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**CONCEPTUALLY-INNOVATIVE DIRECTIONS AND ORGANIZATIONAL
MECHANISM FOR PROVIDING THE ENVIRONMENTAL AND ECONOMIC SAFETY
OF AGRARIAN NATURE MANAGEMENT**

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Today it is widely and reasonably acknowledged that the necessity to find innovative strategies for sustainable (balanced) agrarian nature management is indispensable and indisputable [1-5]. Innovative technologies of agrarian nature management that increased its efficiency and volumes of agricultural production depleted the agroecosystem, which also led to the need to find more environmentally oriented methods of agrarian land use. Concerns about the use of pesticides, biotechnologies and other socio-environmental problems have focused public attention on the environmental quality and food safety, causing an interest in alternative, environmentally oriented and balanced food production methods [6]. Environmental sustainability of agrarian nature management should mean that the agrarian and natural resources must be renewed by the process of their use. In order for the agrarian nature management system to be sustainable, it should be based on the natural processes of the local ecosystem, regardless of the external resources or systems of ecologically destructive technologization. Environmentally sustainable agriculture must operate indefinitely without exhaustion of land-resource potential in the spatial-territorial dimension [2].

Implementation of the concept of sustainable environmentally safe and balanced agrarian land management requires a fundamental conceptual departure from the economic management perspective that has led agrarian science over the last hundred years. The ecologically safe prospect of land management is determined by the complexity of the factors that are included in this system, as well as the long-term nature of their analysis and control. There is a complexity of natural ecosystems in the ecological system of agrarian nature management and the traditional economic approach simplifies them. Without the use of an ecosystem approach to agrarian and

environmental management, long-term improvements in the effectiveness and efficiency of agricultural land use will be impossible. Consequently, if institutions of agrarian development can not ensure the environmental sustainability of various agricultural methods, they actually cause damage to society, individual industries, households and citizens.

It is important to note that the productivity of land use should be improved according to the population growth rate by increasing the productivity and intensity of cultivating crops. Most scholars believe that land productivity can only be increased through the introduction of innovative technologies, which are based mainly on the use of chemicals for agrification. According to such industrial model, the main criteria for success is technical and economic efficiency. Supporters of the environmental model of agrarian nature support the development of more effective low-resource agroecosystems based on the biological cycle of energy and chemical elements. The criteria for the effectiveness of this model include indicators of ecological and economic efficiency of land management, socio-environmental sustainability and energy efficiency of agrarian nature management [7, p.76-77].

Thus, the ever-growing need for productive and sustainable ecologically safe and balanced agriculture leads to the necessity to introduce a new vision for the development of agrarian nature management and, in particular, land management on the basis of resource conservation and reducing its riskiness. This position requires understanding of ecological principles of environmental and economic security of agrarian land use, as well as the formation of organizational and economic mechanisms of ecosystem agrarian nature management.

We consider environmental and economic safety of agrarian land use as a state of development of the use, reproduction, preservation and protection of land-resource potential and functioning of land capital, which, based on the system of institutional and innovative measures, provides the optimal level of agrarian land management in accordance with the prevailing socio-ecological- economic criteria (rules, parameters, standards, separate indicators). Irrational use of land-resource potential (capital) due to imperfect land relations and the use of environmentally dangerous innovative agrarian technologies lead to the emergence of various environmental risks.

Solving the problems associated with ensuring the sustainability of agrarian management, the environmental safety of agrarian land management requires the recognition of the integrity of nature and agro-systems. Agroecology should ensure the efficient circulation of energy and materials within agroecosystems. In this case, there is a need for a holistic approach, which would include agricultural research at the enterprise or ecosystem level, a comprehensive analysis of its resources and their logistical flows [8]. This approach allows us to implement integrated ecological and economic relations in agriculture. For example, instead of improving one species

at a time, a holistic ecological perspective involves the search for a set of plants and animals that together give a high ecological, economic and social results [7, p.79].

Holistic ecologization of agrarian nature management (land management) is objectively determined by the process aimed at more rational use of agrarian and natural resources in the spatial and temporal dimension by reducing the negative impact of agrarian production on the environment and avoiding violations of ecological balance on the basis of ecologization of reproductive processes. The main purpose of ecologization of agrarian nature management is to solve ecological and economic contradictions in the interaction of society and nature by transforming the existing technological process of agricultural production in the direction of maximizing the output of high quality and environmentally oriented agricultural products, while preserving the environment. At the same time, ecologization of agrarian production should be considered not as a separate isolated area of activity, but to be a component of the integrated mechanism of agrarian management.

Taking into account theoretical and methodical positions on the construction of a mechanism for agrarian management, presented in [9-13], *the organizational and economic mechanism for ensuring the ecologically safe and balanced agrarian nature management* is defined by us as a complex and holistic system of forms, methods, tools and methods of organizational and economic and social influence on the ecological behavior of individuals of agrarian management in the direction of increasing socio-ecological and economic efficiency of use, reproduction, preservation of land capital [14].

The general objective of the organizational and economic mechanism for ensuring ecologically safe and balanced agrarian nature management as a part of the integrated economic mechanism of agrarian business is the effective organization of reproductive processes in use, reproduction, protection and conservation of natural resource potential and functioning of natural capital on the basis of the ecosystem approach to environmentalization of agrarian nature management.

The integrated function of the organizational and economic mechanism for ensuring the environmentally safe and balanced agrarian nature management is the harmonization of agro-environmental, socio-ecological and economic needs and interests of economic entities of different hierarchical levels, society as a whole, and individual citizens in the process of practical implementation of principles of the environmentally safe and balanced organization of sustainable use of natural resource potential and functioning of natural (land) capital.

The realization of the overall objective of the organizational and economic mechanism for ensuring environmentally safe and balanced nature management is associated with the

implementation of *tasks* at various hierarchical levels of land ecosystem management [15, p.139-140]:

1. Increasing the socio-ecological and economic efficiency of spatial organization of natural resource potential on the basis of the formation of an optimal ratio of agricultural lands, water and forest lands at the level of individual land users, and at the territorial level, taking into account the functional composition of the ecological infrastructure [16], and as well as the implementation of integrated environmental protection measures.

2. Organizational and institutional ensuring of effective implementation of state and regional programs of ecologization of agrarian economics in conditions of self-organization of territorial development.

3. Development of business-entrepreneurial and cluster initiatives in the direction of the development of environmentally safe and balanced nature management.

4. Address motivation and stimulation of entities (individuals) of agrarian nature management for the implementation of ecosystem and environmental innovations.

5. Development of preventive and compensatory mechanisms for reimbursement of environmental and economic losses.

6. Regional activation of the development of mechanisms of economic and legal and socio-environmental responsibility for environmentally safe and balanced agrarian nature management.

The formation of the organizational and economic mechanism for ensuring ecologically safe and balanced nature management involves the interaction of the regulatory subsystems of the external organizational-institutional mechanism and the internal economic mechanism of enterprises (organizations) using the principles and tools of ecosystem management, which provides motivation for environmental behavior of agricultural entities.

The determinative component of the organizational and economic mechanism for ensuring ecologically safe and balanced agrarian nature management is the performance-target subsystem, which implies an integral result of the interaction of the external mechanism with the internal one and determines economic, ecological and social results of the nature management.

The external *organizational and institutional mechanism of the environmentally safe and balanced agrarian nature management* includes the following components: providing institutional and resource subsystem (submechanism), subsystem (submechanism) of organization and planning of ecologically safe and balanced agrarian nature management, subsystem (submechanism) of financial and economic regulation, subsystem (submechanism) of analysis, control and controlling.

Providing institutional-resource subsystem (submechanism) includes normative-legal, resource (financial, logistical, informational, personnel), infrastructure support (in particular, it concerns the activities of credit institutions, innovation-investment funds, environmental insurance companies, consulting agencies, etc.)

The subsystem (submechanism) of organization and planning of the environmentally safe and balanced agrarian nature management is aimed at implementation of mechanisms of state regulation of balanced spatial and territorial agrarian nature management on the basis of project, integrated and cluster-corporate governance. Regional forecasts and programs of use and preservation of natural resource potential are important because they include a scientific analysis of the ecological destructive state of agrarian nature management, tendencies of negative processes in agro-landscape formations (erosion, contamination by heavy metals, decrease of soil fertility), as well as the main ways of their effective prevention [17, p.72-73]. Also, the ecological zoning of the territory, which should define territories with the status of limited nature management, and also form the ecological framework of the spatial development of nature management, is of particular importance.

The subsystem of analysis, control and controlling in the external organizational and institutional mechanism of regulation of environmentally safe and balanced nature management should have a programmatic target orientation on agroecological and socio-ecological and economic indicators of agrarian nature management. This, for example, requires monitoring of the ecological destructive state of land-resource potential, monitoring of the ecological quality of agrarian products on a logistical basis, etc.

It is important to emphasize that the practical harmonization of economic interests of the business-entrepreneurial structures of agrarian business with the ecological and economic interests of the state and regions requires the development of not only administrative and regulatory mechanisms, but also the formation of effective motivational and stimulating systems. The administrative-regulatory subsystem should be aimed at ensuring the formation of a system for limiting ecodestructive economic activity.

The subsystem (submechanism) of financial and economic incentives for regulation in the organization of environmentally safe and balanced nature management should be somewhat cost-compensatory, in particular, in the form of rent payments, and also provide for the transfer of payments to environmentally responsible entrepreneurs. Of course, the financial and economic mechanism is associated with the methodology of the formation of territorial natural resource potential [8].

The cost-compensating submechanism includes the following main components:

1. Subsidies for implementation of ecosystem management system.
2. Partial reimbursement of underspended income, in particular, in the form of rent payments in the case of land conservation.
3. Compensation (reimbursement) of expenses for works on conversion of the intended use of agrarian and natural resources.
4. Compensation (reimbursement) of the share of capital and current expenses for the implementation of environmentally oriented investment projects.

It should be noted that the system of financial and economic incentives as an important component of the external organizational and institutional mechanism should include various tax and credit privileges, as well as public investments in the implementation of territorial ecosystem innovations. The effectiveness of the functioning of motivational-stimulating mechanisms requires the availability of an economic and legal mechanism of environmental responsibility, its functions are: stimulative, compensatory (reimbursement), preventive, estimated, regulatory (managerial). The mechanism of economic and legal responsibility for negative environmental impacts in the system of organization of environmentally safe and balanced agrarian nature management involves compensation of ecological-economic damage and compensation of losses as a result of the manifestation of external and internal ecodestructive factors in the system of agrarian management (Fig.).

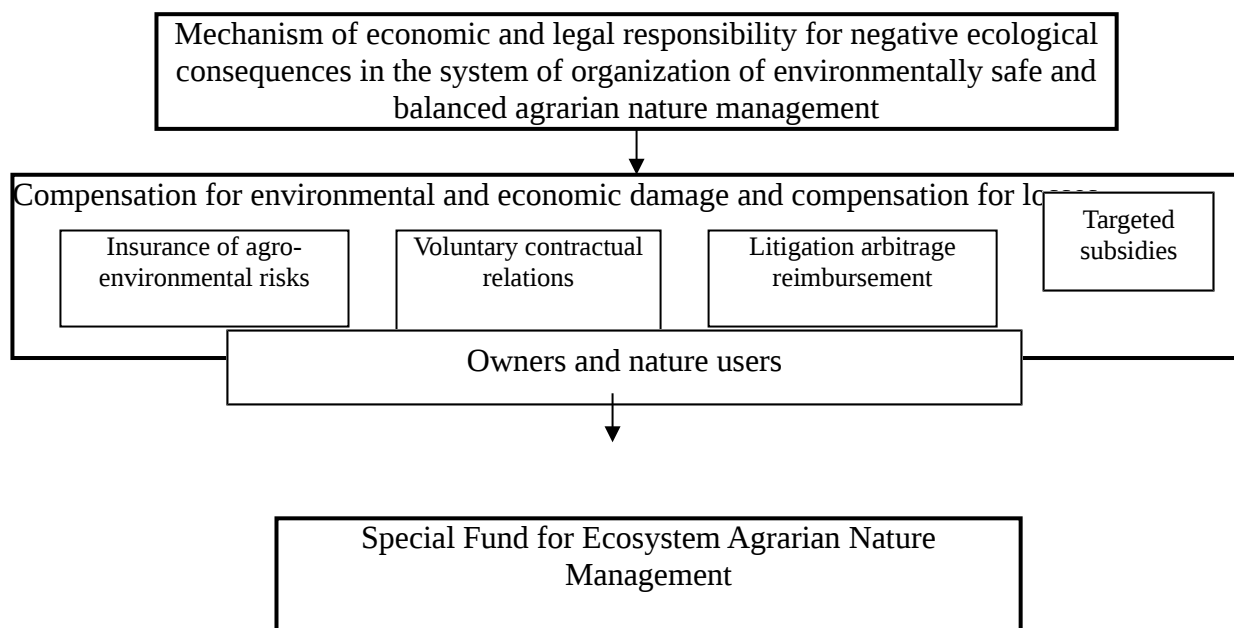


Figure. Organizational-economic bases of reimbursement of ecological and economic losses and compensation of losses in the system of environmentally safe agrarian nature management

Source: developed by I.Ye.Yarova, taking into account [14,15, c.153; 19, c.93]

It should be said that the share of compensatory payments for compensation of environmental and economic losses should be accumulated within the special fund of ecosystem agrarian nature management, which should be formed at the regional level for solving general regional problems of nature management.

With regard to *social and environmental submechanisms*, they are related to the construction of a socio-ecological responsible nature management and ecological culture by forming the «green» image of innovation-oriented agricultural business-entrepreneurial structures. It is important to note that the agrarian nature management is the most important source of income for most poor people, and the quality of soil resources has a significant impact on its ability to achieve social and food safety.

Consequently, the national agrarian policy should focus not only on increasing the productivity of agrarian business, but also on the social status of households of different sectors of the population. Obviously, the strategy for improving the efficiency of agrarian business and reducing rural poverty should also focus on the development of non-agricultural employment in rural areas. An effective search for institutional mechanisms will be very difficult, but not necessarily impossible. Identification and support of institutional agreements, increase of innovation and investment attractiveness of rural territories and agrarian nature management, as well as assistance in the development of markets for environmentally oriented agricultural products should become a key component of national agricultural policy, as well as policies of sustainable spatial development of nature management.

Implementation of the environmentally safe and balanced agrarian nature management requires the introduction of mechanisms of ecosystem management of natural resource potential (capital). Ecosystem management should be carried out not only within the framework of sustainable spatial use of natural resource potential, but also from the standpoint of the functioning of territorial natural (land) capital. Organizational and economic mechanism for ensuring the environmentally safe and balanced agrarian nature management should be based on increasing the motivation of environmental behavior of business-entrepreneurial structures of different hierarchical levels under the influence of external organizational and institutional mechanism, which has a dynamic regulatory influence on the internal mechanism of the entities of agroenvironmental management.

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