

Financial Support of Natural Agricultural Production in Ukraine

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Abstract: The processes of modern globalization and social transformations have significantly increased the priority of environmental protection, accordingly, they require the implementation of priority measures to solve urgent problems in the field of environmental protection and the simultaneous rational use of natural resources. The solution to these problems significantly depends on the system of financial support formed in the countries, as well as the established composition and volumes of funding sources and the determined directions of their use, which determines the need for a scientifically based analysis. The purpose of the work is to study the innovation activity of Ukrainian enterprises by sources of their financing and the development of practical recommendations for choosing the optimal model of influence on innovation efficiency of innovation support. The methodological basis of the research was the use of a set of general scientific and special methods: generalizations and scientific abstraction, historical-logical, extrapolation, and tabular visualization methods. Results of the research - The system of financial support for environmental protection at the current stage of the development of the economy of Ukraine was investigated. It is noted that environmental taxes should not just fill the state budget of the country, but stimulate the payer to have a positive and responsible attitude towards the natural environment. The dynamics of revenues to the budgets due to the application of environmental taxation mechanisms was studied and a conclusion was drawn regarding its effectiveness. The effectiveness of the implementation of the fiscal and regulatory functions of the environmental tax in Ukraine was evaluated. The order of distribution of environmental tax funds, as the main source of replenishment of environmental funds, was considered and the inefficiency of its use was analyzed. It was established that the environmental tax does not fully fulfill its fiscal function because the received income does not allow for fully financed environmental protection measures. The obtained results can be used as a basis for reforming the environmental tax in the direction of increasing its fiscal and effective effectiveness.

Keywords: financial support, natural agroproduction, environmental payments, sustainable development, environmental tax, state support.

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1 Introduction

When investigating issues of financial support for any enterprises, including agrarian ones, an important role is played by the ability of the economy to ensure the compliance of commercially profitable projects with the necessary amount of financial resources. Crisis phenomena in the global financial system exert significant pressure on the development of not only individual countries, but also individual sectors of the economy, reflecting the challenges of growing trends in the integration of national economic and financial systems. The process of financial support becomes especially noticeable in the conditions of the formation of the economy of sustainable development, which is becoming more and more significant, taking into

account the impact that the intensive development of production has on the state of the environment and the quality of life of the population.

The development of natural agricultural production is one of the basic conditions for the implementation of the concept of sustainable development in Ukraine, [28], since the use of natural agricultural production technologies is aimed, on the one hand, at the restoration and protection of soils from depletion during the use of traditional technologies with the use of mineral fertilizers, growth stimulants, and chemical means of crop processing etc., and on the other hand, it ensures the cultivation of ecologically safe products. Thus, the introduction of natural agricultural production is aimed at solving the problems of spheres and ecological and food

security, which are components of the national security of the country, [8], [10].

At the same time, the introduction of natural agricultural production technologies requires significant financial resources, as it is riskier, compared to traditional agricultural production, which in itself has a significant level of risk in both operational and, accordingly, financial activities, [17]. In addition, the transition from traditional technologies to technologies of natural agricultural production takes a certain period of time from two to five years, when the level of profitability of the activity may decrease, and therefore the possibility of using borrowed funds and increasing their value, taking into account the level of risk, decreases. Despite the dynamic development of natural agricultural production in Ukraine, the issue of its financial support is currently insufficiently studied by modern financial science, although a fairly significant number of works have been devoted to the problem of financial support for the development of agricultural enterprises, [12], [18]. At the same time, the specifics of the development of natural agricultural production allow the use of rather non-traditional forms of financial support for its financial support.

We believe, that environmental taxes should not just fill the state budget of the country, but stimulate the payer to have a positive and responsible attitude towards the natural environment. The funds received can be used to stimulate environmental protection, state programs for the development and import of resource-saving technologies, waste disposal, and the introduction of natural agricultural production technologies.

2 Analysis of the latest Research and Publications

The intensive development of science and technology without taking into account the need for environmental protection has led to the acceleration of the destruction of the environment due to the deterioration of the quality of soils and drinking water, the reduction of fresh water reserves, air pollution due to emissions of harmful substances, the reduction of deposits of raw materials for carbon energy, etc. Before the emergence of the paradigm of sustainable development, two concepts were actively discussed, which were developed with the assistance of members of the Club of Rome: the concept of dynamic growth, [19], and the concept of organic growth, [3]. One of the first studies conducted in this direction was a study by MIT

professor Jay Forrester "World Dynamics", [13], in which the "World 1" model was proposed. In our opinion, a significant study that laid the foundation for the concept of sustainable development was the study by Denis and Donella Meadows, Jørgen Randers and William Behrens III, [22], [23], who in their work "The Limits to Growth" (The Limits to Growth) in 1972, they presented the results of the analysis of the causes and consequences of population growth and material consumption in the long term, using the theory of system dynamics and computer modeling, and proposed the "World 3" model. In particular, it was noted that the impact on the environment on a global scale due to pollution emissions and the use of natural resources will significantly affect global development in the 21st century. The authors developed 12 scenarios of the development of events, which were based on theses about the exhaustion of natural resources and the limited ability of the planet to absorb industrial and agricultural pollution.

In 2011, the UNEP report "Towards a Green Economy - Pathways to Sustainable Development and Poverty Alleviation" stated that "the financial and climate crisis are one and the same. The solution lies in a "green" economy... the transition to a "green" economy promises numerous benefits for the international community and all nations from the point of view of solving the problems of food, energy, water security, and climate change. It is considered an effective response measure to the financial crisis. It can ultimately lead to the achievement of the development goals announced in the Millennium Declaration", [35].

In order to qualitatively ensure the development of "green finance", it is necessary to determine the basic constituent elements included in relations in this area. This is most fully reflected in the work of G. Schmidt-Traub and J. Sech (Schmidt-Traub G., Sachs J.D.) "Financing of sustainable development", [29]. Sources of financing are divided depending on the level of the economic system, namely: the national and international level, taking into account the interrelationships in solving both social and environmental problems. At the same time, within the limits of the national level, it is worth distinguishing the local level and going beyond the national level, such a regional level, such as, for example, the European region, within which its own rules for ensuring sustainable development and financing relevant measures are defined.

Environmental taxes are becoming increasingly important among economic instruments due to their high effectiveness in achieving the goals of economic and environmental policy. N. Avramenko

and Z. Shpylkyvska, [1], considering the system of environmental taxation in Ukraine, propose ways to improve it through the implementation of the principles of stimulating the reduction of environmental pollution, limiting and penalizing such pollution, applying for tax benefits under the condition of introducing environmentally friendly, resource- and energy-saving, low-waste technologies, the introduction of excise-type environmental taxes on environmentally hazardous goods and services. I.S. Volokhova notes that the increase in the rates of environmental payments should be carried out in accordance with the amount of damage caused to the environment, [36]. Y.S. Shemshuchenk was also engaged in the study of environmental issues, [32]. Serebryansky, researching the regulatory function of environmental pollution charges, [31], S. Suchek, analyzing the impact of financial and environmental 28 instruments on the formation of a "green" economy, [33], and many others.

The issues of the current state of production of organic products were highlighted in the works of many domestic scientists. Thus, according to analytical research by I.A. Bilotkach, M.P. Martyniuk, N.M. Davydenko and Z.M. Titenko specified the main aspects of the formation and development of the organic products market in Ukraine and confirmed the leading role of state regulation in the field of organic production, [4], [7], [9]. E.V. Mylovanov, N.Yu. Buga and I.G. Yanenkova researched the current state of organic production and considered approaches to regional support of organic production, [5], [24].

Within the framework of our research, based on the in-depth work of foreign and domestic scientists, we will consider the development of organic agricultural production in Ukraine and the possibility of financing land regeneration through taxation, because environmental taxes are one of the sources of finance that should be directed to the restoration of destroyed forests, environmental protection measures, elimination of pollution and conservation of natural resources. High tax rates should force enterprises to introduce technological schemes that ensure rational and complex processing of extracted raw materials and will contribute to land regeneration.

3 The Research Results

3.1 Development of Organic Agricultural Production in Ukraine

Ukraine is a country with exceptionally unique natural features of the land fund. The basis of the land fund is agricultural land, including 41,507.9 thousand ha of agricultural land, at the same time, "the share of particularly valuable land on which agricultural production is carried out, according to the State Land Agency of Ukraine, is 11.9 million ha or 19.8% of the territory", [20].

However, the current use of Ukraine's land resources does not meet the requirements of rational nature management; the state of Ukraine's land resources is close to critical, [19]. Intensive use of agricultural land, reduction of an agrarian culture of agriculture, and the man-made principle of development of the agricultural industry in order to obtain high and stable yields, lead to deterioration of soil quality, an increase of the area of eroded land, and destruction of the natural environment. In general, about 20 percent of Ukraine's land is polluted, about 57 percent of Ukraine's territory is affected by water and wind erosion, more than 12 percent of the country's territory is flooded; the causes of such a situation are complex in nature, especially the violation of the ecologically balanced relationship between land categories, the reduction of the territory of unique steppe areas, the excessive plowing of the territory and the violation of the natural process of soil formation, the use of imperfect technologies in agriculture, [37].

Therefore, the development of natural agricultural production is one of the basic conditions for the implementation of the concept of sustainable development in Ukraine since the use of natural agricultural production technologies is aimed, on the one hand, at restoring and protecting soils from depletion during the use of traditional technologies with the use of mineral fertilizers, growth stimulants, chemical agents crop processing, etc. using technologies of Industry 4.0, [2], [30], and on the other hand, it ensures the cultivation of ecologically safe products.

That is, the introduction of natural agricultural production is aimed at solving problems in the field of environmental and food security, which are components of the national security of any country, [11], [12].

The total area of certified agricultural land in Ukraine, on which organic products are grown, is growing every year (Table 1).

Table 1. Dynamics of organic production development indicators in Ukraine*

	Area, thousand hectares	Number of farms, units	The total volume of exported organic products, thousands of tons
2012	273	164	179
2013	393	175	185
2014	401	182	193
2015	410	210	226
2016	411	360	245
2017	420	375	254
2018	309	501	390
2019	458	617	469
2020	462	722	332
2020 +/- to 2012	189	558	153

Source: compiled by the author based on data, [26], [27], [34].

As of the end of 2020, it amounted to 462,000 hectares, which is 189,000 hectares more than in 2012. Such an increase in cultivated areas can be explained by the growing interest of agro-industrial producers of Ukraine in the production of organic agricultural products and products of their processing. The development of market relations in Ukraine for permanent reforms in the agrarian sector of the economy, in particular in the field of land resources, leads to the interest of landowners in preserving and improving the qualitative characteristics of soils and reducing the impact of negative factors when using the latter. A positive trend is maintained in the change in the number of enterprises engaged in the production of organic products. In 2020, their number increased to 722, which is 4.4 times more compared to 2012. An important point when evaluating domestic agricultural production is that its development is carried out with minimal financial support from the state, and in the majority of "organic" farms, without at all its, [15]. For producers, only support elements regarding financial assistance, application of compensation for the use of organic technologies, or obtaining certificates are projected by legislation. In 2020, the number of organic production operators in Ukraine increased by 17%, the number of processors of organic products increased by 33%, and the number of producers who already have a labeled organic product in their offer to the end consumer increased by 7%. Of the 722 organic market operators registered as of January 1, 2021,

114 have processed as a type of certified activity, of which 64 operators package products for the retail shelf. The number has increased significantly, and the directions of organic processing and finishing have stabilized - in 2020, this indicator is 24 categories, compared to 2019 which it has increased by 60%. The leading players in the market of organic products are the USA, Germany, France, and England. The specific weight of the US market is more than 50% of the world market. The Ukrainian market of organic products is developing dynamically, but despite the significant growth rates, it remains small in size and therefore carries significant risks, [17]. Its further development requires significant support from the state not only from a financial point of view but also from the point of view of more active promotion of the ideas of effective development and education of the population about the importance of consuming quality products. As world experience shows, it is the financial support of the state that stimulates the increase in the number of organic producers, the development of the market of organic agricultural production, its structure, and ensuring competitiveness, [16]. Ukrainian producers of organic products are mainly large enterprises, but the average area of agricultural land per farm is decreasing every year. The ecological component is subordinate to social, economic, and financial because only changes in the latter can change the ecological situation in the country and the world.

3.2 Assessment of the Level of Financial Support of Natural Agricultural Production in Ukraine

The introduction of natural agricultural production technologies requires significant financial resources, as it is riskier, compared to traditional agricultural production, which in itself has a significant level of operational and, accordingly, financial activity risk. In addition, the transition from traditional technologies to technologies of natural agricultural production takes a certain period of time from two to five years, when the level of profitability of the activity may decrease, and therefore the possibility of using borrowed funds and increasing their value, taking into account the level of risk, decreases. Using the analysis of environmental tax instruments, it is possible to assess the direct or indirect influence of the state on ecology, trace the quantitative contribution of the tax to ensuring a reduction in the level of pollution, determine the presence of economic incentives for taxpayers to develop measures to reduce the destructive technogenic impact on the natural environment. The fiscal

function of the environmental tax is to ensure the filling and increase of budget revenues at various levels due to the taxation of the activities of legal entities that have a harmful effect on the state of the natural environment. Accumulated resources form financial support for the implementation of environmental protection measures. It should be noted that the financial provision of natural agricultural production as an ecological component

of sustainable development of Ukraine is mainly carried out at the expense of environmental fees. The Tax Code regulates the payment of tax by business entities for environmental pollution and violations of environmental protection legislation "Environmental tax", [21]. It covers all environmental payments for the special use of natural resources and for pollution of the natural environment (Table 2).

Table 2. Receipt of environmental tax to the Consolidated Budget of Ukraine
in 2011–2019, UAH million

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Receipts for emissions into atmospheric air	849.97	1276.34	1869.68	2003.37	24 85.37	2991.32	2411.96	2402.97	2465.88	1918.98	2072.79
Proceeds from emissions of carbon dioxide into the atmosphere	-	-	-	-	-	-	-	-	837.18	1037.18	1047.22
Receipts for the generation and/or temporary storage of radioactive waste in	46.84	72.13	101.82	122.71	111.83	142.31	144.85	159.06	155.73	1015.11	1035.54
Receipts from placing waste in specially allocated for this places or on objects —	418.95	598.37	729.67	859.10	684.83	785.91	863.47	1064.72	1017.00	1048.52	1129.49
Income from discharges of pollutants into water bodies	46.84	72.13	101.82	122.71	111.83	135.03	137.85	152.27	147.07	146.03	150.53

Source: compiled by the author based on data, [26], [27].

Before the adoption of the Tax Code of Ukraine in 2010, environmental and economic regulators in the domestic tax system were used in the form of payments (fees) for environmental pollution. With the introduction of the Tax Code, they acquired the status of an environmental tax. It is important that, according to the Budget Code of Ukraine, until 2014, funds from the environmental tax were not transferred to the general, but exclusively to the special funds of the state and local budgets, which ensured the targeted nature of their environmental protection use. At the same time, starting from 2019 in accordance with clause 161 of Art. 29 of the Budget Code of Ukraine, a special procedure for the allocation of funds from the Tax on pollutant emissions by stationary sources of pollution was introduced, which consists in the fact that tax revenues in the part of carbon dioxide emissions are

credited to the general fund of the state budget in full, [6].

At the same time, environmental taxes in the structure of budget revenues in Ukraine had low values, usually not exceeding 1% of consolidated budget revenues. According to the data in Table 2, during the years 2011–2021, there is no fixed growing trend in nominal terms in the dynamics of environmental tax revenues to the Consolidated Budget of Ukraine. In particular, environmental tax revenues increased linearly during 2011–2014, which is associated with an increased economic burden on the natural environment and economic growth. In 2016–2018, nominal revenues were at a fixed level – 4,987–4,922 of million UAH. respectively, and in 2019–2021 we observe unstable amounts of deductions that do not have a clearly established trend. At the current stage, the volume

of financial support for the ecological sphere of sustainable development of the region is gradually increasing. However, this does not indicate that these volumes are sufficient. Own funds of enterprises institutions and organizations can also be used to finance environmental protection measures (implementation of innovative projects, development of standards, implementation of organizational and cultural activities, modernization of production projects, replacement of energy resources with environmentally friendly types of

energy, use of renewable types of natural resources for production purposes and replacing them with synthetic ones, etc.), [14]. Let's note that business entities implement environmental protection measures, provided that it is profitable and profitable. The development of appropriate means of economic stimulation and their legislative consolidation would make it possible to solve this problem taking into account primarily environmental priorities.

Table 3. The share and dynamics of environmental tax revenues for 2011-2021

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
GDP, billion UAH	1316.60	1408.89	1454.93	1566.73	1979.46	2383.18	2982.92	3558.71	3974.56	4194.10	5459.57
Revenues of the Consolidated Budget of Ukraine, billion hryvnias	398.6	445.5	442.8	456.1	652.0	782.5	1016.8	1184.3	1289.8	1376.7	1662.2
Tax revenues, billion UAH	334.7	360.6	354.0	367.5	409.4	503.9	627.2	753.8	799.8	851.1	1076.0
Environmental tax, billion UAH	2.3	2.8	3.9	4.8	2.7	2.99	2.41	2.4	2.47	1.92	2.07
Share of environmental tax in GDP, %	0.18	0.20	0.27	0.30	0.14	0.21	0.13	0.07	0.06	0.05	0.04
Share of environmental tax in revenues of the Consolidated budget, %	0.58	0.63	0.88	1.05	0.40	0.64	0.24	0.20	0.19	0.14	0.13
The share of environmental tax in the structure of tax revenues, %	0.69	0.78	1.10	1.31	0.53	0.77	0.38	0.32	0.31	0.23	0.19

Source: compiled by the author based on data, [25], [26], [27].

The entire volume of income from the environmental tax, which comes to local budgets, is directed to a special fund. Accordingly, it is provided that the received funds have a specific purpose, and therefore will be used for environmental protection measures. Receipts of environmental tax to local budgets in the period 2011–2014 had a steady upward trend, however, starting from 2015 to 2021, an unstable trend of environmental tax is observed. In 2017, revenues were reduced by UAH 390 million compared to 2016, in 2018 – by UAH 835 million less than in 2017. A slight increase in revenues took place in 2019, local budgets received 2,238.19 billion hryvnias, which is 93 million hryvnias higher. more than in 2018. At the same time, in 2020 there was a

decrease in revenues again, this time by 147 million hryvnias. The actual decrease in revenues is explained by changes in the Budget Code of Ukraine: up to 2018 inclusive, 80 percent of the environmental tax was credited to local budgets (except for the environmental tax that is paid for the generation of radioactive waste (including already accumulated) and/or temporary storage of radioactive waste by their producers over the established special conditions of the license, the term that is credited to the general fund of the state budget in full), and from 2019 - only 55%. Considering the financial support of natural agricultural production, there is a need to study the costs of environmental protection. Thus, having compared the costs of the Consolidated Budget for

the protection of the natural environment and the receipts to the Consolidated Budget at the expense of the environmental tax, we observe an annual (exception only in 2014 - related to the costs of the country's defense) imbalance between these articles. Thus, expenses are 1.5-2.2 times greater than income from environmental taxation. This testifies to the limited growth of ecologically oriented initiatives at the expense of budget funds, the lack of rational incentives for economic entities to conscientiously pay environmental taxes and control their connection with environmental security, relying on budget funding.

The existing structure of costs for environmental protection in Ukraine does not meet the requirements of the times. The lion's share of costs is the cost of eliminating pollution, while costs of a preventive nature (these include the costs of preserving the nature reserve fund and costs of fundamental and applied research and development in the field of environmental protection) do not exceed 8% of total costs and still tend to decrease annually. Such an imbalance of budget policy is an indicator of a decrease in the level of support for environmental security in Ukraine.

The specifics of the development of natural agricultural production allow the use of rather non-traditional forms of financial support for its financial support.

One of the forms of the new lending mechanism is the participation of international financial and credit institutions in the financing of agricultural producers. The program of microcredit for agricultural producers in Ukraine is conducted by the European Bank for Reconstruction and Development and the German-Ukrainian Fund. Mortgage lending is a promising practice of credit unions in terms of long-term lending. Important at the same time is the development of fundamentally new crediting schemes for agricultural producers. The development of these schemes will be facilitated by cooperation with other branches of the cooperative sector in the agricultural sector: production and service cooperatives, consumer cooperatives, in particular, the participation of credit unions as structural components of agro-industrial formations created on a cooperative basis.

4 Conclusions

One of the most effective tools for maintaining ecological balance is environmental taxation. The existing tax mechanisms in Ukraine, which should be aimed primarily at preventing environmental

pollution, are not sufficiently effective. We believe that it would be appropriate in the agricultural sector of Ukraine to introduce a system of environmental tax reimbursement in combination with the reproduction of soil fertility and biological resources, as well as ensuring the sustainable production of ecologically clean agricultural products. Environmental tax reimbursement (tax concessions) is one of the methods of financial support in the agrarian sector of the economy.

We focus on the fact that for the development and effective implementation of a balanced environmental policy in Ukraine, it is important to take into account the experience of the modern systemic environmental policy of the member states of the European Union. The ability to adapt the levers and instruments of our state's environmental policy to EU standards, including those related to the agrarian sector of the economy, will directly affect environmental well-being, a quality living environment and, ultimately, form the basis for the production of competitive ecologically clean agricultural products and ensuring food security of Ukraine.

Despite the presence of significant problems related to land degradation due to non-observance of crop rotation, uncontrolled use of chemical fertilizers and insufficient application of organic fertilizers, Ukraine nevertheless has potential opportunities for successful land regeneration. For this, in our opinion, it is necessary to implement the following measures at the state level:

- to develop a strategy for financial provision of land reproduction at the macro level;

- contribute to ensuring a stable economic situation in the country to attract investments in the agricultural sector, and, in particular, in the reproduction of land;

- implementation of constant monitoring of the use of funds received from the state for the reproduction of land (for this purpose, it is advisable to improve financial reporting on the use of state financial support funds;

- to exempt from taxation that part of the land to which natural renewal is applied (pure vapors).

Thus, the agricultural sector is a strategically important sector of the economy of Ukraine. Therefore, the strategy of financial support for land reproduction at the macro level should correspond to the overall national strategy for the development of agriculture. At the state level, the strategy of financial support for land reproduction should be implemented by: implementing special financing programs, providing soft loans, attracting foreign investments, preferential tax conditions.

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Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

-Oleksandr Labenko was responsible for formulating the conclusions.
Inna Dolzhenko conducted a review of literature.
-Maksym Klymenko investigated the issue of financial support for organic production.
-Olena Ilchuk analyzed the current state of development of organic production

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Conflict of Interest

The authors have no conflicts of interest to declare that are relevant to the content of this article.

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