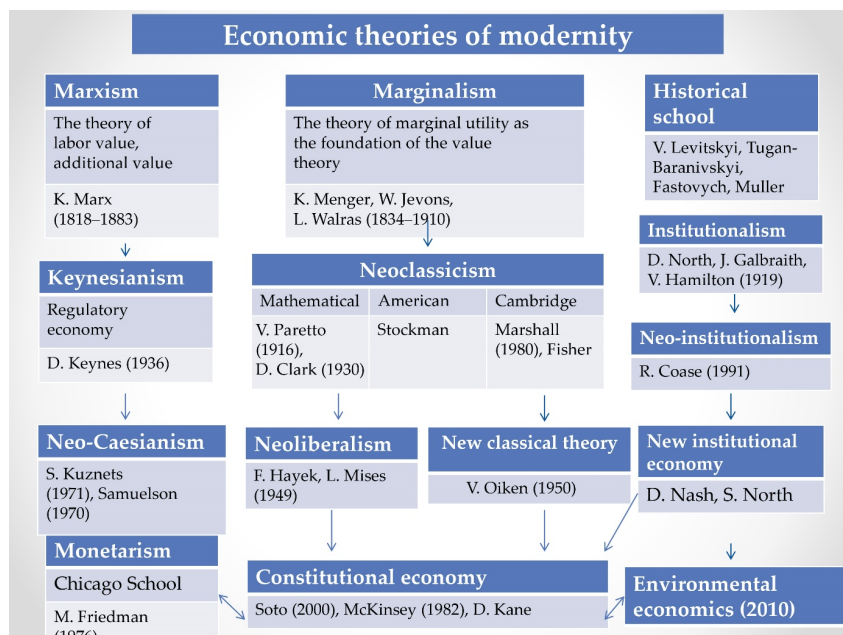


Fig. 2. Modern economic theories

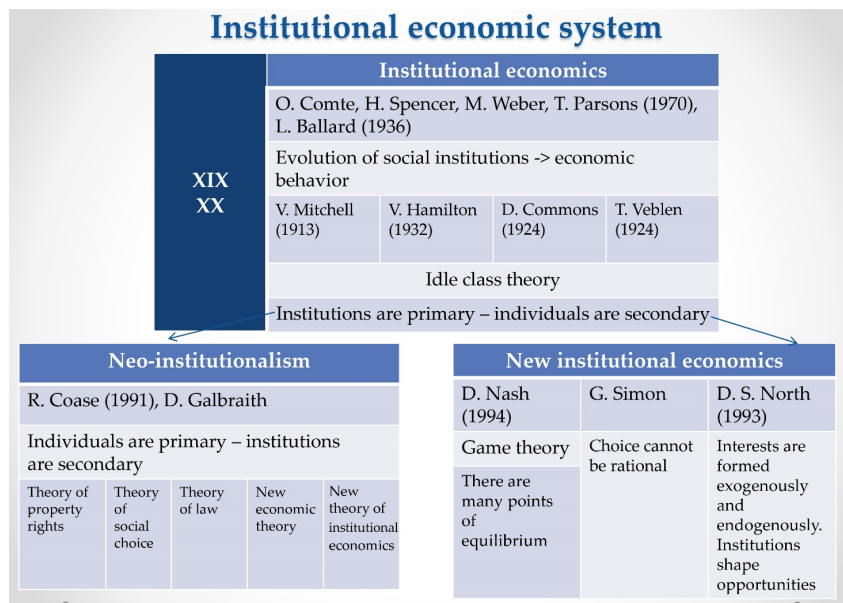


Fig. 3. Institutional economic system

In recent years, economic theories have turned to the ecological and economic sphere, advocating the scientific theory of institutional contracts, developing economic schools in the field of nature use, and especially water use and land use, for example [10].

In the world, the optimal institutional mechanism for managing natural resources has been formed by representatives of the new institutionalism. A management model has been built, where ecological resources are used without privatization, without expropriation, in the «man – nature» direction, and the land privatization is considered as the main absurdity of the economic relations of mankind.

The Institute of R. Coase studies the issues of resource supply and ecological and economic regulation, and the influence of natural resources on institutions is considered in the context of the «resource curse theory» [11].

The special value of certain economic theories, economic schools, and analysis in economics is determined by the fact that

different peoples and countries live in different economic times, that is, economic life takes place in different economic time periods, but ecological life takes place in the ecological present. Especially in relation to the limited land resources.

Environmental economics formed the newest methodological base. The structural and logical scheme of the environmental economy combines environmental, economic systems and social requirements (Fig. 4). The main tasks of the environmental economy:

- maximization of the evaluation of the public good: the quality of the surrounding natural environment and limited natural resources, especially land;
- evaluation and comparison of costs and results in the field of consumption and substitutability of natural resources, development of global standards, regulations, incentives and sanctions, including the «carbon tax»;
- analysis, study, prevention of market failures in the economic, natural and resource sphere;
- monitoring and economic assessment and calculation of economic externalities (external negative environmental effects); indexation of factors and processes and results;
- methods and systems for assessing environmental damage from environmental aggression, pollution, resource consumption, war;
- formation of models and mechanisms of regulation and formation of the socio-economic environment.

Environmentalism reflects not only the need to take into account the limitations of natural resources, but also requires marketing to take into account the negative impact on nature when consumption increases, ignoring the negative consequences for the environment.

Marketing should also be ecological (Fig. 5).

In the modern world, ecological and economic theories are being formed:

- H. Taylor, R. Smith, G. Simple, who defend geographical determinism;
- S. Huntingon's theory of climatic optima;
- environmental marketing, which was adopted by the American Marketing Association starting in 1970. Green business is presented not as green camouflage, but as the main green trend of industry and the green carbon-free economy. The environmental economy of the state is the climate goal of our country.

In Ukraine, there are efforts to implement economic and spatial development along the environmental path of civilization.

Institutionally, Ukraine has joined a number of international alliances. But the military-ecological aggression and war in Ukraine poses new challenges that no country in the world has yet faced.

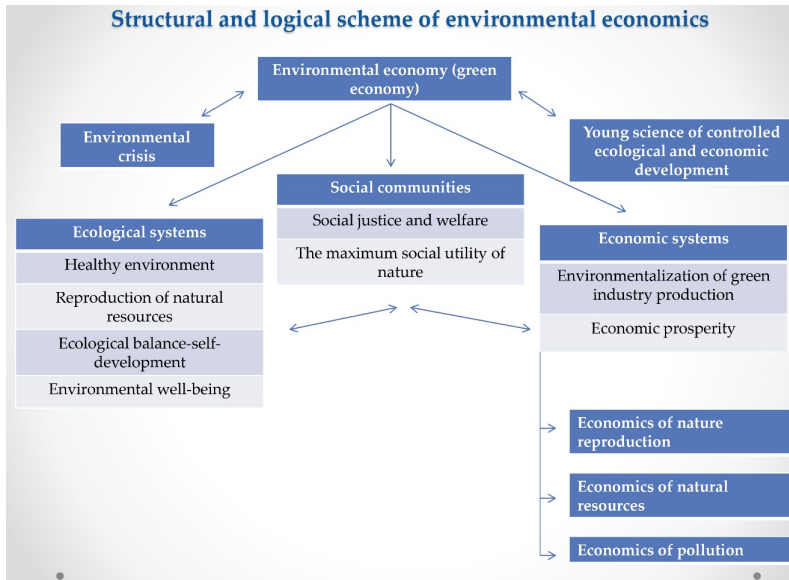


Fig. 4. Structural and logical scheme of the environmental economy

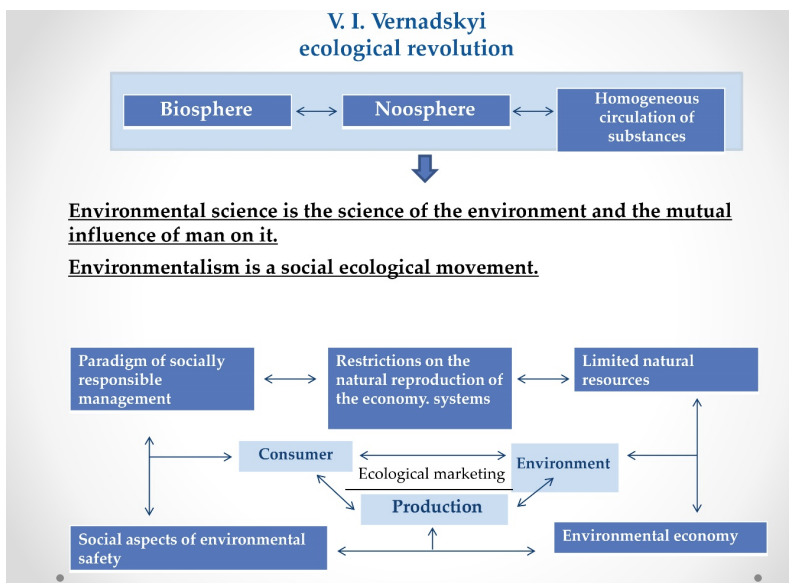


Fig. 5. Environmental aspects of the ecological revolution

This requires a reformatting of the institutional elements of the country's life, from personal mental, social and psychological at the micro level, where a person is an economic and social agent, to the level of state institutions.

Today, both the General Scheme for Planning the Development of the Territories of Ukraine and the critical infrastructure, especially the energy and transport, settlement network, have lost their relevance.

The need for European integration requires changes in economic and environmental institutions, institutions and changes in the country's strategic management, including customs, tax, environmental, urban planning, military and defense sanitary norms and standards.

Alliances of the battery, hydrogen, organic raw materials of the world defined the green course of the world in the 21<sup>st</sup> century.

Producers of organic products in the agricultural economy of Ukraine ensured the growth of the export of organic fertilizers to European countries by 17 % in 2022 and by 20 % in 2023. But the area of organic farming in Ukraine is less than 1 % of the area of agricultural land (Fig. 6).

Ecologically clean productions in agriculture have shown sustainability, having independence from sources of chemical products, mineral fertilizers, which they hardly use.

Ukraine has a strong incentive to reduce CO<sub>2</sub> emissions to the European target level of 250 kg per 1 ton of steel. 5 metallurgical plants of Ukraine have reached the emission level of up to 250 kg, but this is only 5.5 % of steel, or 1 % of consumed electricity.

Eurorail on railway transport, special dry cargo for passage along the Danube, vegetable corridors to Europe, and dozens of other challenges of international economic partnership require appropriate development, training of specialists, and development of logistics, processing industry, and transport.

**Structural and logical scheme of the existing system of natural resources and waters of the Dnipro basin**

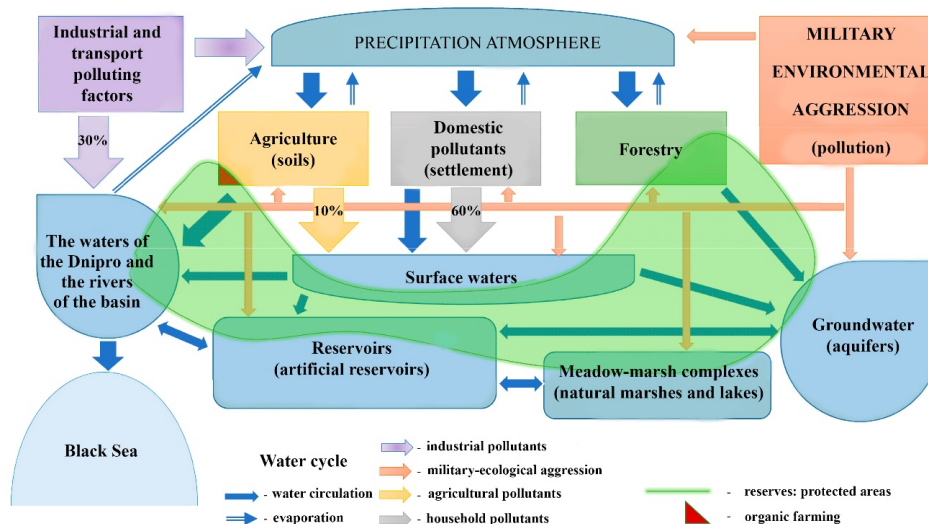


Fig. 6. Structural and logical scheme of the existing system of natural resources and waters of the Dnipro basin

What is proposed is not a simple reconstruction of Ukraine and a return to zero, but Ukraine's exit to the states of the first and second level of the economies of the world, so as not to be a raw material appendage of the fourth group of countries of the world. A three-functional model is proposed: the functions of production, sale and distribution, and not to pay attention to the war, but to develop [12].

Attention is drawn to the search for monetary resources for Ukraine: military bonds, forced savings, government bonds, consumption rationing, deferral of payments to combatants, deferral of compensation:

- tax increases, in the sphere of the shadow economy, excise duties and customs duties, determine social solidarity: (such as taxes of oligarchs up to 90 % of income), a progressive military levy from 1.5 and above;
- restriction of «escape» of money;
- improvement of business access to land, technical infrastructure [13].

Before the war, Ukraine had a per capita income of about 12.6 thousand euros, with exports of goods up to 310 euros. There is a direct relationship between income per capita and the volume of exports. In 2021, Ukraine's per capita exports were 13 times smaller than those of Sweden and 10 times smaller than those of Estonia, which do not have their own primary resources.

The conditions of the war provide a unique opportunity to institutionally fight corruption and bring the economy out of the shadows, eliminate the economic underground and bribery, especially in the natural resource sphere.

Against the background of the elimination of corruption, in the ecological sphere of Ukraine, it is necessary to carry out energy diversification and European integration processes of the energy complex.

The way of simply rebuilding the economy, by restoring infrastructure, production and the settlement network, is an institutional trap.

It is not necessary to rebuild the destroyed but morally and physically outdated energy enterprises, industrial settlements without city-forming enterprises and the ecological and landscape potential of Soviet times, but to

build a new Ukraine, according to a fundamentally new European integration General Scheme and infrastructure resistant to military threats (Fig. 7).

Ukraine needs economic mechanisms of taxation, incentives and sanctions that will meet European mandatory imperatives and legal norms and form a single ecological and economic mechanism with Europe that will redirect our society to the Euromental civilizational path (Fig. 8).

In the course of the study, it has been found that in the practice of state-building and economic development of Ukraine, it is necessary to change the emphasis and systematically implement the ecological and economic standards of European countries and form a system of financial and economic stimulation and protectionism for the environmentalization of society, and especially production (for example, organic production in agriculture).

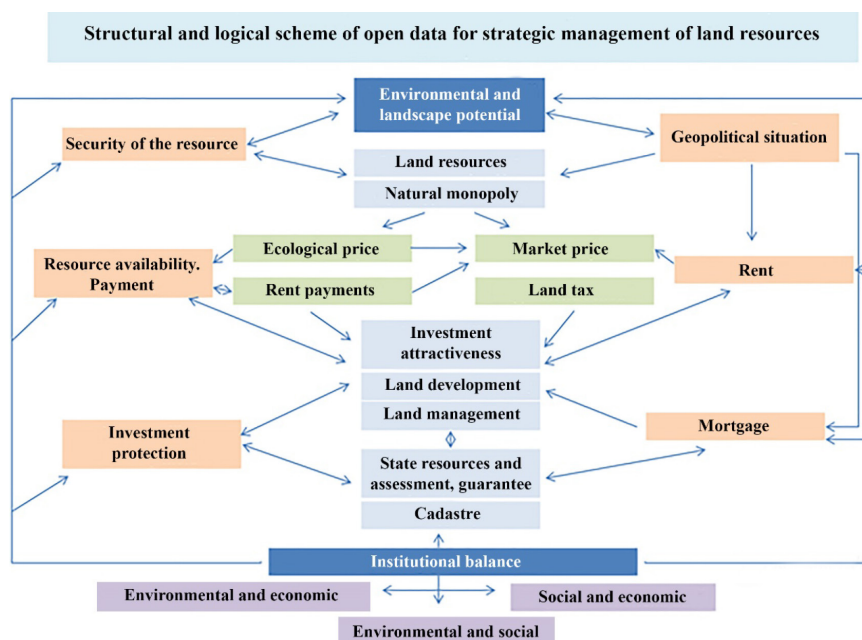
Ecological and economic mechanisms should cover the ecological aspects of the revitalization of individual natural objects, water resources, energy and industry in the direction of strict state regulation of environmental protection.

The ecological and economic system provides for the state policy of structural changes in industry in the rural and communal economy in order to prepare a favorable investment-attractive environment.

The conditions of martial law require urgent legal regulatory changes and the mobilization of state institutions and institutions for the purpose of forming a system of state statistical reporting and state environmental monitoring.

Scientific research should be translated into the practical plane of individual development programs and statistical analysis and modeling of micro- and macroeconomic indicators and the search for integral ecological and economic indices of the development of Ukraine and individual regions.

The above research and proposals are relevant for most countries of the world, not only for Ukraine. The main condition for the formation of environmental economies in countries is the eco-philosophical beliefs and the formed eco-ethical mentality of peoples and governments. It needs consumer restrictions, not only in relation to natural resources, but also to other benefits of civilization.



**Fig. 7.** Structural and logical scheme of open data for decisions of strategic management of land resources

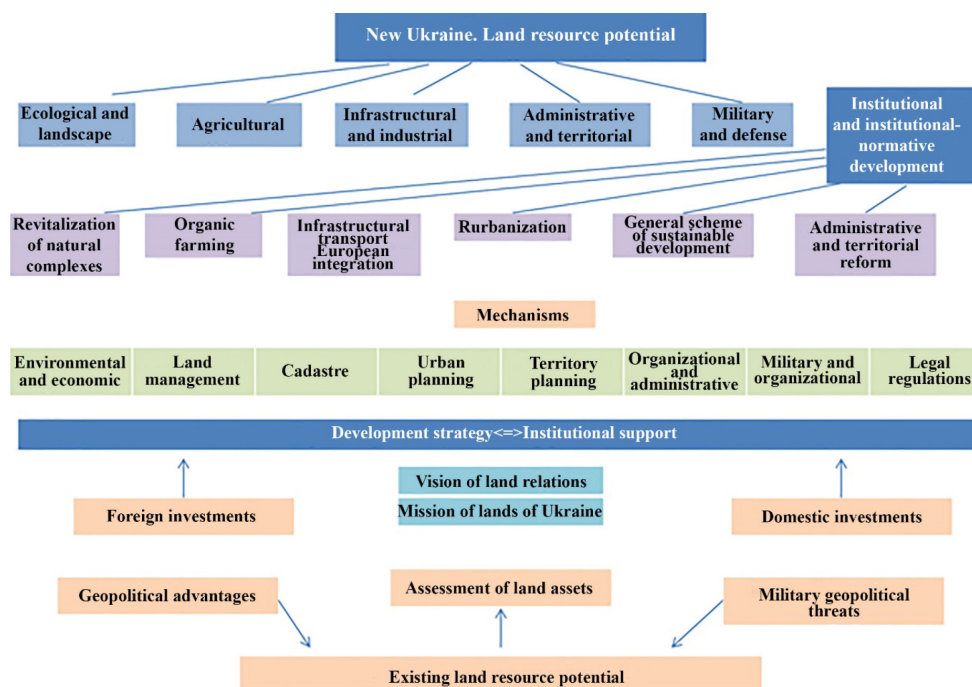


Fig. 8. New Ukraine. Land resource potential

#### 4. Conclusions

As a research result, an environmental economic system has been defined as the basic economy – New Ukraine, including the development of natural resources and land resources potential.

The historicism of the economic development of the countries of the world and the ecological trap of humanity explain the need for further development of Ukraine based on:

- environmental principles, environmental sociology and ecoethical norms;
- exit of the economy from the economic underground and detinization of the economy;
- elimination of corruption in state institutions of power and at the level of mental and social relations;
- European integration strategies, Eurocorridors, Euro-institutional General Scheme, European Economic Union, customs and legal, military integration, formation of military stability and ecological and economic security environment;
- decentralization and centralization, the strength of regions in independence, and the state in monolithic unity.

#### Conflict of interest

The author declares that she has no conflict of interest in relation to this research, whether financial, personal, authorship or otherwise, that could affect the research and its results presented in this paper.

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#### Data availability

The manuscript has associated data in a data repository.

#### Use of artificial intelligence

The author confirms that she did not use artificial intelligence technologies when creating the current work.

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*Svitlana Shara*, Postgraduate Student, Department of Applied Ecology and Nature Management, National University «Yuri Kondratyuk Poltava Polytechnic», Poltava, Ukraine, ORCID: <https://orcid.org/0000-0002-6669-6667>, e-mail: [sv.shara12@gmail.com](mailto:sv.shara12@gmail.com)