

MANAGEMENT OF FARM DEVELOPMENT AND THEIR ROLE IN THE SOCIO-ECONOMIC RECOVERY OF RURAL AREAS

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Abstract. Farms in the conditions of wartime uncertainty have been distinguished by their flexibility and ability to adapt to changing economic conditions in Ukraine, high maneuverability in relation to changing market conditions, and mobility and dynamism in terms of the possibility of their transformation, winding down and relocation of production. Farming, in which the capabilities of the family and the farm are harmoniously combined in the development of economic, environmental, social and cultural functions, has the greatest opportunities in ensuring the sustainable development of rural areas, as well as achieving resilience criteria, which makes the study of its development relevant. The purpose of the study is to determine the trends in the development of farms in Ukraine in the conditions of uncertainty caused by martial law and to substantiate measures to ensure their sustainable development. The generalization of scientific research made it possible to systematize the classification of farms by the criterion of agricultural land area and nature of activity. It was established that from the point of view of compliance with the principles of sustainable development, it is advisable to distinguish such promising types of farming as craft, organic, social, veteran and solidarity. The functions of farms in the post-war reconstruction of rural areas are substantiated.

According to the results of the assessment of the current state and development of farms in Ukraine, it was determined that the average area of one farm is 187 hectares, and the share of farms occupying an area of up to 100 hectares is 68.9% of the total number of farms. The largest group in terms of number (31.9%) is the group of farms with an area of 20-50 hectares. As a result of the negative impact of a number of factors caused by martial law, the value of the gross output of farms in Ukraine decreased by 4.5% in dynamics, in particular the value of the gross output of crop production - by 4.3%. The value of the gross output of livestock production fluctuates at the level of 6-7 billion UAH. with a slight adjustment for uncertainty conditions.

For the development of farms on the basis of sustainability, a set of measures is proposed based on stimulating innovative, social and institutional functionality.

Keywords: farming, crop production, economic growth, livestock production, yield, rural areas, sustainable development.

JEL Classification: Q12, O13, M21

1. INTRODUCTION

The development of the agrarian sector of the economy and rural areas institutionally depends on the factors of organization of economic interactions in the mechanism of market transactions. Business entities of various institutional types, which have economic potential and socially motivated capabilities, are involved in the implementation of agrarian market practices. In this context, farms play a special role

as subjects of moderation of motivations to preserve the countryside as an environment of life and business. So far in the modern history of Ukraine, this form of management has been characterized by a capable functionality in achieving the status of resilience of the agro-economic system under conditions of wartime uncertainty. This is a special context for understanding the institutional, social, and economic functionality of farms, which goes far beyond simple business practice carried out in the classical sense of market exchange transactions by a farmer-entrepreneur - activities for profit.

Farms ensure the development of rural areas and the economy on the basis of sustainability. In the face of wartime uncertainty, they have been distinguished by their flexibility and ability to adapt to changing economic conditions, their high maneuverability in response to changing market conditions, and their mobility and dynamism in terms of their ability to transform, scale down, and relocate production. While other forms of business have become more difficult to operate, farms have made an invaluable contribution to the sustainability of the food system, helping to preserve the national economy and its export potential, rebuilding infrastructure, and supporting the Ukrainian Armed Forces and volunteers.

At the same time, the specifics of the current stage of development of farms largely depend on factors caused by martial law, European integration processes, local and global transformations in general. The formation of an optimal model for the development of this type of farms requires specifying their role in ensuring the post-war restoration of rural areas and justifying a new agricultural policy.

2. THEORETICAL BACKGROUND

Farming, which harmoniously combines the capabilities of the family and the farm in the development of economic, environmental, social and cultural functions, has the greatest potential to ensure sustainable rural development and achieve resilience criteria, in particular in the face of wartime uncertainty. These business entities have an undeniable link to the natural and economic conditions of a particular territory, and acquire the characteristics of personal social capital in the organization of the agrarian business ecosystem. Researchers emphasize this capability of specialized farms (Duan & Pan, 2024), and we agree with this conclusion, because their founders, in our opinion, realize a special institutional status of their own employment - a combination of individual labor, private property, and entrepreneurial talent. In view of these features, we should agree with the idea that a peasant farmer will not stop farming even if it does not provide him with anything but an average salary (Borodina, 2022), or even simple self-sufficiency in food. At the same time (Ilchenko & Zastrozhnikova, 2022), "the successful development of farming and agrarian entrepreneurship depends on the success of communities". Indeed, it is impossible to imagine the development of agrarian entrepreneurship without the development of rural areas (Lopatynskyi et al., 2025), the welfare of the peasant as the main owner of the land. It is rightly believed that in order to maintain their current status, farmers should strengthen farm soil protection, implement soil protection policies, promote the use of organic fertilizers and biological fertilizers, and improve soil quality and yields; strengthen agricultural ecological culture inheritance activities on farms; carry out agricultural culture and rural tourism activities; and improve environmental awareness and environmental cultural literacy of farm operators and farmers (Duan & Pan, 2024).

Farms are: the most institutionally capable of ensuring the achievement of the criteria for sustainable rural development; an integral element of territorial entities and preservation of local culture, receive their income and sell their products mainly in local or regional markets, creating jobs both in agriculture and in other sectors of the economy; by size, mostly small and microenterprises, family-type in employment. Research on the achievement of the Sustainable Rural Development Goal also reveals the important role of farms, which, in the face of wartime uncertainty, continue to make a significant contribution to strengthening economic stability and ensuring the country's food security (Bolohan et al.,

2024).

Scholars focus on the challenges and problems of farming, emphasizing that this form of entrepreneurial activity requires extensive knowledge, skills and responsibility, as well as experience (Aslam et al., 2024). As experienced farmers are likely to be aware of business practices (Allaby et al., 2020) and factors that affect the business. Smaller farms can more easily solve the problems of location, infrastructure, manure disposal and utilization, pollution of the human environment and nature in general (Arsić et al., 2024), and contribute to the achievement of harmonious economic, social and environmental development and food security (Lopatynskyi, 2023).

Increased demand for agricultural products creates favorable conditions for farmers, as they can sell their products at more favorable prices. This, in turn, motivates them to expand production. As for credit, it does have a significant incentive effect, especially for farmers in developing countries (Akpan et al., 2024), in Pakistan, most farmers are hesitant to take out a loan due to difficult documentation procedures and loan conditions (Arsić et al., 2024). The lack of their own resources often prevents them from purchasing the necessary equipment, seeds, fertilizers, and other inputs needed for productive farming. By studying farming households, the authors (Becot et al., 2024) sought to understand how resources are shared, risks are managed, and ways to cope with shocks between different aspects of their farm and household activities, which would contribute to the social development of rural areas. Access to domestic credit on favorable terms helps to overcome these obstacles, increase production efficiency and expand operations.

In the context of wartime uncertainty, farms can reduce sourcing costs by selling products through online sales (O'Hara & Low, 2020), (Briggeman & Whitacre, 2010), and by selling part of their products through direct marketing channels (Plakias et al, 2019), due to farmers' improved use of direct marketing strategies (Adanacioglu, 2017), understanding of the types of distribution channels, main product, region, country, and farm location (Bauman et al., 2018). The Internet allows consumers to conveniently compare prices and quality of farm products with other online sellers, making e-commerce a valuable tool for farmers to remain competitive. The introduction of online commerce in farms can be an important support to ensure stable income, reduce risks, and contribute to economic development in difficult times.

3. RESEARCH OBJECTIVE, METHODOLOGY AND DATA

The information base of the study is based on the legal acts of the Verkhovna Rada of Ukraine, materials of ministries, publications of national and international news agencies, works of domestic and foreign scholars on the development of farms and family farms, their activities in wartime, and their role in the agricultural sector of the economy.

The main provisions of institutional economic theory served as the theoretical and methodological basis of the study. The systemic method of cognition is based on the historical experience of farm development, which considers the peculiarities of their formation and functioning in the conditions of military operations on the territory of Ukraine, as well as the economic characteristics of individual farm structures. Monographic, graphical, regulatory methods and approaches to determining the efficiency of activities and establishing the cause and effect of farms in the crisis conditions caused by military operations were used to make assessments.

To analyze the management directions of Ukrainian farms by various characteristics, such as the area of agricultural land, dynamics and structure of gross production, the study used the following methodological approach: selection of the object of study. The object of the study is Ukrainian farms. The grouping will be carried out by the area of agricultural land and other parameters that will allow us to characterize in more detail the structure and dynamics of gross output in different segments of farms. The grouping is based on official statistics (State Statistics Service of Ukraine, Ministry of Agrarian Policy, etc.) for each category, which allows to identify differences between groups in terms of

production volumes and specialization.

Structural analysis of gross output production is aimed at studying the structure of gross output in each group of farms (breakdown by product type). This helps to identify the specialization of farms by category and to understand their role in total production. The data on grouping and analysis of gross output dynamics are presented in the form of graphs, charts and tables, which facilitates visualization of the results. The obtained results allow us to formulate recommendations for improving production efficiency in farms of different categories, as well as to identify development priorities for each group of farms.

The proposed methodology will allow to systematically analyze the activities of Ukrainian farms, in particular, to determine the dynamics and structure of gross output, which is important for the formation of a policy to support and develop farming in Ukraine.

4. RESULTS AND DISCUSSION

There are three groups of functions of small agricultural producers: macro-level functions that are manifested at the level of the family, members of the farm; meso-level functions that are manifested at the level of rural areas, sectoral level; macro-level functions that are manifested at the national level. At the micro level, the function of social protection of the owners' families is crucial - these enterprises are the main source of income for their owners and the area of employment for their families (Yatsiv & Solovei, 2019). The social function performed by these farms at the meso-level is the reproduction of the rural population and the preservation of the rural settlement network. At the national level, the function of preserving the culture and traditions of the Ukrainian people is important.

The importance of small agricultural enterprises in the context of institutional changes is manifested through such functions as innovation, stimulation, financial, and social. In particular, the innovation function is manifested in the innovative approach of entrepreneurs to the organization of agricultural production. Stimulation of rural development through infrastructure development and increased employment is the basis of the stimulating function of small agricultural entrepreneurship. The financial function is due to the fact that small agricultural entrepreneurship is a significant source of local budget revenues. At the same time, small agrarian entrepreneurship is a socially responsible business, which is the essence of the social function, which is realized, in particular, through the development of social farming (Lopatynskyi et al., 2024).

Summarizing the above, it is advisable to determine the importance of farms in the post-war restoration of rural areas through the implementation of such functions as: stimulating, regulatory, resource-saving, financial, innovative, and social. The regulatory function is manifested by promoting the preservation of the rural way of life and the existing traditions of the respective rural areas. The resource-saving function is to introduce energy-saving solutions and apply resource-saving tillage technologies.

As summarized by Loch B., the differences in agriculture in the world can be characterized by two main indicators: farm size and productivity. About 73% of farms have an area of less than 1 hectare, 12% - from 1 to 2 hectares, 9% - from 2 to 5 hectares, and only 6% of farms have more than 5 hectares, of which less than 0.5% have an area of more than 100 hectares (Losch, 2022).

Fundamentally different historical and economic preconditions have contributed to the formation of farms in Ukraine that are much larger in size. Therefore, when grouping domestic farms by the area of agricultural land, a different differentiation should be used (Tab. 1).

Tab. 1

Types of farms

By the nature of the activity	By area of agricultural land
Traditional farming	Micro (1-20 ha)
Craft farming	Low-land (21-50 ha)
Organic farming	Small (51-200 ha)
Social farming	Medium (121-500 ha)
Veteran farming	Large (501 and more hectares)
Solidarity farming	

Source: authors' own generalizations

The active promotion of family farming based on individual peasant farms will provide training on sustainable farm development and the recovery of regions and the country as a whole. According to this statement, the active spread of family farming will contribute to the recovery of regions and the country as a whole. In this context, the emphasis on non-financial indicators and the role of small farms in local development are extremely important. This leads to the conclusion that in order to ensure the multilayered sustainability of agriculture, it is necessary to take into account not only economic profitability, but also social and environmental aspects (Dragomir et al., 2024).

From the perspective of sustainability, it is advisable to highlight such promising types of farming as craft, organic, social, veteran and solidarity farming. Social farming offers people with social, physical, mental or intellectual disabilities to spend time on a family farm in a healthy, supportive and inclusive environment, to lead a normal lifestyle, to interact with the community and the environment, and to teach elements of sustainable development. In Ukraine, the development of this type of farming is currently at an early stage, but in the context of post-war recovery it will be an objective requirement of the times. Veteran farming is similar in function, but with a specifically defined target audience. Solidarity farming is based on the principles of Community Supported Agriculture (CSA) and involves a partnership, usually formalized as separate contracts between each consumer and producer, characterized by mutual obligations to support each other (with money and products) over time.

In Ukraine, small and medium-sized commodity producers prevail in terms of land use (Tab. 2). Thus, the share of farms with an area of up to 100 hectares is 68.9% of the total number of farms. However, due to the multi-landed nature of large farms, the average area of one farm is almost twice as large as the prevailing area and amounts to 187 hectares.

Tab. 2

Grouping of farms by area of agricultural land in

Group range	Quantity, units	Share in quantity, %.	Area, ha	Share in the area, %.	Average area of 1 farm, ha
up to 5.0 hectares	1497	5,6	5	0,1	3
5.1 - 10.0 hectares	1579	5,9	12	0,3	8
10.1 - 20.0 hectares	2644	9,9	41	0,8	16
20.1 - 50.0 hectares	8507	31,9	320	6,4	38
50.1 - 100.0 hectares	4137	15,5	297	6,0	72
100.1 - 500.0 hectares	5884	22,1	1385	27,9	235
500.1 - 1000.0 hectares	1353	5,1	951	19,1	703
more than 1000.0 hectares	1028	3,9	1957	39,4	1903
Total	26629	100,0	4969	100,0	187

Source: calculated by the authors on the basis of statistical data

The group of farms with an area of 20-50 hectares is the largest in number and accounts for 31.9%.

The share of agricultural land in this group is only 6.4%, with an average area of 38 hectares per farm. The group of farms with the area of 100-500 hectares is the second largest by number of farms with a share of 22.1% and the second largest by share of agricultural land, namely 27.9%. The average area of one farm in this group reaches the equator of the group range and amounts to 235 hectares. The share of farms with the size of up to 5 hectares is only 5.6% in number and 0.1% in area of land with the average area of one farm of 3 hectares. While the share of farms larger than 1000 hectares is only 3.9% by number, this group accounts for 39.4% by land area with an average farm size of 1903 hectares.

Concentration is an objective regularity of agricultural production development, as its increase has a positive impact on the results of economic activity. However, the current average size of farmland in certain groups of farms does not ensure efficient and rational use of inputs due to the high material intensity of agricultural products. In addition, these farms do not receive additional income from economies of scale and cannot always receive certain types of state support that are targeted at farms larger than 100 hectares. At the same time, the predominant size of farms from 20 to 100 hectares in Ukraine is significantly higher than the average farm size in the EU, which is 17.4 hectares (Mamonova et al., 2023). It is also worth noting that in economically developed countries there is a tendency to reduce the number of farms while increasing their size.

Despite the set of development challenges faced by farms, especially family-type farms, they are making positive progress. The dynamics of gross output production by Ukrainian farms showed a similar trend from 2019 to 2023, namely: a decline in 2020 due to the corona crisis, recovery and reaching the optimal level in 2021, and a collapse due to martial law in 2022 (Fig. 1).

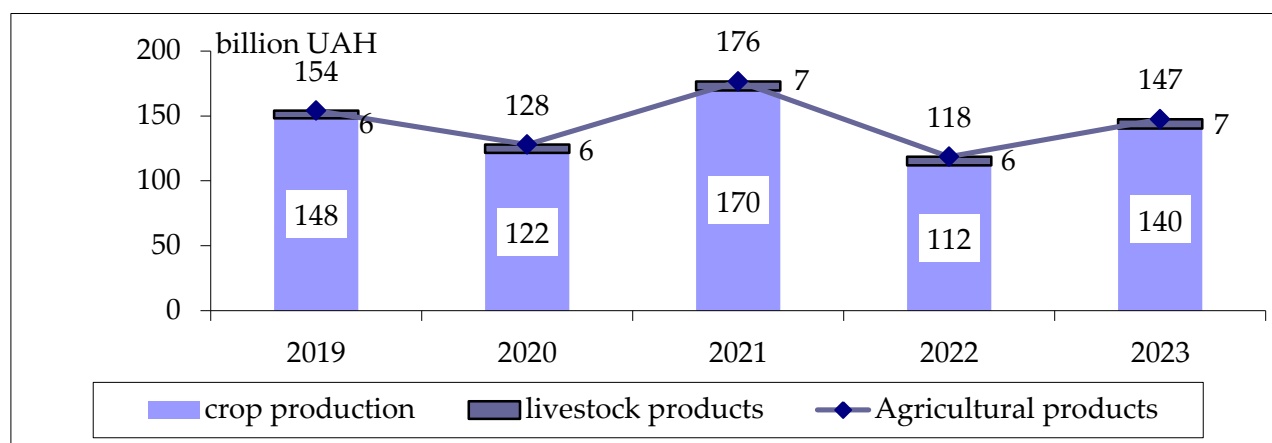


Fig.1. Dynamics of gross agricultural production of Ukrainian farms

Source: calculated and compiled by the State Statistics Service of Ukraine

In 2023, farms managed to increase their gross output somewhat, but it is still well below the level of pre-war 2021 and does not reach the pre-docking year of 2019. Crop production is an important branch of farms and agriculture in Ukraine in general. The importance of this sector is determined by its high level of gross farm output, its impact on the agricultural economy, and the level of food supply to the population. In recent years, the value of gross crop production has increased from 148 billion UAH in 2019 to 170 billion UAH in 2021, dropping again to 140 billion UAH in 2023, i.e. a 4.3% decrease in the dynamics.

The value of gross livestock production fluctuates between 6-7 billion UAH, with a slight adjustment for martial law conditions. A small share of livestock production is concentrated in farms, as they are not able to ensure high profitability of the livestock industry. Low profitability due to high production costs and labor intensity of livestock products result in low interest of farms in the livestock sector. At the same time, it is worth noting an increase in the share of livestock production provided by farms in the total value from 3.8% in 2019 to 4.8% in 2023. Increasing the production of high-quality livestock products to the level of meeting the needs of the country's population, improving the efficiency of the

industry and building the appropriate export potential to ensure competitiveness in the global market is an important task for farms at the present stage.

The dynamics of gross output by its types is shown in Tab. 3. A significant decrease in the overall level of gross crop production by farms in 2019-2023 is associated with a decrease in the value of gross production of cereals and legumes from 70779 to 59847 million UAH, or 15.4%. In turn, the dynamic changes in grains and legumes are directly related to a decrease in the value of spring and winter wheat from 32207 to 26888 million UAH, or 16.5%. It is worth emphasizing that the cost of barley grown in dynamite decreased by half. At the same time, there was a 5-fold increase in the value of buckwheat during the analyzed period. The most dynamic increase, despite the martial law crisis, was in 2022 (+ 67.4% compared to the previous year) and 2023 (+ 65.7% compared to the previous year), which shows the rapid response of farms to market needs. However, the share of buckwheat in the total value of gross production still remained insignificant - 0.4% and 0.5%.

Tab. 3

Production of gross output by Ukrainian farms (in constant prices of 2021), UAH million

Type of product	2019	2020	2021	2022	2023	Deviation of 2023 to	
						2019	2022
Cereals and legumes, including:	70779	59627	87702	52338	59847	84,6	114,3
wheat (winter and spring)	32207	29292	40987	24537	26888	83,5	109,6
Barley (winter and spring)	9007	6971	9644	4574	4751	52,7	103,9
corn	27993	21545	35149	22005	26216	93,7	119,1
buckwheat	151	234	289	484	802	530,2	165,8
Sugar beet	535	492	602	640	1062	198,5	165,9
Sunflower for grain	51661	41100	55162	34655	45378	87,8	130,9
Soybeans	9245	7491	9774	8953	13538	146,4	151,2
Rapeseed	11720	8880	11609	12128	16141	137,7	133,1
Potatoes	269	324	373	308	280	104,0	90,9
Vegetables	1367	1360	1146	454	1233	90,2	271,3
Fruit and berry crops	649	591	1046	916	997	153,6	108,9
Crop production	148141	121569	169558	112006	140330	94,7	125,3
Farm animals (rearing)	3721	4045	4517	4045	4353	117,0	107,6
cattle	534	572	572	606	673	126,0	111,1
pigs	1244	1315	1283	1129	1374	110,5	121,8
bird	1938	2145	2619	2282	2293	118,3	100,5
Milk	1772	1894	2066	2165	2395	135,1	110,6
Eggs	266	263	286	215	255	96,0	118,6
Livestock products	5825	6269	6918	6480	7080	121,5	109,3

Source: calculated and compiled by the State Statistics Service of Ukraine

Among the industrial crops, sugar beet grew the most dynamically from 535 million UAH to 1,062 million UAH, or 98.5%. In particular, the largest increase occurred in 2023. Also, the cost of rapeseed increased from 11720 to 16141 million UAH, or 37.7%, and the cost of soybeans from 9245 to 13538 million UAH, or 46.4%. Today, farmers are focusing on growing highly liquid crops, which led to an increase in the value of gross production of these technical crops, which are in high demand and have high export potential.

Vegetable crops were characterized by a significant drop in the value of gross production in 2022 to 454 million UAH, which was in particular caused by the occupation of the Kherson region. In 2023, due

to the reorientation of farms in the western regions of Ukraine to the needs of the market, the value of vegetables grown almost tripled. However, the value of grown vegetables at 1,233 million UAH still did not reach the level of the crisis year of 2019. Dynamic growth of 53.6% is also typical for fruit and berry plantations. The share of these crops in the value of gross output is small, so they did not have a significant impact on the overall level of gross output.

The growth in the value of gross livestock production was driven by a 17% increase in the gross value of livestock raised and a 35.1% increase in milk production. In 2023, 5.2% of cattle (including 3.6% of cows), 5.3% of pigs, 4.3% of sheep and goats were concentrated in Ukrainian farms. Farms occupy only 3.7% of all categories of farms in the cultivation of farm animals, and 3.8% in milk production, so the value of gross livestock production is quite small.

The martial law affected the value of gross farm output in terms of almost all types of products, which is reflected in the trends in volume changes. At the same time, such trends are a convincing indication that farms in the region, in the context of market transformations, prefer to grow those types of products for which there is a more favorable situation and steady market demand in a certain period.

The dynamics of the share of crop and livestock products in the gross output of Ukrainian farms is shown in Fig. 2. The analysis of the structure of gross output production by farms shows that during the study period the share of gross output of crop production fluctuated between 94-96%.

The structure of gross crop production of farms in 2019, namely 96.2%, was formed by the following types of products: sunflower — 33.6%, wheat — 20.9%, corn — 18.2%, rapeseed — 7.6%, soybeans — 6%, vegetables — 0.9%, other crop production — 9.0%. In 2023, the share of wheat in the structure of crop production by farms, namely 95.2%, was 18.2%, i.e. there was a downward trend by 2.7 p.p. compared to 2019. In 2023, sunflower had the highest share among all types of crop production — 30.8%, but compared to 2019, there was a decrease of 2.8 p.p. The share of corn production in farms was 17.8% in 2023 and decreased by 0.4 p.p. over the above period. The share of soybean production in farms in 2023 was 9.2% and increased by 3.2 p.p. over the above period. The share of rapeseed production in farms amounted to 10.9% in 2023 and decreased by 3.3 p.p. over the above period. In the structure of crop production on farms, the share of other types of products decreased to 7.5% in 2023, i.e. by 1.5 p.p.

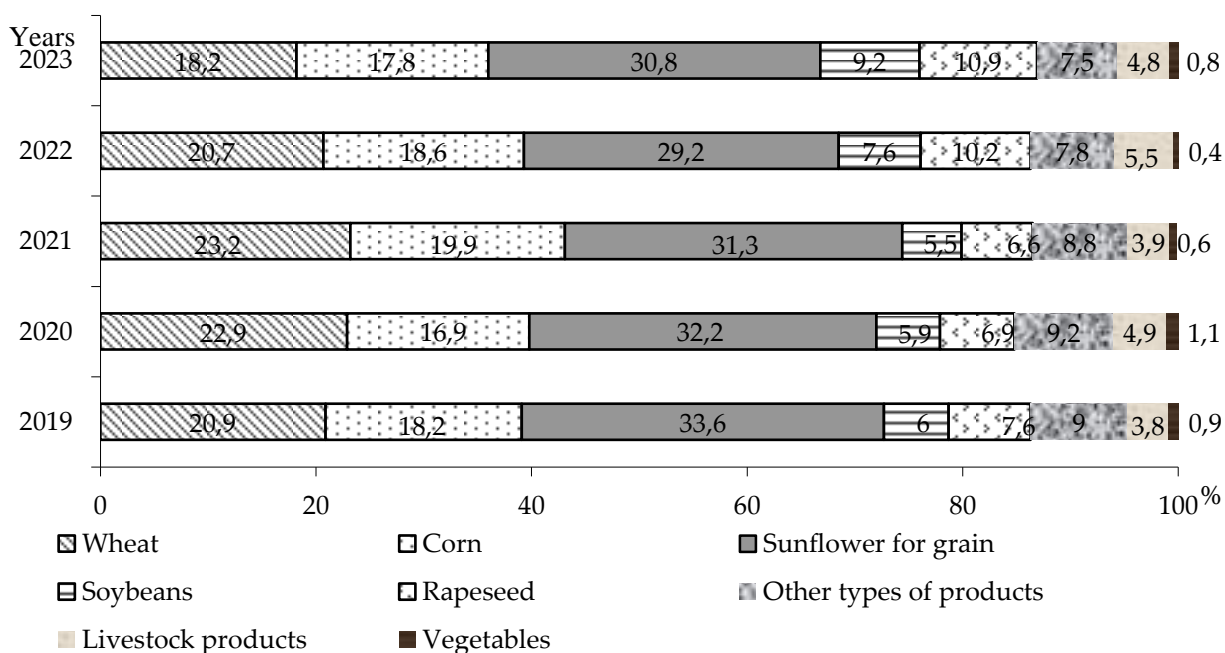


Fig. 2. Structure of gross output of Ukrainian farms, %

Source: calculated and compiled by the State Statistics Service of Ukraine

Farms play a significant role in providing livestock products to the population, but this industry is characterized by high labor intensity. In this regard, livestock farming is mostly carried out by small

farms, the main features of which are insufficient material interest in labor results, low level of production automation, poor technological and sometimes labor discipline. Such activities are not attractive to the able-bodied rural population, especially young people. Eliminating this problem is an important task in the process of ensuring post-war development of rural areas based on the goals of sustainable development.

A significant surplus of labor in rural areas has forced rural residents to engage in subsistence production of environmentally friendly agricultural products to survive. Rural families are increasingly establishing small farms and paying attention to their development. Farmers are putting a lot of effort into expanding and diversifying their agricultural products and succeeding in activities outside their territorial location.

The dynamics of crops sown by Ukrainian farms tends to decrease for most types of products (Tab. 4).

Tab. 4

Dynamics of sown areas of Ukrainian farms

Type of product	2019	2020	2021	2022	2023	Deviation of 2023 to	
						2019	2022
Cereals and legumes, including:	2610,1	2581,8	2815,0	2009,7	1868,9	71,6	93,0
wheat (winter and spring)	1321,4	1297,2	1472,2	1070,7	969,9	73,4	90,6
Barley (winter and spring)	482,1	406,8	442,9	263,8	223,4	46,3	84,7
corn	672,3	724,5	759,1	588,2	557,5	82,9	94,8
buckwheat	8,2	11,8	17,1	24,5	31,4	382,9	128,2
legumes	66,5	57,9	62,1	30,4	43,1	64,8	141,8
Sugar beet	9,0	9,6	9,4	9,5	15,3	170,0	161,1
Oilseeds	1863,0	1893,7	1919,2	1673,8	1918,7	103,0	114,6
sunflower for grain	1265,4	1366,1	1402,1	1095,1	1161,2	91,8	106,0
soybean	289,7	266,1	253,1	277,0	365,0	126,0	131,8
Rapeseed (winter and spring)	293,3	253,5	252,9	286,1	361,6	123,3	126,4
Potatoes	4,2	5,6	6,0	4,7	4,1	97,6	87,2
Vegetables	10,0	9,3	8,8	3,8	6,9	69,0	181,6
Fruit and berry plantations	11,9	10,2	10,2	8,8	8,7	73,1	98,9
Vineyards	2,2	1,8	1,6	1,5	1,4	63,6	93,3

Source: calculated and compiled by the State Statistics Service of Ukraine

An assessment of the dynamics of sown areas confirms that the area under cereals and pulses on farms decreased by 28.4%, including wheat by 26.6%, barley by 53.7%, and corn by 17.1%. The area under oilseeds increased by 3.0%, including 26.0% for soybeans and 23.3% for rapeseed. It is worth noting the 4-fold increase in buckwheat and 70% increase in sugar beet acreage. Growing vegetables, fruits and berries became a priority for farms under martial law, particularly in the western regions. However, at the national level, there has been a decrease in sown areas due to the destruction of farms in the frontline areas and the occupation of the territories where vegetable and berry growing was carried out.

During the study period, there was an increase in crop yields on farms, as can be seen in Tab. 5.

Dynamics of crop yields grown in Ukrainian farms

Type of product	2019	2020	2021	2022	2023	Deviation of 2023 to	
						2019	2022
Cereals and legumes, including:	44,0	37,4	50,4	41,8	51,3	116,6	122,7
wheat (winter and spring)	38,2	35,4	43,7	35,9	43,5	113,9	121,2
rye	31,2	39,5	36,6	32,1	33,2	106,4	103,5
Barley (winter and spring)	32,8	30,1	38,3	30,5	37,3	113,7	122,3
corn	67,8	48,4	75,4	60,9	76,5	112,8	125,6
buckwheat	10,7	10,9	9,5	11,2	14,4	134,6	128,6
legumes	20,9	19,6	22,8	21,1	24,1	115,3	114,2
Sugar beet	502,8	445,1	549,6	587,4	600,0	119,3	102,1
Oilseeds	23,8	18,5	24,4	20,4	24,1	101,3	118,1
sunflower for grain	24,5	18,0	23,6	19,0	23,4	95,5	123,2
soybean	20,5	18,1	24,9	20,8	23,9	116,6	114,9
Rapeseed (winter and spring)	24,8	21,8	28,5	26,3	27,7	111,7	105,3
Potatoes	196,9	196,8	215,5	226,7	236,2	120,0	104,2
Vegetables	453,0	472,4	435,4	343,6	427,4	94,3	124,4
Fruit and berry crops	83,7	86,8	154,9	154,4	175,5	209,7	113,7

Source: calculated and compiled by the State Statistics Service of Ukraine

As shown in the table, the yields of most of the crops analyzed on farms increased in 2023 compared to 2019, due to the use of the best hybrids and technologies. Thanks to high-quality seeds that farms received, in particular through the USAID Agro program, the productivity, profitability, and stability of crop production by farms are increasing. The following changes occurred in 2019-2023 by product type: wheat yields increased by 13.9%, corn by 12.8%, buckwheat by 34.6%, rapeseed by 11.7%, soybeans by 16.6%, and potatoes by 20.0%. However, there was a decrease in sunflower yields by 4.5%, vegetables by 5.7%, and grapes by 20.7%.

The yield of fruit and berry crops grew most dynamically, doubling. This result was facilitated by farmers' focus on the needs of domestic and foreign markets and government grant support for the development of horticulture and berry growing.

Despite the fact that grain yields on farms reach 50 cwt/ha, they are still insufficient, as Ukrainian farmers have lower yields than in developed countries with better soil quality. The lower yields of major crops are due to insufficient technical support, which leads to poor quality of cultivation and missed deadlines. In Ukraine, farms mainly use simplified cultivation technologies and only 60-70% of the sown areas are fertilized, while the doses of mineral fertilizers are 2-4 times lower than technologically necessary.

Despite a combination of subjective and objective difficulties, farms have found their economic niche in the agricultural sector of the country's economy. Farms are perhaps the main factor in the post-war recovery of rural areas, focusing their activities on saturating the market with organic consumption products and contributing to the reduction of unemployment in rural areas. The development of farming is one of the ways to preserve the Ukrainian countryside as an administrative and social entity.

The provision of farms with inputs and their rational use is crucial for the production of high-quality agricultural products and increasing their efficiency. As a result of fundamental socio-economic transformations in ownership, land and property relations in rural areas, new methods of production and management are being introduced on farms. However, new technologies and technical support for

production processes are unaffordable for most farmers due to their high cost. Measures to rationalize production are insignificant and are not always accompanied by a steady increase in the efficiency of farms.

The decentralization process makes it possible to develop farms, unite producers and encourage them to cooperate. "At the same time, the degree and mechanisms of state support for the development of entrepreneurship in rural areas should not replace entrepreneurial initiative, but rather promote self-organization, self-regulation, self-development, self-control and self-activation of entrepreneurship" (Lopatynskyi et. al, 2021).

The expansion of farms based on compliance with sustainable development goals includes the following opportunities:

- implementing the principles of sustainable production and renewable energy sources;
- synergy of agricultural activities and agritourism;
- introduction of organic production;
- the use of hydroponic technologies that allow plants to be grown without soil, with full control over nutrients and water supply;
- use of precision farming technologies that allow for precise control over the application of fertilizers and chemicals;
- the use of unmanned and other innovative technologies that allow us to effectively monitor the condition of crops, apply fertilizers in a timely manner and fight pests, increasing productivity and yields;
- introduction of vertical farms that allow growing fresh organic products in cities, close to consumers, with optimal use of resources and minimal impact on the climate.
- formation of community gardens and summer cottage communities.

A farmer combines the qualities of an entrepreneur, manager, owner, and employee in one person, and provides jobs by hiring seasonal workers and those working under an employment contract. However, small farms are currently few in number and small in size, so they cannot yet fully solve the problem of rural employment.

For the organizational and economic stimulation of family farms, it is important to introduce organizational innovations, among which the activation of niche and exclusive activities should be distinguished. In support of this, it is necessary to create a system of agricultural innovation that supports farmers as innovators, promotes interaction with formal research, provides training resources for the development of innovations in different sectors (Baliwada, 2018), and promotes diversified and innovative food systems (United Nations Decade, 2019). Mulyk, T. & Mulyk, Y. (2020) also prove that different types of innovations have an impact on the efficiency and development of farms. These forms of employment are the most institutionally accessible for Ukrainian peasants, as there is sufficient land available for the development of family farming, provided that peasants are active in implementing their own strategy. The implementation of farms' own strategy includes a planned course of action and the ability to respond to changes in the external environment, which is necessary to increase production efficiency and economic development (Tomashuk et al., 2024). The need to develop sustainable business models in the agricultural sector is also emphasized (Kyfyak, et al., 2024), which include a planned course of action and the ability to respond to changes in the external environment, is necessary to increase production efficiency and economic development of the company. Niche farming should be institutionally stimulated to develop on the basis of households, in particular, private peasant farms, which in the future should become family farms. It has been proven that the main motivations for agricultural entrepreneurship are profit and meeting growing demand, while farmers take into account stability, financing, marketing, and climatic conditions to achieve higher incomes and social respect (Özgür et al., 2024).

Structural changes and institutional transformations in the economies of many countries are now being emphasized (Kraus, 2024) as a result of scientific and technological progress and innovative

development.

Family farms, given that agricultural production has always been and will remain the basis for national welfare, play a significant role in the formation of a green economy and will be influenced by green policies. "Greening" the economic activities of family farmers makes sense and is valuable for achieving the principles of sustainable development, as this type of economic entity globally determines food security and trends in territorial development (Lopatynskyi et al., 2023). Family farms, being the basis of national welfare, are key actors in the transition to a green economy, as their activities have the potential to achieve sustainable development goals, strengthen food security and sustainable territorial development. At the same time, they can make a significant contribution to the development of the processing industry, especially in the rapeseed segment, where small farms should strive to sell their products independently to avoid dependence on intermediaries and obtain better conditions for sales (Humeniuk et al., 2021).

Farms play an important role in solving the problem of youth employment, as the inability to find a job has a number of negative consequences both for the young person and for society as a whole. Youth farming has two main functions, namely economic and social. In this context, a factor analysis conducted by Hansson et al. (2013) revealed the following key motive for starting businesses outside of traditional agriculture: "developing a business for social interaction and supporting a certain lifestyle". The economic role of youth entrepreneurship lies in the ability to be realized even in the absence of financial, material and information resources, using innovative ideas and strong motivation to achieve the goal, and the social aspect is manifested through job creation, promoting the realization of youth potential and solving employment problems (Moroziuk et al., 2019).

5. CONCLUSIONS

The key role of farms in preserving and developing local markets and food supply chains during martial law necessitates a change in agricultural policy in the future and its transformation into a more farm-friendly one. Accordingly, the post-war agricultural system should be aimed at creating competitive farms with sufficient jobs in each rural community. A number of such measures will gradually solve many of the wartime problems and give impetus to the postwar recovery of rural areas. The "greening" of farmers' economic activity contributes to the achievement of sustainable development goals, while the development of youth entrepreneurship provides employment and promotes social integration, which has a significant impact on the socio-economic well-being of rural areas.

To ensure the continued successful operation of farms and their positive impact on rural development and post-war recovery, it is necessary to create a favorable competitive environment, a stable regulatory framework, an effective economic and financial system, support for these farms by government agencies at the local level, and a flexible system of credit and taxation benefits.

Farms have significant potential for development through cooperation, which will help minimize losses and increase competitiveness. Cooperation will allow pooling resources, sharing land, machinery, warehouses, and joint promotion of products, which will reduce costs and increase profits. Support for innovation and the creation of agricultural innovation systems will promote the development of family farms, the expansion of niche areas and increase their efficiency, which is especially important for rural employment.

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Шпикуляк Олександр, Гуменюк Мар'яна, Шеленко Діана, Неміш Дмитро, Баланюк Сергій. Фермерські господарства в умовах невизначеності воєнного часу та їх внесок у розвиток економіки. *Журнал Прикарпатського університету імені Василя Стефаника*, **12** (2) (2025), 101-115.

Фермерські господарства в умовах невизначеності воєнного часу відзначилися гнучкістю і здатністю пристосовуватися до зміни економічних умов в Україні, високою маневреністю стосовно зміни ринкової кон'юктури та мобільністю і динамічністю з погляду можливості їх трансформування, згортання та релокації виробництва. Фермерство, у якому гармонійно поєднуються можливості сім'ї і ферми у розвитку економічних, екологічних, соціальних та культурних функцій, має найбільші можливості у забезпеченні сталого розвитку сільських територій, а також досягненні критеріїв резильєнтності, що актуалізує дослідження його розвитку. Метою дослідження є визначення тенденцій розвитку фермерських господарств України в умовах невизначеності зумовлених воєнним станом та обґрунтування заходів щодо забезпечення їх сталого розвитку. Узагальнення наукових досліджень дало можливість систематизувати класифікацію фермерських господарств за критерієм площі сільськогосподарських угідь та характером діяльності. Встановлено, що з погляду дотримання принципів сталого розвитку, доцільно виділити такі перспективні види фермерства, як крафтове, органічне, соціальне, ветеранське та солідарне. Обґрунтовано функції фермерських господарств в умовах повоєнного відновлення сільських територій.

За результатами оцінки сучасного стану та розвитку фермерських господарств в Україні, визначено, що середня площа одного фермерського господарства становить 187 га, а частка фермерських господарств, які займають площу до 100 га – 68,9% від загальної кількості фермерських господарств. Найбільш чисельною за кількістю (31,9%) є група фермерських господарств площею 20-50 га. В результаті негативного впливу ряду чинників обумовлених воєнним станом в динаміці вартість валової продукції фермерських господарств України зменшилася на 4,5%, зокрема вартість валової продукції рослинництва – на 4,3%. Вартість валової продукції тваринництва коливається на рівні 6-7 млрд грн. з незначною поправкою на умови невизначеності.

Для розвитку фермерських господарств на засадах сталості пропонується сукупність заходів на основі стимулювання інноваційного, соціального та інституційного функціоналу.

Ключові слова: фермерське господарство, продукція рослинництва, економічне зростання, продукція тваринництва, урожайність, сільські території, сталий розвиток.