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ECONOMIC SYSTEM OF NATURAL REPRODUCTION RESOURCE POTENTIAL

This article focuses on the theoretical foundation and the development of economic and ecological mechanism of reproduction of the natural resource potential of agriculture. Further developed the concept of the natural resource potential of the agricultural sector, served by its system performance, carry out an economic analysis of the impact of the integration processes on the natural resource potential of the agricultural sector.

Keywords: natural resource potential of the agro-industrial complex, reproduction, agricultural production, economic mechanism, entrepreneurial activity, economic stimulation of the reproduction processes.

Statement of the problem. State natural resource potential direct impact on the quality and duration of life. Comparison of economic and environmental comfort as components of living standards shows that the quality of the environment serves as the preferred consumer goods. This theoretical position provides practical realization of human rights to clean environment and the rights of future generations to enjoy the natural resource potential to support its development.

Scientific publications on theoretical and applied problems of coverage reproduction of natural resources and agricultural potential mechanisms for its implementation in the current conditions are essential. This issue has adopted a multi-faceted character that makes its decision based on characteristics of regional production, because it is one of the components of food and ecological security of Ukraine.

Analysis of recent research and publications in which a solution of this problem. Significant contribution to the solution of economic problems escalating resource potential agricultural areas have I. Lukin, P. T. Sabluk, P. Haidutsky, A. Onyschenko, V. Yurchishin, A. Krysalnyy who initiated scientific and practical development of market-oriented reform of social, land and property relations, new organizational forms in the agricultural sector. In terms of improvement and development of land relations, exceptional value with

research V. Tregobchuk, V. Mesel-Veselyaka, I. Bystryakov, A. Danilenko, L. Nowakowski, M. Fedorov, A. Tretyak and other academic economists.

Problem. Purpose is to justify and develop theoretical and methodological guidelines and scientific advice on issues shaping the economic system of reproduction of natural resource potential of agriculture in a market transformation mixed economy.

To achieve this goal, the following main tasks:

- Clarify the essence of the natural resource potential of agriculture as an evolutionary ecological-economic system;
- Examine the classification of natural resource potential of agriculture and systemic interactions of its elements;
- Justify the concept and principles of economic reproduction natural resource potential of agriculture;
- Specify system performance criterion that characterizes the reproductive processes;
- Develop scientific and practical principles of organizational systems and strategies for economic regeneration of natural resource potential of agriculture;
- Develop an algorithm of economic evaluation of the reproductive system of natural resource potential of agriculture and improve the organizational and economic mechanism of stimulation of reproduction;

- To propose principles and methodological approaches to economic mechanism to stimulate greening of business;

- Develop guidelines for the economic regeneration of natural resource potential of agriculture at regional level.

The main material. Sufficient natural resources – one of the most important factors in the effective development of agricultural production. Natural resource potential of the agricultural sector in this article investigated as a complex system of natural resources, the users are companies of agricultural production at existing technologies and socio-economic relations, a component of ecological and economic potential. In the new economic conditions under the concept of eco-economic potential of agriculture is proposed to understand the total capacity of agricultural industries producing agricultural products, to major construction, transportation of goods, provide services to the population, use of natural resources and the need for and the possibility of playing naturally and through human labor.

Rationally generated resource potential of agriculture should be seen as a set of technologically, economically and environmentally balanced mutual productive resources (labor, material, technical, natural and biological) that are able to provide highly effective and environmentally safe production, processing, storage, transportation and sale of agricultural products. Advanced ecological condition of natural resources agricultural sector requires them to play, which should be in the process of agricultural production. Therefore, the main attention is paid to the improvement of organizational-economic mechanism of reproduction of natural resource potential of agricultural production.

The natural resource potential of agriculture on 01.01.2012 is 41.9 million hectares of agricultural land (69.4% of its total area), while arable land is 32.6 million hectares (53.9%), the area of grasslands and pastures – 8.1 million hectares (13.3%). Per 1 person has 0.95 hectares of agricultural land, while the European average, the figure is 0.47 hectares and arable land – 0.32 hectares. Of arable land in Ukraine is high and equal to 0.76 hectares per capita (compared to in – 0.82 USA – 0.54, Hungary – 0.43, Bul-

garia – 0.39, France – 0.19, England – 0,09, Japan – 0,003) [1, p. 56-60].

In general, land resources of Ukraine are characterized by relatively high bio-productive potential, but in its structure a high proportion of chernozem soil type, which creates favorable conditions for productive agriculture. The highest agricultural development areas have land Zaporozhye (88.3%), Nikolaev (86.6%), Kirovohrad (85.7%), Dnipropetrovsk (82.8%), Odessa (83.2%) and Kherson (81,4%) regions [7].

Natural resource potential of agriculture has inexhaustible (energy, weather, water, climate) that are renewable and exhaustible (anthropo-environmental, land, biological, chemical, recreational) of natural resources. Depleted natural resources are divided into renewable (anthropo-environmental) and limited renewable (soil fertility, mineral raw materials, recreational resources, fauna and flora).

In 2012 compared with 1990, the efficiency of resource potential of agriculture per 1 hectare of land resources has decreased as follows: gross agricultural output by 46.7%, crop production – 35.5%, livestock – 57.8%. Over the past 30 years has expanded the area of saline, flooded and technologically contaminated farmland. Today, only 1 in 10 hectares of productive land has a normal environmental condition [5].

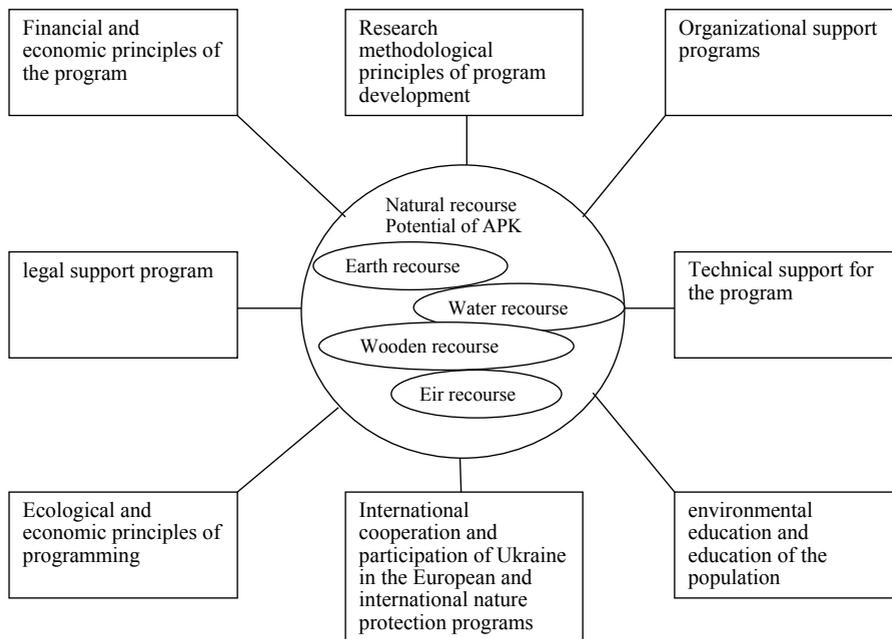
It is known that the degradation of the environment entails degradation of socio-economic environment, which today is expressed in specific economic loss, compared with the size of the gross national product. However, estimates of losses economists in itself insufficient to unite with environmental science to economic. To replicate the natural resource potential is necessary to use the principles and methods of regulating behavior is natural – production systems. The basic principles are: prevention, neutralization of environmental impacts and compensation for damages. Prevention is the administrative and legal measures (adoption of environmental regulations, standardization of quality environmental assessment of projects etc) economic (concessional lending, grants, investment tax credit, tax breaks, etc.), economic-administrative-legal (compensation system, the choice of methods of regulation) engineering methods (resource, energy-efficient technologies, alternative farming systems with

limited use of chemicals to enhance soil fertility and plant protection based on assimilative capacity agrosphere). Neutralization of environmental effects is done by technical methods and planning. Compensation for loss involves the use of administrative, legal and economic methods.

Socio-state the need for environmental activities and priorities for its implementation resulting from the circumstances that there is an urgent need for the formation of policies aimed at the conservation and rehabilitation of the environment for future generations, improving environmental safety. Therefore, the main development background conceptual foundations reproduction of natural resource potential lies in the full knowledge society of the future of Ukraine is most closely associated with the development of innovative and therefore urgent environmental problems has no alternatives. Establishment of ecologically sustainable management of the development of society will encourage the restoration of the natural properties of the environment, create conditions for competent management of the natural resources and management of the development of productive forces. Scheme of the conceptual model

reproduction of natural resource potential of agriculture is shown in pic. 1.

The system of indicators of the condition and use of the natural resource potential of agriculture shows that the valuation of natural resources and the environment is methodological framework through which the system can be stated as baseline for the economic evaluation of environmental factors. Figure the cost of reproduction of natural resources agriculture characterizes the cost of development of virgin land (deforestation, drainage of wetlands, etc.), figure the cost of supporting the playback of natural resources (ecosystems) combines the costs of maintaining soil fertility (making the necessary materials to replace those that are brought together with harvest, the cost of monitoring soil, land), the cost of monitoring and preventive treatment of the bottom and banks of rivers, monitoring and sanitary felling, the maintenance of nature reserves, sanctuaries, national parks and more. Costs to prevent environmental disturbances (pollution) natural resources include the cost of treatment facilities to reduce pollution and water costs on landfill disposal of waste costs fortification terracing and slope of land, strengthening river banks and others, the



Pic. 1. Scheme of the conceptual model of reproduction natural resource potential of agriculture

cost of liquidation of consequences of ecologically destructive – cost of decontamination of the contaminated area, the cost of reclamation, the cost of draining flooded areas, the cost of treating those who are ill due to pollution, etc.; indicator of economic loss on impairment (pollution) environmental factors characterizing crop losses, losses associated with additional morbidity, loss of increased depreciation, the loss of forest decline forest growth, shrinkage trees and so on. The system performance can, depending on the specifics of the economic sphere of use, get a range of environmental and economic assessments, various in form, but with a common methodological framework.

Assessment of natural resources is a complex interagency task that becomes paramount in a market economy. The main problems in this area arise from the lack of an agreed methodology for economic evaluations of resources and processes resource consumption, appropriate legal and regulatory and methodological framework. Development of methods of monetary estimates of natural resources long restrained insufficient justification theoretical developments. Natural resources are often considered in isolation from the problems of evaluation of elements of national wealth and reproduction. That lack of common methodological approaches to socio-economic evaluation of natural resources APC does not allow them to take into account and reflect a part of the national wealth. Therefore, the main task is to develop a general concept of economic (cost) estimates of natural resources, which would produce a uniform system of indicators to measure various components natural forming optimal in terms of reconciling the interests of the economy and natural resources.

Assessment system of natural resource potential of agriculture is the foundation of economic regulation of the use, protection and restoration of natural resources, a set of components which can be displayed as follows:

$$\begin{aligned}
 \text{ППП}_{\text{АПК}} &= \Pi_{\text{зр}} + \Pi_{\text{лр}} + \Pi_{\text{вр}} + \Pi_{\text{ар}}, \quad (1) \\
 \text{ППП}_{\text{АПК}} & - \text{Natural resource potential APK;} \\
 \Pi_{\text{зр}} & - \text{Earth resource potential;} \\
 \Pi_{\text{лр}} & - \text{wooden resource potential;} \\
 \Pi_{\text{вр}} & - \text{water resource potential;} \\
 \Pi_{\text{ар}} & - \text{atmosphere resource potential.}
 \end{aligned}$$

Theoretically indirect valuation of any natural resource can be determined through addi-

tional sales and increased prices for the relevant product compared to similar economic indicators in those places and at the time and where there is no increased demand for these natural benefits. Schematically, this can be expressed by the formula:

where B_{on} – mediated valuation of certain natural resources;

Π_i – Sales of the i th natural resources in accordance;

increased demand and in the absence of increased demand;

U_i – the price of the i -th natural resource respectively in high demand and in the absence thereof;

n – number of natural resources, through which can be realized the need for data of natural benefits.

Cost-effectiveness of the use and reproduction of natural resource potential of agriculture, associated with reorientation of resources within the territory an integral part in the development of programs to play. We proposed to determine the absolute socio-economic efficiency cost of reproduction of the natural resource potential of agriculture as follows:

$$E = \frac{\sum_{t=0}^T (\Pi_t - P_{int} - (H_{int} - H_0) + (Z_{int} - Z_0) + (EH_{int} - EH_{int})/(1+r)) - \Pi_0 - P_0}{\sum_{t=0}^T (\Pi_t/(1+r)^t)}$$

E_T – absolute socio-economic efficiency cost of reproduction of the natural resource potential of agriculture;

Π_t – Income received in the t -th year;

P_{int} – fixed rental payments resulting from the project in period t ;

H_{int} – fee for the use of raw materials for the period t ;

Z_{int} – size of the wage bill in year t ;

EH_{int} – other positive social effects, in terms of value for period t ;

EH_{nt} – other negative social effects, in terms of value for period t ;

Π_0 – income earned to invest (for previous year);

P_0 – fixed rental payments for investment (the previous year);

H_0 – fee for the use of raw materials for investment (preceding year);

Z_0 – size of the wage fund to invest (for previous year);

B_t – value of invested assets t-th year;

r – the discount rate;

t – term project.

Reproduction of natural resource potential of agriculture requires the introduction of economic methods and elements of environmental management. The effectiveness of the mechanism of rational use and reproduction of natural resources can be achieved by a combination of economic and organizational form to achieve the goal – maximizing production output with minimal resources and acceptable impact on the environment.

The development of agriculture in Ukraine is limited worsening environmental problems. Throughout its existence, people to meet the demands for food and raw materials used natural resources, not always worrying about their recovery. Modern agro-industry is in a difficult growing burden on the environment and its pollution. Lack of evidence-based system of agricultural natural resources led to a significant reduction in the reproductive capacity of the biosphere, environmental sustainability agricultural landscapes, the natural fertility of the soil. Therefore, forming an economic development strategy for environmental businesses is an important part of the economy of the country.

The production begins with the allocation of capital, the acquisition of capital goods and the formation of labor. In our society identify new function of land as a basis of the location of certain private equity businesses can claim the priority of ecological business that requires consideration of environmental factors in the process of social production, preservation and restoration of the natural resource potential of agriculture, without which it is impossible process of human existence. Most clearly the relevance of ecological enterprise finds himself where entrepreneurship is based on the use of (use) qualitative properties of natural resources.

In a further intensification of agriculture to implement environmentally friendly agricultural production, the essence of which is to ensure reproduction of natural resources (soil, water, etc.) in the state, this nature or one that does not exceed the maximum permissible levels of contamination.

Developed an economic development strategy for environmental businesses to determine the end products of strategic management: the potential that ensures attainment of company goals in the future, internal structure, and organizational change based on the environmental component. The potential consists of raw materials, financial and human resources, information production and services rendered, a set of rules of social behavior, compliance with which help businesses to achieve their goals. Organizational Change provides business structure sensitivity to changes in the environment.

Exploitation of natural resources – a profitable way of investing, so without hindering economic mechanisms that provide a rational approach to environmental management, the benefits of such activities may result in continuous losses for businesses and tragedies to the public. One such mechanism is insurance losses and liability for accidental contamination of the environment. The development of the environmental insurance hampered by lack of experience at the state level and methodology of environmental risk insurance.

In conditions of market relations is a new direction of development of internal and external predictive environmental audit as a means of optimization and enhance entrepreneurship based on the principles of ecological safety, the need for rational use and reproduction of natural resource potential of agriculture. With control functions environmental audit and economic audit must comply with the economic and environmental impact assessment on capital raising, investment promotion, implementation of “know-how”, resource conservation, reduced environmental costs, etc. The interest benefit (as an attribute of the entrepreneur) can not be the only motivation for his work. Profit is possible only with the most efficient use of all kinds of resources, including natural, protecting them from pollution and degradation and economic risk and subject to the conditions of environmental safety.

Environmental audit, with its main objective determination of compliance management systems, taking into account the environmental component, the required criteria, promotes investment attractiveness. It greatly complements the general characteristics of the enter-

prise, focused on the analysis of environmental and economic level of production, is an effective means for conducting integrated environmental- economic analysis of its business.

Environmental policy should encourage compliance, regulations to reduce environmental impact. The priority shaping effective organizational and economic mechanism of nature, we believe the financial and economic entities to encourage reduction in harmful emissions and waste, recovery of land, forest, water and air resources, an important role in this process should create programs to play greening of business development and environmental business.

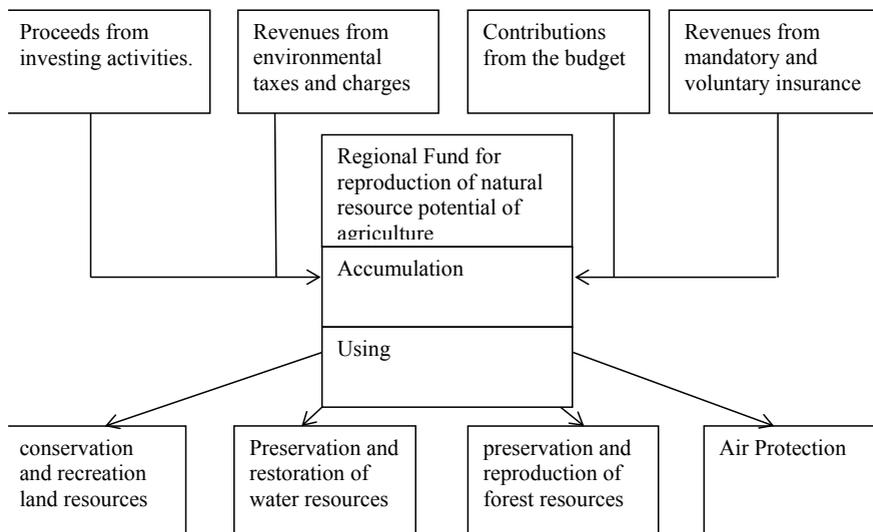
Intended as a system of economic regulation planning economic development, is a system of flexible regulation for national development. To regulate reproductive processes to find the best option and then continually adjust its implementation. This correction is the essence of economic regulation, which can be defined as the development of management actions to eliminate variations that are planned, the optimal variant of ecological- economic system.

Management of reproduction of natural resource potential of agriculture require information support – set of documents, data, methods and means of receiving, storing and processing organizations. Economic regulation of reproduction of natural resource potential of

agriculture, provides for the adoption of specific measures based on the economic impact of their source. Species such effects varied, financial, credit, tax, price and so on. Therefore, the question of choosing the most suitable for the existing conditions. However, this issue is accompanied by difficulties due to lack of information required for its justification.

This article will offer to form a regional fund restoration of natural resource potential of agriculture through budgetary allocations, compulsory and voluntary insurance, environmental taxes and charges, investment activity. Block diagram of the formation and use of this fund is shown in Pic. 2. The results of expert evaluations show that the preservation and reproduction of land resources should spend 47% of the fund, about 30% – the reproduction of forest resources, 15% – to clean water, 8% – on air protection [3].

Land use in Ukraine is paid, and the land tax levied in the form of calculating land tax for land owners and land users, from which payments are credited to the special account budget of local councils. These funds should be used exclusively to finance the management of soil fertility. Furthermore, additional sources of stimulation for improving the efficiency of land use may be payments to the budget in the deleted unproductive land from agricultural turnover and costs of penalties for land use.



Pic. 2. Block diagram of the formation and use of the reproduction natural resource potential of agriculture

The reaction environment for pollutant emissions acute – is rapidly reducing its ability to cleanse itself and, consequently, shows a negative impact on the economy and human health. Under these conditions, the production of goods must devote a significant role ecological knowledge, thinking, consciousness. Their use is essential for overcoming the contradictions in the organization of the environment, the need for preservation and restoration of natural resource potential in a short lag evolved from economic problems to the problem of survival. Thus the onset of irreversible processes in the environment, according to experts, may affect the already present generation. Therefore, an urgent need to create economic and ecological thinking to reproduce natural resource potential. However, under economic and environmental thinking is proposed to understand a person's ability to analyze and interpret their role in economic and environmental situations, the relationship and interdependence of the economy and environment, free to use this knowledge in their daily work and life.

Greening agriculture production will form an environmentally comfortable environment for the life of the population to ensure its environmentally friendly agricultural products. Ecological research and conservation activities in the country are often grouped by elements of the environment. There are the problems of air, water, soil, animals and plant life. Thus the basis for decision-making processes laid sectoral approach – funds invested to address the clean air, water holding anti-erosion measures, land reclamation, etc. However, this approach does not guarantee that the overall environment improves, because it abstracts from the whole problem. Because of departmental management of the economy and environmental protection is unlikely to address each of these issues separately, because they are complex and closely interrelated. Much of the manifestation of environmental awareness on the need to play the natural resource potential of agriculture falls to the level of mass consciousness, where knowledge of the characteristics of relationships of living and nonliving, man and nature are in the form of ad hoc everyday concepts related to industrial and non practitioners and require an integrated approach to solve problems.

Findings from the study. Investigation of key problems of economic reproduction of the natural resource potential of agriculture made it possible to draw the following conclusions of the theoretical, methodological and practical:

- State natural resource potential – one of the most important factors in the effective development of agricultural production. The main types of natural resource potential include agricultural land, forest land, water resources, mineral resources. The predominant species of nature in agriculture is land and water use. Basic, no alternative way to solve the problems of preservation and restoration of natural resource potential of agriculture in modern conditions is the greening of agricultural production, the main task of which is to introduce resource and energy saving technologies in the manufacturing sector, alternative farming systems with limited use of chemical methods for enhancing fertility and plant protection taking into account the assimilative capacity agricultural sector.

- Improving organizational and economic mechanism to stimulate regeneration of natural resource potential of agriculture is to develop economic methods (planning, forecasting, investing, lending, taxation, insurance, payment systems, environmental auditing, monitoring) and economic instruments (mechanisms profit, depreciation, obtaining subsidies, grants, dividends, pricing of products/services, insurance rates, credit and tax rates, fees, fines, etc.).

- Guidelines for economic regeneration of natural resource potential agricultural areas in the region justify practical problem solving ecological and economic management of the natural resources and play it through the stimulation of economic regulators to encourage enterprises – of nature before the introduction of environmentally friendly technologies and management, compliance with environmental safety; production of environmentally friendly products, efficiency and rendering natural resource potential of the agricultural sector.

An integrated approach to reproduction, preservation, and strengthening natural resource potential of agriculture will increase the efficiency of agricultural production, standard of living, improve the financial performance of agricultural enterprises to be competitive.

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