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# INNOVATIVE STRATEGY OF POST-WAR DEVELOPMENT OF AGRARIAN BUSINESS OF UKRAINE

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## ІННОВАЦІЙНА СТРАТЕГІЯ ПОВОЄННОГО РОЗВИТКУ АГРАРНОГО БІЗНЕСУ УКРАЇНИ

The article describes the need and importance of formation of the strategy of innovative development of agribusiness of Ukraine as the main condition for increasing the level of competitiveness and the possibility of achieving a high level of its development in the postwar period. It is determined that innovation generates positive structural shifts in the economy and society, contributes to the productivity of the economy, strengthens its ability to compete in the global environment with the economies of other countries of the world and ensure a sustainable growth rate in the long term.

The key problems faced by agribusiness in the conditions of martial law and unstable geopolitical situation are analyzed, in particular, reduced soil fertility, labor shortages, crop losses and market instability. To solve these problems, the authors proposed the application of an innovative strategy for the development of agribusiness. The proposed strategy should include a thorough analysis of the internal resources of enterprises to introduce innovations, as well as the possibility of attracting external innovations by using external ideas to take into account the innovative infrastructure. The experience of successful companies in this area testifies to the popularity of integrated, interactive and network models of innovative development, which allow maximizing the possibility of developing innovative solutions and introducing them into production.

Based on the realities of today, the innovation strategy should include full vertical integration with the provision of the production of necessary material and technical resources and means of production, the development of green energy on the basis of more complete recycling and the production of biofuels as an alternative type of energy, which will help to reduce energy dependence, ensure the export of agricultural products and rethink the set of crops grown with a focus on increasing productivity. The need to attract additional funding for the financial provision of innovative transformations in the form of new and unconventional financial instruments — innovative vouchers, crowdfunding systems and blockchain technologies has been substantiated.

У статті розкрито необхідність і значення формування стратегії інноваційного розвитку агробізнесу України як головної умови підвищення рівня конкурентоспроможності та можливості досягнення високого рівня його розвитку в післявоєнний період. Визначено, що інновації генерують позитивні структурні зрушення в економіці та суспільстві, сприяють підвищенню продуктивності економіки, посилюють її здатність конкурувати в глобальному середовищі з економіками інших країн світу та забезпечувати стійкі темпи зростання в довгостроковій перспективі.

Проаналізовано ключові проблеми, з якими стикається агробізнес в умовах воєнного стану та нестабільної геополітичної ситуації, зокрема зниження родючості ґрунтів, дефіцит робочої сили, втрати врожаю та нестабільність ринків. Для вирішення означених проблем авторами запропоновано застосування інноваційної стратегії розвитку агробізнесу. Запропонована стратегія має включати ретельний аналіз внутрішніх ресурсів підприємств щодо впровадження нововведень, а також можливість залучення зовнішніх інновацій шляхом використання зовнішніх ідей з урахування інноваційної інфраструктури. Досвід успішних компаній в цій сфері свідчить про популярність інтегрованих, інтерактивних та мережевих моделей інноваційного розвитку, що дозволяють максимально розширити можливості розробки новаторських рішень та впровадження їх у виробництво.

Виходячи з реалій сьогодення інноваційна стратегія повинна включати повну вертикальну інтеграцію із забезпеченням виробництва необхідних матеріально-технічних ресурсів і засобів виробництва, розвиток зеленої енергетики на основі повнішої переробки вторинних відходів і виробництво біопалива як альтернативного виду енергії, що сприятиме зниженню енергозалежності, забезпечення експорту аграрної продукції та переосмислення набору вирощуваних культур з фокусом на підвищенні продуктивності. Обґрунтовано необхідність залучення додаткового фінансування для фінансового забезпечення інноваційних перетворень у вигляді нових і нетрадиційних фінансових інструментів — інноваційних ваучерів, системи краудфандинг та технології блокчейн.

*Key words: Strategy, innovation, development, agribusiness. agricultural production.*  
*Ключові слова: Стратегія, інновації, розвиток, агробізнес. агровиробництво.*

#### FORMULATION OF THE PROBLEM

Innovative development of agribusiness is a determining factor in improving the efficiency of its functioning and adaptation to the needs of the market environment. Each enterprise that operates in the field of agricultural production should be innovative and active, develop an innovative strategy, which is one of the functional strategies of any enterprise.

Innovative strategy is one of the means to achieve the goals, which is different novelty. The innovative development strategy should be flexible and transform quickly in case of market changes. It should reflect the content and main directions of the process of innovative development.

Today, especially in martial law, the issue of creating a strategy for innovative development in agribusiness, which would include a thorough analysis of the internal resources of enterprises to introduce innovations, as well as the possibility of attracting external innovations by using external ideas and taking into account the innovative infrastructure, is increasingly relevant. The experience of successful companies in this area

testifies to the popularity of integrated, interactive and network models of innovative development, which allow maximizing the possibility of developing innovative solutions and introducing them into production.

#### ANALYSIS OF RECENT RESEARCH AND PUBLICATIONS

Many scientists explore agribusiness as a progressive and highly effective form of organization of agricultural production. But modern reality, including military events, poses numerous challenges to agribusiness. Occupation, fighting, pollution of territories and other factors require rethinking approaches to the functioning of agribusiness.

In particular, modern problems of formation and implementation of the strategy of innovative development of agrarian enterprises are considered in many scientific works of scientists: Amoshi, G. V. Voznyak, V. M. Geets, V. V. Zimovets, V. P. Ilchuk, I. M. Kobushko, O. M. Kolodizeva, G. E. Mazneva, D. I. Mazorenko, A.P. Radchenko, V.A. Fedoro-

vich, I. However, despite the large number of publications, it should be noted that issues related to the problems of innovative development require further research.

A wide range of issues related to the content and ways of improving the management of innovative activities of agricultural enterprises in the strategic context of their functioning and development have not yet been studied. In particular, we are talking about the role and choice of the innovation strategy of the enterprise depending on its specialization, saturation of the business portfolio, competitive status, system of ensuring competitiveness; its content, stages of formation, and implementation; formation of balanced portfolios of innovative strategies and effective system of management of innovative development of enterprise on their basis, etc.

### SETTING THE TASK

The article is aimed at the conditions of war, the study of the main problems of the functioning of agribusiness in the conditions of war and the definition of the main directions of the innovative strategy for the development of agribusiness of Ukraine in the postwar period.

### SUMMARY OF THE MAIN RESEARCH MATERIAL

Ukraine, historically known as the "breadbasket of Europe," is one of the largest agrarian states in Eastern Europe, where 33% of the world's black soil is concentrated. It has a favorable climate and proximity to the key markets of Europe, which means that it has long been a center of export of agricultural products with huge processing opportunities. By the beginning of the war, in 2021, the gross domestic product of the Ukrainian agricultural sector amounted to more than 10% of the country's total GDP, and the cost of exporting agricultural products amounted to about US \$22 billion. Ukraine confidently claimed the status of one of the largest guarantors of world food security [7].

Full-scale war became a real test for agribusiness, as it caused the destruction of processes, logistics chains that had been established for years, and a significant part of the sowing territories were mined or there was no access to it, equipment and warehouses were destroyed. Due to the fighting in Ukraine, according to KSE Agricultural Center estimates, more than 84 thousand units of agricultural machinery and equipment were destroyed or stolen by the invaders. The value of such property is estimated at almost \$2.9 billion, which will become 44% of all installed mechanical da-

mage to our agribusiness [9, 11].

The second article of damage caused to farmers is theft or the whole twisted destruction of already produced agricultural products. Ukraine suffered losses due to the loss of grain, oil and other agricultural products not only due to destruction, but also due to the systematic export of it by the invaders. During the war, according to the estimates of the Ministry of Agrarian Policy and the Agricultural Center of the KSE of the Russian Federation, 2.8 million tons of grain and 1.2 million tons of oilseed crops of 21 years were stolen or destroyed, with a total cost of \$1.87 billion. [10]

Currently, as a result of the hostilities, it was recorded that the capacity of granaries with a total capacity of 9.4 million tons was damaged or destroyed. The final keel the caste of lost capacity can be established only after the end of the war, since the fate of granaries in the temporarily occupied territories is not known for certain.

In addition to the above-mentioned losses, more than 14.3 thousand hectares of perennial plantations were destroyed in the territories affected by the war, The invaders also used fuel and lubricating mattes rials for the needs of their army, destroyed or appropriated crop protection products and mineral fertilizers for almost \$95 million. According to the latest calculations carried out by KSE Agrocenter and Agrarian Policy, the cost of losses of the agro-industrial complex of Ukraine caused as a result of aggressive actions of the Russian Federation, approximately \$6.6 billion The amount of the above losses them is 23% of the total value of agribusiness assets, that is, almost a quarter of the agricultural sector of Ukraine is destroyed [10].

Active hostilities also damaged domestic transport infrastructure (mainly railways) and seaports on the Black Sea, as well as the storage and processing infrastructure of agricultural products. Particularly problematic is the weakening of export capacity due to port closures and damage to elevators used for temporary grain storage. Efforts continue to increase Ukrainian agricultural exports through alternative transportation routes, such as by rail through neighboring countries and river barges. However, rail transport is holding back the shortage of rail cars in neighbouring countries.

However, the bravery of Ukrainian farmers has no limits, so despite the horror of the war this spring, they started sowing. Despite the composition of the conditions, agribusiness establishes logistics and cooperation with the foreign market, expands its production in the west of the country.

The destructive war of the Russian Federation against Ukraine has not yet ended, and the Ukrainian authorities, experts and scientists are already considering models of post-war restoration of the state, in particular the agricultural sector of Ukraine. After the Victory, Ukraine will face new challenges. The World Bank believes that our country's GDP, compared to 2022, will decrease by a third. The structure of the economy, the nature of investments will change, the labor market will be reformatted. Restoration and reconstruction will require more than \$349 billion. Also, the state needs to form the strategic foundations of a new innovative model of economic development.

The innovative model of economic development is the formalization of innovative priorities, directions, structures, motivations, mechanisms, strategies, projects and programs, etc., which are aimed at forming an innovative type of expanded reproduction of national economies [4].

The peculiarity and difference in the conditions of operation of agribusiness, the degree of its involvement in innovative processes create the need to form an appropriate innovation strategy, which provides for adequate financial support for its implementation. This ensures the strengthening of the competitive positions of domestic agricultural producers, who choose such a strategy and strengthen their export potential [6].

The strategy of innovative development of agribusiness should be aimed at spreading innovation in agribusiness and the greatest involvement of enterprises in this area in innovative activities. The development of the innovative development strategy involves the search for fundamentally new types of activities and technologies, methods of organization of production and sales of products. And the effectiveness of the innovation strategy will be manifested precisely in the growth of profits, the increase in market share and competitiveness of agricultural products, increasing the effectiveness of business processes, reducing costs, increasing the level of consumer satisfaction [2].

Even before the start of the war, state support for innovation was presented by the Order of the Cabinet of Ministers of Ukraine "On Approval of the Strategy for the Development of the Sphere of Innovation Activity for the Period until 2030" dated July 10, 2019 No. 526-r, which contains strategic objectives for goals in the agricultural sector as a substructure of the agro-industrial complex. As stated in the document, the leading place of economic growth can be the agricultural sector of the economy, which has very high

potential, which includes: the use of modern agricultural technologies, such as agricultural automation, precision farming, the development of biotechnology, the cultivation of organic products, the introduction of energy efficient and environmentally friendly production methods, which see the opportunity to obtain high yields and profitability from each hectare of agricultural land, and should become a leading impetus to economic growth and contribute to the development of all sectors of the economy, in particular agribusiness [3].

Also, the Ministry of Agrarian Policy and Food of Ukraine in early June 2023 presented to the public an innovative Strategy for the development of the agro-industrial complex for the next ten years, which provides for complete vertical integration, localization and import substitution in the agricultural sector of the economy [1].

A leading component of this strategy is full vertical integration with the production of the necessary material and technical resources and means of production. Its implementation is expected to significantly ensure a projected increase in the production of grain and oilseeds, as well as an increase in the internal processing and production of livestock and horticulture products. The main areas of this strategy are the restoration of irrigation for agricultural land, the gradual substitution of imported food products in the domestic market and the development of green energy based on more complete recycling and the production of biofuels as an alternative type of energy, which will reduce energy dependence.

Also, one of the equally important directions of the innovative strategy for the development of our country should be to ensure exports — not only in the interests of the national economy, but also in view of the importance of Ukrainian exports for the guaranteed supply of food to the world market. An important prerequisite for this is the repair of damaged or the construction of new granaries. Safe rail routes with appropriate cargo capacity are required to create alternatives to maritime exports. Currently, the most favorable option is rail transportation to the ports of Romania on the Black Sea. Rail transportation to Western Europe is not only will take much longer — the West lacks the necessary port capacity for further transportation of grain by sea. In addition, it is also important to create a reserve fleet of equipment (tractors, combines) and quickly replace the destroyed equipment. For this agribusiness, additional funding must be raised.

Today in Ukraine the grant method of financing agrarian startups on the basis of innovative

platforms and accelerators is gaining momentum. This demonstrates the strengthening of the role of new and unconventional tools for financing innovation in the field of agribusiness. Crowdfunding has become a new way to attract financial resources for innovation. He usually uses social networks, networks of family, friends and acquaintances to expand the circle of people who want to finance the project. A characteristic feature of agribusiness is the close connection between new innovations and consumers, since new innovative products usually act as consumer products. It should also take into account the significant relevance of food security in the eyes of the public. Therefore, agribusiness has a high potential to motivate a large number of people to finance new ideas. A possible solution for limited access to financing of smaller innovators in agricultural production is the decision to unite consumers and developers of product agroinnovations through crowdfunding. Crowdfunding in the United States has become widespread, European platforms are beginning to appear. Blockchain technology provides transparency and direct, accessible communication between the investor and the innovative agribusiness enterprise [5].

Also, one of the tools to ensure the stable development of agribusiness is the use of innovative financial instruments, in particular vouchers. An innovative agribusiness voucher is an irrevocable financial aid that collaborates with farmers on the one hand and research institutions to develop or implement technologies, innovations that contribute to the fertility of farmland, the development of green energy, biotechnology, reduce greenhouse gas emissions and reduce the harmful effects of agricultural production on the environment. A prerequisite and peculiarity of providing innovative vouchers is the cooperation of agribusiness with scientific institutions and higher education institutions [8].

Another of the equally important directions of the innovative strategy for the development of agribusiness should be the rethinking of the set of cultivated crops with a focus on increasing productivity. For example, Ukrainian lands are also suitable for growing soybeans (harsh winters, dry hot summers). To increase the productivity of agribusiness in general, it would be useful to increase the depth of processing, for example, to process grain for flour or use grain products in animal husbandry. A successful example is the processing of sunflower seeds for the production of sunflower oil, which will take several years to implement. At the same time, this indicates that the potential of switching to a higher stage of the

value chain in the near future is limited, since the installation of production facilities and the necessary infrastructure will take time. For example, in the case of export of flour instead of grain, the probability of introducing grain processing on flour in the next five years is estimated at about 20%. Finally, it would be advisable to increase investments in irrigation, which will increase gross production of crop production by restoring the targeted use of irrigation areas and increase the efficiency of crop production.

### **CONCLUSIONS FROM THE STUDY AND PROSPECTS FOR FURTHER EXPLORATION IN THIS DIRECTION**

Theoretical and practical problems of researching the issues of innovative activity of agribusiness in Ukraine have always occupied and will occupy a prominent place in the system of scientific research, and at the current stage of technological development and historical events they do not lose their relevance. And for any state, innovative activity as an important component of the development of the national economy, especially during the war and in the post-war period of reconstruction of the state's economic system, will always be the object of close attention of scientists and main subjects of production activities at both public and private levels.

Therefore, to ensure the effective functioning of the agribusiness of Ukraine, it is necessary to form strategies for its development on an innovative basis, the implementation of which will contribute not only to the creation of prerequisites for achieving an upward trend of economic growth of the state and its transition to sustainable development, but also to ensuring the economic security of enterprises and the state for the restoration of the country's economy in the postwar period. The implementation of this requires more detailed consideration of the outlined issues, which determines the prospects for further research on the problems of the study.

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