

Stelmashchuk Y.A.

National University Water Economy and
Environmental Sciences of, c. Rivne,
Ukraine, e-mail: stelmaschuk_47@mail.ru

MANAGING THE PROCESS OF ECOLOGICAL OF AGRARIAN SPHERE

Objective. *The purpose of the article is the rationale constituent elements and forming complex process control system ecologization of agriculture.*

Methods. *The theoretical basis of the article is labor classics of economic theory, the monograph of modern foreign and domestic researchers of the problems of management process ecologization of agrarian sphere. The information base is the legislative and normative acts of Ukraine that regulate ecological activities of agriculture, domestic and foreign publication. The utilize general scientific methods: a systematic approach, comparison and generalization, the historical and logical approaches, generalizations the world experience, scientific abstraction, methods of comparison, analysis, synthesis, induction and deduction.*

Results. *Substantiated the comprehensive system of management process ecologization of agrarian sphere, which includes issues of ecological passportization of objects agrarian production, standardization and certification, information system of management, ecological monitoring and a management.*

Consistently reveals the essence of individual system elements, their relationship and role in the management system. Is established that environmental passportization provides: creation of state system accounting and monitoring control over the state of economic entities; application of in system of the environmental management for all entities regardless of ownership, the only information document for display kinds of subjects the harmful effects on natural resources and of complex evaluation of their impact on the environment; the result of standardization is the introduction normative documents in this area - standards, codes of existing practice and specifications that establish the rules, general principles and characteristics of the activities and their results; ecological audit, which is a systemic element of environmental management mechanism that provides a systematic research of products, services and objects of agricultural production territories and the whole agricultural sphere, based on which making certificate of compliance to the actual state of science-based level of development; system of ecological monitoring includes supervision, assessment and prediction of environmental conditions associated with human activities. Economic mechanism regulating ecologization of agriculture contains appropriate methods and instruments of influence on the material interests of enterprises and individuals.

Academic novelty. *The scientific novelty lies in the further development of the process control system of ecologization of agrarian sphere on the basis of a comprehensive approach that includes interrelated constituent elements that*

complement each other and expanding functions of management of ecological systems.

Practical importance. *The practical significance of scientific results is to establish conditions for activation and process efficiency rising ecologization of agrarian sphere the rational use of natural and of agricultural productive capital, the use of biotechnological principles of ecologically safe products.*

Key words: *agrarian sphere, ecologization, management system, the mechanism of regulation.*

Setting of the problem. In the agricultural sector of Ukraine the policy of transition from consumer technological approach to innovation eco-oriented development model that assumes rational use of natural agricultural and industrial capital, the use of bio-technological bases, producing environmental friendly products has been established. The basis of the greenery process of agricultural sector is the development and implementation of relevant components of the complex system - environmental certification, standardization and certification, information, environmental monitoring and others to make substantiated management decisions.

The current environmental condition of agro ecosystem of Ukraine is generally characterized as unsatisfactory. Its negative effect is caused by the complex impact of factors functioning associated with failure of requirements in scientifically-based system of agriculture. Efforts to increase agricultural production in ecological imbalance of environment, underdeveloped physical and human capital and excluding environmental determinants of saving natural capital leads to its increasing depletion. Such negative trends cause an objective need in research and scientifically-based greenery process of agricultural sector.

Analysis of the recent results of research and publications. An important contribution to the development of scientific approaches to solving the problem of ecological economics and management support of the process is done by such scholars as I.O. Alexandrov, A.F. Balatskyi, B.V. Burkinskyi, I.K. Bystriakov, O.O. Veklych, T.P. Halushkina, L.S. Hryniv, V.M. Geiets, S.M. Illyashenko, L.H. Melnyk, P.M. Skrypchuk, Y.Y. Tunytsya, A.M. Telizhenko, N.V. Pavliha, V.I. Pavlov, K.V. Papenov, O.V. Prokopenko, S.K. Kharichkov, M.A. Hvesyk, E.V. Khlobystov, and other scientists. However, the results of research do not fully reflect the complexity of the approach to solve the existing problem of greening, the system of process management is not worked out perfectly, in particular, it is clearly manifested in a complex agriculture. Solving the unsolved issues formed the basis of this article.

Setting the task. The aim of the article is to substantiate the components and the formation of complex greening process control system of agriculture

Statement of the main results of there search. Literature Review of the researching problem shows that the process of the national economy greening has evolutionary shades. According to the conclusions of some researchers [1, p. 39], it consists of the relevant periods, including: 50s of the twentieth century – the use of direct prohibition system, 60s of the twentieth century – the introduction of environmental regulation, 70s of the twentieth century – the use of environmental regulation methods, 80s of the twentieth century–the transition to market instruments

addressing environmental problems, 90s of the twentieth century—the start of the period of applying the international standards ISO 9000 and 14000 and systematic approach to managing greening.

The main object of greenery in agricultural sphere of the economy is the agricultural landscape as natural and anthropogenic system that is the basis of agricultural activity while human environment, and forming agrophytocenoses as well [2].

One of its most important elements is the soil –the most precious natural ingredient that in the last decade, suffers from significant negative changes. Due to degradation of soils, annual deficit of humus is 110 kg / ha. [3] Endangered aerosphere requires immediate actions on environmental protection issues.

Integrated management of the greening process of agricultural areas (Figure 1) includes issues of ecological certification of agricultural production facilities, standardization and certification, management information system (accounting, reporting and audit), environmental monitoring, and management decisions.

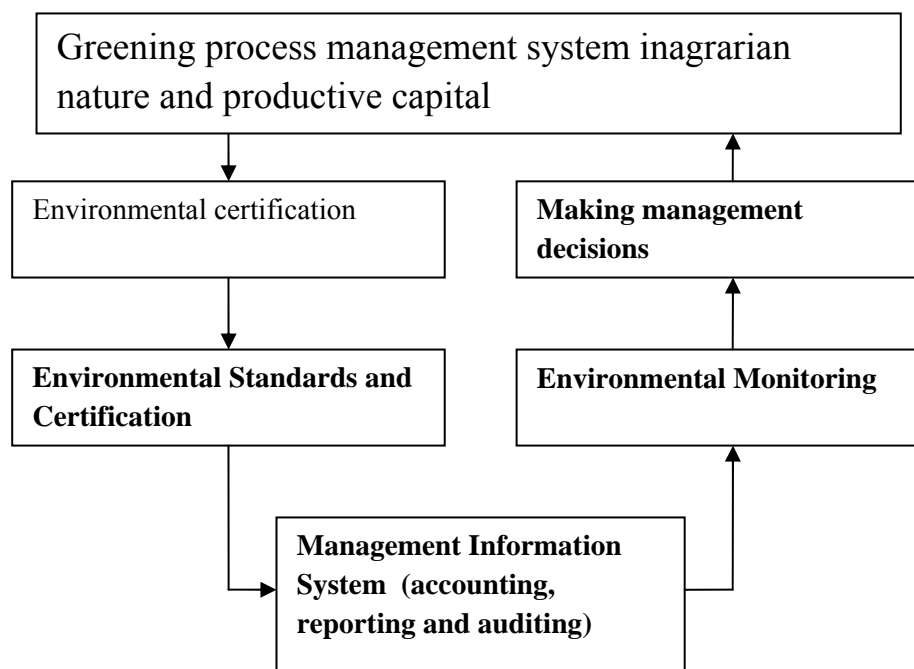


Fig.1. Scheme of greening processesmanagement in agrarian nature of productive capital

An important role in the management process of greening plays total ecological certification of agricultural landscapes.

It is settled that the first attempts to create ecological passport were initiated by the Ministry of Environment in the 90s of the twentieth century. However, due to lack of finance and poor legal framework, the ecological passport was "frozen". [4] But in recent years there has been a tendency in Ukrainian politics for European integration (and thus cleaner production), making it possible to resume research on environmental certification [5-11].

Ecological passport is a legal document that contains comprehensive data on the location, function, object characteristics, the degree of natural and other

resources, their impact on key components of the environment, a document that captures the specificity and dynamics of ecological problem development and provides necessary information to effectively solving environmental issues [4, 6, 7, 8]. It is formed to provide public accounting items that adversely affect the condition of the environment, control of environmental safety, prevent and eliminate the negative effects of economic and other activities [10].

When creating ecological passport one puts the following tasks:

- Creation of an accounting state system and monitoring control of entities;
- The application of state environmental management system for all entities regardless of ownership, the only information document to display kinds of harmful effects of subjects on natural resources and assess their combined effect on the environment;
- Forming information base for assessing environmental technologies used in manufacturing;
- Providing information basis for the licensing of nature;
- Providing information basis for implementing economic incentives of enterprises in greening technologies which are used, saving natural resources and energy.

Environmental agro landscapes passport includes 6 chapters: "General information", "Physics and geographic characteristics", "Natural conditions", "Ecological status", "The factors of sustainable development", "Proposals for the protection and sustainable use."

At the end of the passport one provides information about the doer and issue date of the ecological passport and its validity. Validity of environmental passport lasts 5 years.

Particularly important role in the management process of greening is given to environmental standardization and certification of products, services, and facilities of agricultural production and rural areas.

Legal and organizational principles for standardization, aimed at providing a unified technical policy in this area, are governed by the Law of Ukraine "On Standardization" (May 2001). According to the law standardization legitimizes the introduction of standardized indicators and standards of products quality, processes and techniques and services in agriculture.

The basic principles of standardization are: security of life and health of humans, animals, plants, health care, voluntary choice of manufacturers the types of standards in the production or its supply, priority of direct implementation in Ukraine of international and regional standards, compliance with international and European rules and procedures of standardization.

The result of standardization is the introduction of regulations in this area, establishing rules, general principles or characteristics of various activities or their results. These regulations are Standard, Code of Practice and Specifications.

Standard is a document that sets rules for general and repeated use, general principles or characteristics that relate to the business or its results in order to achieve the optimum degree of ordering in a particular industry. It is the same model as the standard to which manufacturers must strive. At the same time they set the quality

limit, below which products (works, services) are considered to be substandard, that is non-standard.

Code of practice (set of rules) is a document containing practical rules or procedures for the design, fabrication, installation, maintenance, operation of equipment, structures or products. It is not directly related to output but regulates the process of its production. It can be an independent standard, or its part, or a separate document.

Specifications is a regulatory document that establishes the technical requirements to be met by products, services or processes. Like the Code of practice, it can also be a standard, a part of it or a separate document.

Depending on the subject level of standardization, which accepts or approves regulatory documents in the field of standardization, one distinguishes international, national and local standards and also enterprise standards.

The standards are binding for the manufacturer or supplier of products if he made a declaration of compliance with certain standards of products or used marking of these standards in labeling, and if they receive a certificate for compliance with standards.

Certification issues are governed by the Law of Ukraine "On Conformity Assessment" (May 2001). Conformity assessment is an activity, a consequence of which is to ensure that products, quality systems, quality management systems, environmental management systems meet the requirements established by law.

Certification is a process by which a qualified body certifies the conformity of products, quality systems, quality management systems, environmental management, and personnel to requirements established by law. Compliance of products is certified by declaration of conformity or a certificate of conformity.

Objectivity of managerial decisions in the system of ecological agricultural sector largely depends on the efficiency of information management system, which is estimated by speed and timeliness of storage, processing and dissemination of information, its completeness, accuracy and objectivity.

The structure of environmental management tools include environmental audits, by which systematic research of products, services, agricultural production objects, areas and the whole agricultural sector is carried out. Environmental audit takes into account economic, environmental, information and commercial risks associated with industrial activity and implements a goal – developing recommendations from the efficient use of resources and providing environmental quality.

As a result of the audit and comparison of existing and alternative indicators of the subject development of agricultural economics, conclude the factual state of science-based level of development, stabilization process, conservation and effective use. That is, an environmental audit is a systematic part of the mechanism of environmental management in agriculture.

An important part of the management process is a system of environmental monitoring, including supervision, assessment and prediction of environmental conditions associated with human activities. In our country the system of environmental monitoring is carried out in accordance with the Law of Ukraine "On

Environmental Protection" and the Provisions of the State Environmental Monitoring of Ukraine.

The proposed model of greening process management of agricultural sector provides three types of monitoring: sustainable development of human capital, the development of ecological potential of agriculture, the results of greening agricultural sector. In each section, the following stage of monitoring is carried out: observations, state measurements and collection of information, analysis, diagnosis and forecasting, strategy management forming. According to the results of monitoring stages the development and evaluation of strategies for sustainable development policy of resource capital and technological support greening agriculture are carried out.

The management model includes economic mechanism regulating greening agriculture, which provides suitable methods and tools of influence on the material interests of enterprises and individuals.

An effective mechanism for greening element is the limitation of natural resources, including land under cultivation, depending on their sloping characteristics.

In order to encourage prudent use of natural resources and reimbursement of the costs for protection and restoration of environmental natural resources to the state, gradual introduction of fees for certain types of resources that are removed from nature is continued.

It is offered further to use chargeable nature, which includes fees for almost all natural resources, environmental pollution, placing of wastes in it and for other impacts. Moreover the charge for over limit use and contamination exceeds in several times the fee for the use and pollution within established standards (limits). However, payment for the use and pollution of natural resources does not exempt the nature user from the measures to protect the environment and damages.

One of the important methods of economic management is the financing that is providing funds for clearly defined measures of nature protection. Funding may be budgetary funds, own funds (cost of production or income), bank loans and various environmental funds.

One of the economic management methods in wildlife is creating environmental funds, which refer to the institution designed to provide any financial assistance, and the money material costs, as well as their sources. In particular, environmental funds receive payments from all enterprises for nature use, the funds collected are later issued to carry out urgent and costly environmental measures. The funds of enterprises are also foreseen to be sent to environmental insurance funds.

An important economic method of management is the proper use of material incentives – providing interest, profitability for companies and their employees of environmental activities. This not only provides the incentive measures, but also penalties.

Incentive measures include:

- The establishment of tax exemptions (total revenue, from which the tax is exected, is reduced by an amount that fully or partially corresponds to environmental expenditures);

- The exemption of environmental funds and environmental assets;

–The use of promotional prices and surplus on environmentally friendly products;

–The use of concessional lending companies which effectively conduct environmental protection (reduction of interest on loans or interest-free loans);

–The introduction of special additional tax environmentally harmful products and goods which are produced by using environmentally dangerous technologies;

–Fines for environmental violations.

It is offered to use environmental (so-called "green") taxes that are intended to solve at least two problems: Firstly, to make the cost of production more adequate in relation to costs and damage to the environment, and secondly, to facilitate the compensation of environmental damage by pollutants instead of the whole society.

"Green" taxes can serve as a catalyst for the development of ecologically balanced productions and activities, and for nature capacious activities. Tax incentives should be established taking into account the level of environmental protection, environmental activities.

Conclusions of this study.

A complex system of greening process management of agree cultural includes issues of ecological certification of agricultural production facilities, standardization and certification, information management, environmental monitoring and management decisions.

Environmental certification includes: forming a state system of accounting and monitoring control of entities, the application in the system of state environmental management for all entities regardless of ownership, the only information document to reflect the types of adverse effects of the subjects on natural resources and comprehensive assessment of their impact on the environment; making a database used to assess the environmental impact in the production technologies, providing informational basis for implementing economic incentives of enterprises in greening used technologies, saving natural resources and energy.

The result of standardization is the introduction of regulations in this area, establishing rules, general principles or characteristics of various activities or their results. These regulations are a Standard, a Code of Practice and specifications.

Environmental audit, which is a systemic element of environmental management mechanism that provides systematic research of products, services, real agricultural production, areas and the whole agricultural sector, on the basis of which they make a conclusion about the factual situation of scientifically justified level of development.

An important part of the management process is a system of environmental monitoring, including supervision, assessment and prediction of environmental conditions associated with human activities.

The management model includes economic mechanism regulating ecological agriculture, which provides the suitable methods and tools of influence on the material interests of enterprises and individuals.

Prospects for further research in this direction is the study of organizational and economic mechanism for implementing integrated management of greening process in agriculture.

References:

1. Ilyashenko, S.M. and Bozhkova, V.V. (2004), *Upravlinnya ekologichnymy ryzykamy innovacii* [Environmental risk management innovation: a monograph], Universitetska kniga, Sumy, Ukraine.
2. Tarariko, O.G. (2007), *Agrolandshaft. Ekologichna encyklopediya* [Agricultural landscapes. Environmental Encyclopedia], Centr ekologichnoi osvity ta informacii, Kiev, Ukraine.
3. Tarariko, O.G. (2005), "Condition soil of Ukraine. Series: "Environmental Protection", no. 3 (15), pp. 32.
4. Smaglyi, A.F., Kardashov, A.T. and Litvak, P.V. (2006), *Agroekologiya: navchalnyi posibnyk* [Agroecology: teach. manual], Vysha osvita, Kiev, Ukraine.
5. Biliavskaia, G.O. and Mudrak, O. (2009), "An improvement of the ecological monitoring is for providing of the balanced development of agrosferi Podillya", *Visnyk KHNAU*, no. 3, pp. 175-183.
6. Goncharuk, V., Biliavskaia, G., Kovalev, M. and Rubtsov, G. (2009), "National ecological safety and ecological passport system of objects of waters", *Visnyk KHNAU*, no. 5, pp. 22-29.
7. Mudrak, A. (2008), *Ekologichna bezpeka Vinnichyny* [Ecological safety of Vinnychini: monograph], Miska drukarnia, Kiev, Ukraine.
8. Biliavskaia, G.O. and Tymochko, T.V. (2009), "Ecological passport system of objects of anthropogenic activity – the mean of ecologization economy and increase of national ecological strength security is important", *Strukturna perebudova ta ekologizaciia ekonomiky v konteksti perehodu Ukrainy do zbalansovanogo rozvytku: III Ukrainskii ekologichnyi kongres*, pp. 41-46.
9. Klimenko, M.O., Pryshchepa, A. and Vozniuk, N.M. (2006), *Monitoryng dovkillia* [Monitoring of environment], Academiya, Kiev, Ukraine.
10. Patyka, V.P. and Tarariko, O.G. (2002), *Agroekologichniy monitoring ta pasportizaciya silskogospodarskih zemel* [Agroecological monitoring and passportization agricultural land], Fitosociocentr, Kiev, Ukraine.
11. Razmietaiev, S.V. (2007), *Ekologichniy pasport* [Ecological passport. Ecological Encyclopedia: in 3 t], Centr ecol. osvity ta informacii, Kiev, Ukraine.
12. Hanchuk, M. (2011), "Theoretical basis developing environmental passports agrolandscapes", *III Vseukr. Zizd ekologiv z mijnarodnoyu uchastyu: zbirnyk naukovykh statei*, Tom. 2, pp. 473-476.