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**Ecologically oriented entrepreneurship in the agricultural sector
of the Carpathian region of Ukraine in the conditions of martial law
and post-war recovery of the economy**

Oleksandra Palenychak

Candidate of Economic Sciences, Institute of Agriculture of Carpathian region of National Academy of Sciences, Ukraine

Annotation

The article examines the organizational and economic prerequisites and prospects for the formation of ecologically oriented entrepreneurship in the Carpathian region in the conditions of martial law and post-war economic recovery. In view of the strategic importance of ecologically oriented entrepreneurial activity in the studied region, the conceptual aspects of its development are revealed and the potential effectiveness of the transition to ecologically oriented agricultural production is determined: increasing the area of land on the basis of ecologically safe use; increasing the level of profitability of production of agro-food products with geographical indication.

Keywords: entrepreneurship, ecological safety, agricultural production, region, sustainable development.

Introduction

In domestic and foreign business practices, the ecologically oriented strategy of agricultural enterprises is considered as a source of their competitiveness and an important prerequisite for the development of high-quality and safe products that meet international quality standards. In the post-reform period, in the agricultural sector of Ukraine, as a result of non-compliance with the requirements for environmentally safe production, there was a significant decrease in soil fertility, which caused a negative impact on the state of the environment and the quality of agricultural products.

Therefore, in modern economic conditions, ecologically oriented entrepreneurship is an important condition for the sustainable development of the economy, but the development of this direction of production activity has not yet been sufficiently studied in foreign and domestic practice, in particular, taking into account its impact on social efficiency. However, the popularity of this type of business is growing due to consumers' awareness of the advantages of environmental friendliness of agricultural products, as well as their concern about the state of the environment.

Since the leading role in the system of ecological security is given to agriculture, as the main land user and producer of food products, the prospect of the development of ecologically oriented entrepreneurship in this sector of the economy deserves special attention. The growing needs for productive and ecologically safe agriculture lead to the need for a new vision of the development of agricultural production: its transition from traditional to ecologically oriented, which requires an appropriate multi-aspect analytical assessment taking into account world economic practices. However, currently in Ukraine, many issues in the field of agrarian economy remain unresolved, in particular, regarding the development of strategic guidelines for the development of ecologically oriented entrepreneurship.

Materials and methods

In the research process, a number of general scientific and specific methods were used, among which it is necessary to highlight: monographic – to study the scientific foundations of the formation and provision of ecologically oriented development of agrarian enterprises; analysis (dismemberment of the research object into components for the study of cause-and-effect relationships); statistical – for grouping farms by the number and area of land; extrapolation (forecasting indicators of potential volumes of production resources of the industry in the

Carpathian region of Ukraine); abstract-logical, in particular the methods of induction and deduction, analogy and comparison – for the theoretical generalization of the scientific vision of the development process of ecologically oriented entrepreneurship; generalization and systematization (justification of systematized conclusions from the conducted research). The information base of the research was made up of laws of Ukraine, decrees of the President of Ukraine, resolutions of the Cabinet of Ministers of Ukraine, official materials of the State Statistics Service of Ukraine, as well as scientific works of domestic and foreign scientists.

The results

Despite the adoption of a number of legislative acts, which, in particular, are aimed at the rational use of natural resource potential in the agricultural sphere, there are still many unresolved issues at the national level regarding the preservation of the main national wealth – agricultural land. Currently, Ukraine does not have a single normative legal act that establishes the strategic basis of the state agrarian policy. The existing system of requirements for rational nature management and environmental protection does not reflect a comprehensive socio-economic and ecological approach [1].

At the same time, in the conditions of domestic realities, it is quite justifiably noted that "the gradual weakening of state regulation and control in the field of nature use and environmental protection leads to the loss of feedback in the system of environmental management, where most subjects of nature management have not achieved a sufficient level of self-control and where organizational economic tools for stimulating ecologically safe economic activity do not have a targeted nature, which calls into question the perspective of ensuring environmental safety in general" [2].

The Carpathian region of Ukraine is characterized by a relatively low level of environmental pollution in the mountainous area and sufficient land and resource potential to provide the population with various types of plant and animal products. A significant number of small agricultural enterprises operate in this region, which are potential adepts of the ecological way of farming.

The concept of proactive enterprise development and building business models combining economic, social and environmental aspects is supported on an international scale. The implementation of this concept is facilitated by the decisions of international organizations, as well as the processes taking place in the investment markets. A special role is played by the

UN, which prepared the Principles of Responsible Investment (Principles of Responsible Investment) with attention to environmental aspects. There is interest in investment opportunities in "green" sectors from funds (investments, insurance). The concept of a sustainable fund (sustainable development fund) is being created, taking into account environmental, socio-cultural, ethnic and economic aspects [3].

The most important strategic documents aimed at preserving the nature reserve and increasing the effectiveness of the use of the production and resource potential of the Ukrainian Carpathians are the Framework Convention on the Protection and Sustainable Development of the Carpathians, the Law of Ukraine "On the Status of Mountainous Settlements in Ukraine, the Law of Ukraine "On Stimulating the Development of Regions", the Law of Ukraine "On Cross-Border Cooperation", Concept of Development of the Mountain Territories of the Ukrainian Carpathians. Approved by the Resolution of the Cabinet of Ministers of Ukraine dated October 20, 2019 No. 880, the State Program for the Development of the Ukrainian Carpathian Region for 2020-2022 was developed to comprehensively address the priority existing problems in the economic sphere, provided that the interests of increasing the quality of life of the population of mountainous areas and preserving their ecosystems are balanced.

In foreign and domestic business practice, the implementation of an entrepreneurial initiative is considered as an opportunity for the most effective use of production and resource potential by combining economic benefits with environmental safety requirements. Therefore, it is rightly noted that "small business is traditionally a significant factor in the economy, ensuring its stable development and the development of entrepreneurial activity in the country as a whole. The experience of the developed countries of the world has also shown that it is a necessary condition for the formation of an innovative, informational and creative economy [4].

In the Carpathian region of Ukraine, the use of the production and resource potential of small-scale agricultural enterprises in the conditions of environmentalization of production creates favorable conditions for increasing the volume of traditional types of agricultural products with geographical indication. In this context, it is necessary to emphasize not only the legal protection of the product names of the European Union (EU), but also the use of the quality term "mountain product" [5].

In Ukraine, no regulatory legal act defines the conditions and criteria for classifying areas as mountainous, in contrast to the definition and criteria for classifying mountain settlements, which are regulated by Art. 1 of the Law of Ukraine "On the Status of Mountain Settlements

in Ukraine" [6]. However, despite the relatively difficult business conditions and at the same time the existing land and resource potential of these enterprises operating in the Carpathian region of Ukraine, there are no economic tools for stimulating production provided for them at the legislative level.

Currently, in Ukraine, in the agricultural sector of the economy, small farms are potential adepts of the ecological method of management. According to the Law of Ukraine "On State Statistics", the collection and processing of statistical information is carried out in accordance with methodological provisions. Formation of information by the size of enterprises (small, medium, etc.) are not provided for observations by Methodological regulations on the organization of state statistics [7].

Due to the lack of official statistical data on the number of small and medium-sized enterprises, statistical data on the grouping of small farms with land area from 5 to 100 hectares and from 100 to 500 hectares, which indirectly characterize their status, were analyzed. Taking into account the state support of small farms during the last five years (2017-2021), there is a tendency to increase the number of this group of farms in the Carpathian region of Ukraine. (Fig. 1).

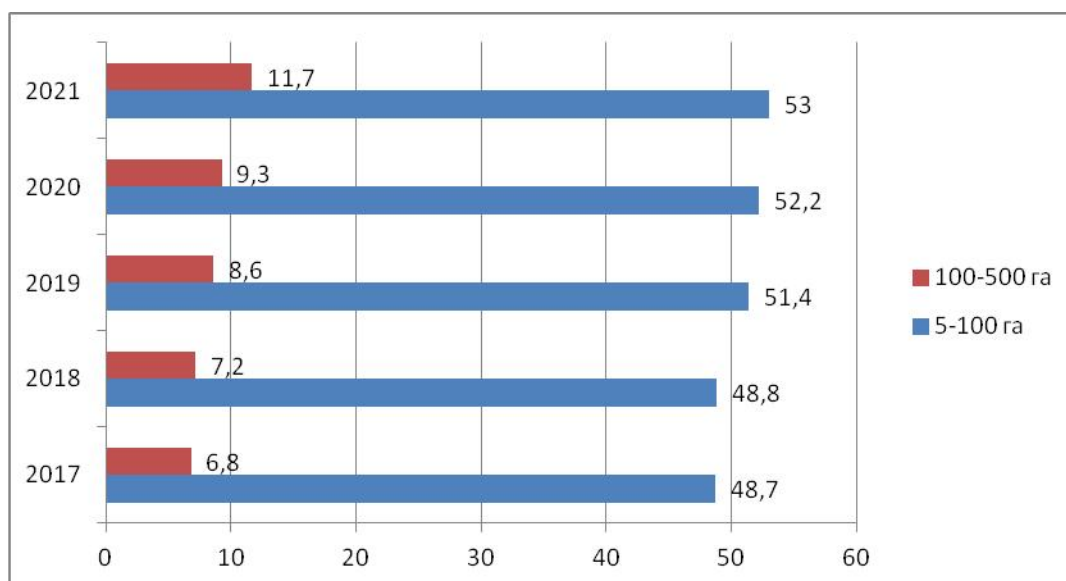


Figure 1. Grouping of farms in the Carpathian region of Ukraine by quantity, %

At the same time, during the same period (2017-2021), trends were observed to decrease the area in the relative indicators of farms with an area of lands from 5 to 100 ha due to their transition under the control of business entities that are more powerful in terms of land and resource potential (Fig. 2).

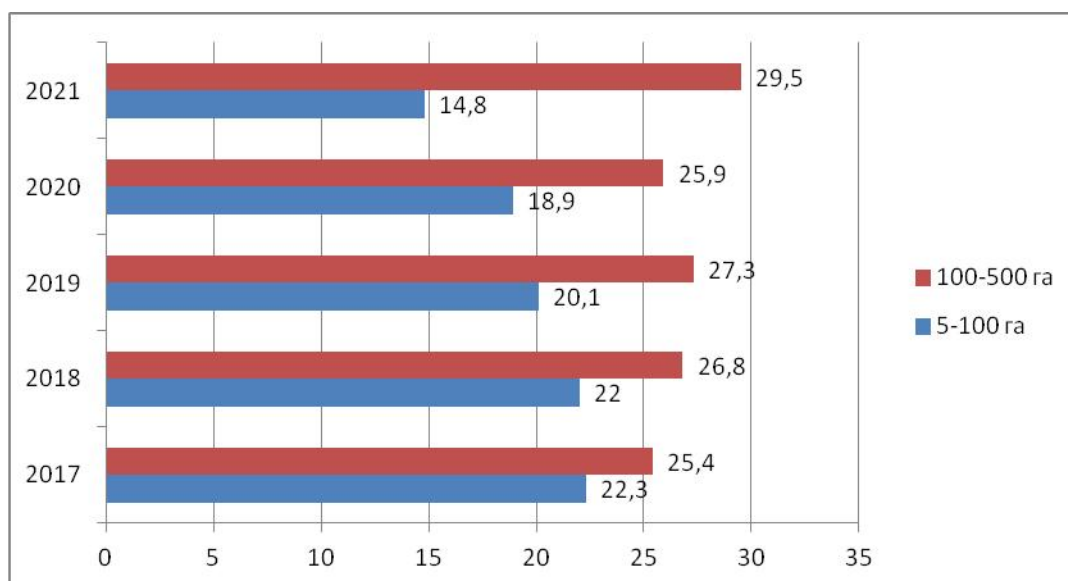


Figure 2. Grouping of farms in the Carpathian region of Ukraine by the size of agricultural land,%

The obtained data on the concentration of land use in larger farms characterize them as potential producers of agro-food products with a higher profit per unit of land area. At the same time, this group of farms is able to ensure the appropriate level of marketability of production and, at the same time, thanks to their sufficiently large number, to shorten supply chains by selling various types of food at the local level, which is extremely important in the unstable conditions of martial law.

In view of the aggravation of the ecological situation in Ukraine, which is caused by highly intensive production and the military invasion of Russia, the problem of the prospects for the establishment of ecologically oriented entrepreneurship in the Carpathian region, which has a favorable geopolitical position and a significant production and resource potential, is now being actualized. At the current stage of the development of the domestic agricultural sector in this region, the main organizational and economic prerequisites for the functioning of ecologically oriented entrepreneurship are:

- significant specific weight of the number and area of small farms with land area from 5 to 100 hectares and from 100 to 500 hectares in relation to the general indicators of this category of farms;
- the possibility of forming a regional brand based on the production of products with a geographical indication;

- high capacity of the food market due to the functioning and development of a powerful tourist and recreational potential;
- the growth of the socio-economic role of state support for relevant business entities in connection with the loss or violation of agricultural land in the de-occupied land territories as a result of the Russian military invasion;
- relocation of business from the occupied territories and activation of the entrepreneurial initiative of small and medium-sized producers engaged in the processing of agricultural products.
- the possibility of establishing network trade of regional agro-food products in the context of the development of agritourism and, accordingly, reducing long supply chains.

For agricultural commodity producers, who carry out production activities in difficult conditions on the slopes of the Carpathian region of Ukraine, scientifically based and traditionally important narrow branch specialization – dairy and meat cattle breeding. In this region, the application of a price premium for organic products with a geographical indication allows not only to increase the profitability of production, but also to form a trade network for the sale of the corresponding products. Such an organizational and economic approach in the nationwide conditions of potential danger of intensive agricultural production and long supply chains plays a key role in increasing the level of food security of the population.

So, in the conditions of the wartime and postwar state, taking into account the strategically important importance of ecologically oriented entrepreneurial activity in the studied region, the following conceptual aspects of its development become especially relevant:

- substantiation and development of regulatory and legal support in order to determine the criteria for classifying areas as mountainous;
- development of regional programs for the development of agro-industrial development, which would reflect strategically important issues of agricultural production in the conditions of mountainous areas;
- enshrining in the charter of business entities of small and medium-sized businesses the concept of management taking into account environmental factors of a natural and man-made nature;

- increasing the level of environmental friendliness of products through the use of innovative and environmentally safe technologies, control of the management of hazardous substances and waste;
- growth of the specific weight of high-quality and safe products with a geographical indication in the total volume of production based on the development of integrated, organic agriculture.

The calculations show that even small dairy farms with a herd of up to 50 heads can provide a high level of industry profitability for simple or extended reproduction of production [8]. Taking into account the production and resource potential of the Carpathian region, it was found that there is a significant reserve for meeting the needs of middle-class consumers for certain types of organic products. Under the condition of the functioning and development of ecologically oriented entrepreneurship, the share of agricultural land to meet the needs of middle-class consumers in the production of dairy and meat livestock products should be at least 3.0%, and in relation to particularly valuable productive land, which in terms of organic production belongs to the priority value is 19.3% (Table 1).

Table 1. Volumes of agricultural land in the Carpathian region of Ukraine, which are necessary for ecologically oriented production of dairy and meat products

Areas of the Carpathian region	The needs of middle-class consumers in 2022, thousand tons		Necessary areas of agricultural land, thousands ha	Share of rural areas land from:	
	Milk	Meat		total amount,%	especially valuable lands,%
Zakarpattia	124,4	47275,7	17,2	3,8	24,1
Ivano-Frankivska	163,7	62221,0	22,7	3,6	28,1
Lvivska	135,1	51345,3	18,7	1,5	13,4
Chernivetska	179,5	68222,0	24,8	5,3	19,9
Total:	602,7	229064	83,4	3,0	19,3

Source: calculated by the author

In the studied region, as a result of the transition from traditional to ecologically oriented agricultural production, namely dairy products with a geographical indication, there is a significant potential for increasing the profitability of the production of small farms that have

difficult farming conditions, but grow products with a geographical indication, which indicates its special quality. Ecological product certification and its geographical indication play an important stimulating role in the development of ecologically oriented entrepreneurship in the Carpathian region of Ukraine. In this region, the revival of traditionally important areas of specialization in agricultural production should be considered primarily in the context of small entrepreneurship, which is oriented not only to obtaining high profits by growing stably profitable and export-oriented types of agricultural crops, but also on the basis of taking into account the diversification of production activities, which also involves increasing volumes of commercial labor-intensive products of plant and animal origin [9].

According to our calculations, in the Carpathian region of Ukraine, as a result of the transition from traditional to ecologically oriented agricultural production with a geographical indication, the level of profitability of dairy and meat livestock production will increase significantly (Table 2), which will provide economic conditions for its expanded reproduction and, thus, will contribute to the revival of this industry.

Table 2. Potential effect of transition to ecologically oriented agricultural production with geographical indication in the Carpathian region of Ukraine

Products	Traditional production		Ecologically oriented agricultural production (use of only organic feed)		Profitability level, %	
	Price, UAH/kg	Price for products with geographical indication, UAH/kg	Price, UAH/kg	Price for products with geographical indication, UAH/kg	Production of traditional products, UAH/kg	Ecologically oriented agricultural production (with geographical indication)
Milk	28,0	30,80	36,0	39,6	15,0	25,0
Cheese	124,0	136,4	186,0	204,6	32,0	45,0

Beef meat	377,0	414	565,5	848,2	5,0	25,0
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Regarding the production of domestic agricultural products with a geographical indication, which is in demand among a certain category of consumers, interesting are the studies of Polish scientists who provide the following data from a questionnaire survey: "85.6% of respondents buy local dairy products; 91.4% indicated their availability in retail trade; at the same time, 7.5% of respondents faced a significant restriction of access to these products, and 33.7% pointed to frequent shortages in the assortment" [10]. At the same time, in this context, it is worth noting that based on the data of a sociological study conducted by Ukrainian scientists, it was found that "54% of compatriots are ready to overpay for an environmentally friendly product. However, they are not going to pay more than 20%. Only 13.5% of respondents refuse organics because they have their own gardens and vegetable gardens" [14]. Therefore, focusing the attention of producers on the origin of products and their environmental friendliness are important stimulating conditions for the functioning and development of the regional market of agro-food products.

In Ukraine, under the conditions of martial law, the existing demand for high-quality and safe products is restrained by the low purchasing power of the population. In this regard, it is worth highlighting the problematic issues of the functioning of ecologically oriented agricultural production, in particular: ignorance of certain socio-economic groups of the population regarding the consumer benefits of these products; the price of domestic organic products is 2-3 times higher; lack of special departments in grocery stores. In the conditions of the functioning and development of ecologically oriented agricultural production, these problematic aspects must be regulated and, accordingly, environmentally oriented activities in agrarian business should be stimulated.

Activation of the socio-economic role of ecologically oriented entrepreneurship can be ensured to a large extent by improving the procedure for forming a regional program for the development of the agro-industrial complex in terms of state support for entrepreneurship according to a three-pronged approach, which includes, with the definition at the first stage – the capacity of the food market, taking into account both the agro-tourism potential and opportunities to meet the food needs of internally displaced persons; at the second stage – differentiation of demand depending on different socio-economic groups of the population,

for which social preferences in the form of free provision can be introduced; on the third – the selection of mechanisms of state support of economic entities, taking into account the unfavorable ecological and geological features of their functioning.

Domestic and foreign experience shows that increasing the efficiency of agricultural management requires a comprehensive ecological and economic approach, since effective indicators are worth attention only if the state of agro-ecosystems is improved and the production of agricultural products that meets international standards is ensured. In this context, the functioning of ecologically oriented entrepreneurship in the agricultural sector plays a strategically important role. Regarding the Carpathian region of Ukraine, proper assessment and effective use of its potential for increasing the volume of high-quality and safe products require increased state support for the formation of an agro-logistic hub of the regional economy.

Conclusions

In the conditions of martial law and the post-war recovery of the economy, the problem of effective use of the production and resource potential of the Carpathian region of Ukraine becomes especially urgent. Taking into account the possibility of establishing cross-border cooperation, deepening economic European integration with EU countries, an invaluable competitive advantage of regional agricultural producers of Ukraine is the establishment of production of various types of agro-food products with geographical indication.

The calculations carried out taking into account the production and resource potential of the Carpathian region of Ukraine show that there is a significant reserve for meeting the needs of middle-class consumers for certain types of organic products. Currently, in this region, under the conditions of the functioning and development of ecologically oriented entrepreneurship, the share of agricultural land and, in particular, especially valuable land to meet the needs of middle-class consumers in the production of dairy and meat products should be 3.0% and 19.3%, respectively. According to the calculations, the production of ecologically safe dairy products with a geographical indication will contribute to increasing the level of its profitability and provide prerequisites for the expanded reproduction of the industry.

Taking into account the favorable geopolitical position of the Carpathian region of Ukraine, in the conditions of martial law, its socio-economic role in preserving and restoring the land-resource potential, providing the population with high-quality and safe livestock products is

growing. In this regard, at different levels of management of the agricultural sector of the regional economy, it is necessary to develop programs for the development of small farms that carry out production activities in difficult conditions on sloping lands and grow labor-intensive products in the field of dairy and meat cattle breeding.

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