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ORGANIC AGRICULTURE AS A DRIVER OF SUSTAINABLE DEVELOPMENT OF AGRICULTURAL REGIONS OF UKRAINE

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ОРГАНІЧНЕ СІЛЬСЬКЕ ГОСПОДАРСТВО ЯК ДРАЙВЕР СТАЛОГО РОЗВИТКУ АГРАРНИХ РЕГІОНІВ УКРАЇНИ

The purpose of the study is to substantiate the foundations for the development of organic agriculture as a factor in the transformation of agricultural regions of Ukraine. The focus is placed on the dynamics of selected indicators and the logic of changes manifested through the interaction of production, environmental, and managerial processes. This perspective shapes the content of the research, where the analysis is aimed at identifying structural shifts in the functioning of the organic sector. The research methodology is based on a combination of statistical analysis, a comparative approach, and analytical generalization of data for the period 2019-2024. Indicators of organic farmland area, the number of operators, the ecological condition of agricultural production, and the volume of the domestic market were examined. The analytical framework is constructed through comparing dynamics and identifying hidden interdependencies in the functioning of agricultural production in Ukraine. The results indicate that the organic sector develops unevenly, simultaneously

demonstrating both stabilizing and crisis tendencies. On the one hand, the institutional basis of functioning and export orientation remain preserved; on the other hand, there is a reduction in land areas and a transformation of domestic demand. It is revealed that producers do not exit the market completely but adjust the scale of their activities, which leads to a concentration effect. Spatial analysis shows that the most favorable conditions are formed in regions with developed logistics and a stable institutional environment, while other territories have significantly more limited recovery potential. The practical significance of the obtained results lies in outlining development directions for the organic sector that take into account regional clustering, existing institutional constraints, and the need for integration into external markets. The proposed approaches are focused on improving management efficiency, developing processing capacities, and aligning economic parameters with environmental requirements. The originality of the study lies in the comprehensive integration of regional, economic, and institutional analysis.

У статті обґрунтовано засади розвитку органічного сільського господарства як чинника трансформації аграрних регіонів України в умовах структурних економічних змін, екологічних викликів і посилення зовнішніх ризиків. Дослідницька увага зосереджена на виявленні логіки змін, що проявляються через взаємодію виробничих, природоохоронних та управлінських процесів, а також через просторову нерівномірність розвитку органічного сектору. Методологічну основу дослідження становить поєднання статистичного аналізу, порівняльного підходу та аналітичного узагальнення даних за 2019–2024 рр. У роботі проаналізовано динаміку площ органічних земель, кількість операторів ринку, окремі індикатори екологічного стану аграрного виробництва, параметри внутрішнього ринку та регіональні відмінності у відновлювальному потенціалі органічного сектору. Встановлено, що розвиток органічного виробництва в Україні має нерівномірний характер і поєднує стабілізаційні та кризові тенденції. З

одного боку, зберігаються інституційна основа функціонування сектору, експортна орієнтація та адаптаційна здатність виробників, з іншого — спостерігаються скорочення площ, звуження внутрішнього попиту та територіальна концентрація активності у відносно безпечних і логістично доступних регіонах. Доведено, що виробники не залишають ринок остаточно, а змінюють масштаби діяльності, що формує ефект концентрації та структурного перерозподілу ресурсів. Практичне значення одержаних результатів полягає в окресленні напрямів розвитку органічного сектору з урахуванням кластеризації регіонів, інституційних обмежень, потреби в розвитку переробки, цифровізації управління та інтеграції до зовнішніх ринків. Оригінальність дослідження полягає у комплексному поєднанні регіонального, економічного та інституційного аналізу органічного сільського господарства як драйвера сталого розвитку аграрних регіонів України. Запропоновані підходи орієнтовані на підвищення ефективності управлінських рішень, посилення кооперації між виробниками, переробниками і логістичними структурами, а також на узгодження економічних параметрів розвитку з екологічними вимогами та принципами сталого територіального зростання.

Keywords: *organic agriculture, sustainable regional development, agricultural economy of Ukraine, production clustering, greening of the agricultural sector, institutional support.*

Ключові слова*: органічне сільське господарство, сталий розвиток регіонів, аграрна економіка України, кластеризація виробництва, екологізація агросектору, інституційне забезпечення.*

General statement of the problem and its connection with important scientific and practical tasks

The impact of organic production on the restructuring of Ukraine's agricultural economy is gradually going beyond individual business decisions and is increasingly clearly outlining the contours of regional development. The

development of the organic sector creates new requirements for the structure of resource use, the quality of management decisions, and the nature of interaction between market participants. This, in our opinion, is what makes this study relevant. Changes are being recorded not only at the level of individual agricultural enterprises, but also on the scale of entire territories, where the logic of economic specialization, employment structure, and configuration of environmental risks are being transformed. Even in the face of instability, organic production retains the ability to influence the long-term transformation of agricultural regions.

At the same time, the development of Ukraine's organic sector is uneven. There are significant territorial disparities and institutional constraints that hinder its spread. The problem is that, due to the lack of a coherent model for integrating organic production into the regional development system, its potential is not fully utilized. Therefore, the research task is to identify managerial and economic approaches that would synchronize production, environmental and territorial processes. This will allow the organic sector to become not a separate segment, but an integral part of a holistic model of sustainable development of Ukraine's agricultural regions.

Analysis of the latest research and publications

The work of Budziak O. S. and Budziak V. S. [1] investigates the transformation of organic land use in Ukraine under the influence of modern challenges. The authors show that the development of the sector is accompanied by the complication of management processes and increased resource constraints. At the same time, the aspects of long-term stabilization of land relations, especially those related to regional inequality, have been overlooked. The functioning of the organic market in the context of military changes is considered by Drebot O. I. and Melnykov O. V. [4]. The researchers emphasize the decline in domestic demand and changes in the structure of exports. However, the issue of adaptation of enterprises to new risks is not sufficiently covered. Danyuk Y. with co-authors [3] presents the results of the analysis of the development of organic production in the

national economy. It is shown that the sector has the potential for growth with proper institutional support. At the same time, the issue of coordination between producers and processors remains open.

Innovative approaches to the development of organic farming are presented in the publication by Kuznetsova M. A. and Labunska O. B. [7]. The authors conclude that the introduction of technologies increases production efficiency, but the impact of these innovations on regional economic systems remains insufficiently studied. The strategic management of the organic sector is analyzed in the work of Lozhachevska O. M. et al [8]. As noted, the competitiveness of enterprises depends on the level of innovation activity. However, the issue of integrating these strategies into the context of territorial development has not yet been properly addressed.

The role of organic farming in ensuring food security was assessed by Pavlenko O. M. [12]. The study shows that environmental practices contribute to improving product quality, but the economic limitations of scaling are only partially revealed. Regulation of the organic sector in line with EU requirements was the subject of a scientific publication by Prokopenko K. O. and Udova L. O. [13]. The authors argue that harmonization of legislation stimulates market development. At the same time, the issues of adapting national control mechanisms to European standards remain controversial. The impact of military factors on the export of organic products is analyzed in the study by Sirenko N. et al [22]. The authors emphasize the change in logistics routes and the reduction in supply volumes, but the possibilities of restoring export potential are not fully covered.

The management of investment processes in cluster structures is considered by V. V. Makedon and O. G. Mykhailenko [9]. The results show that the integration of resources increases the efficiency of enterprise development. However, the issues of applying cluster models directly in the field of organic production remain unresolved. The above suggests that it is important to conduct a study aimed at forming a comprehensive model of organic agriculture

development. The new model should combine institutional, economic, and regional aspects, taking into account current challenges and transformational movements.

Aim of the study

The aim of the article is to substantiate the principles of ensuring the development of organic agriculture in Ukraine as a factor of regional growth.

Research objectives:

- to identify patterns of transformation in the organic agricultural production sector;
- to assess the impact of organic production on the state of agricultural territories of Ukraine;
- to develop practical proposals for ensuring the integration of organic production into the model of sustainable development of Ukrainian regions.

Presentation of the main material

The processes of changing the configuration of Ukraine's agrarian development under the influence of organic agriculture are not recorded in declarative assessments, but in gradual shifts in statistical parameters. The organic sector does not move evenly; it responds to external shocks, institutional constraints, and internal economic incentives. This creates a complex trajectory of its development. There is a certain logic in the dynamics of Ukraine's organic land area, which seems to combine a phase of inertial growth with subsequent adjustment under the influence of crisis factors. Until 2021, the system demonstrated relative stability and even cautious expansion, while after 2022 the situation is changing, not immediately, but through the gradual accumulation of negative effects (Table 1) [11, p. 259].

A look at the values of the indicators in Table 1 forces us to slightly change the interpretation of the process. Growth through 2021 looks moderate but stable. As a result, a certain base of organic production has been formed. But the problem is that this base is not sufficiently resistant to external influences. After 2022, the

reduction of areas becomes systemic rather than random, and this probably means that the organic sector has not yet gained structural autonomy [10].

Table 1. Dynamics of the area of organic farmland in Ukraine in 2019–2024

№ з	Year	Total land area, thousand hectares	Organic land, thousand hectares	Share of organic, %.	Growth rate, %.
1	2019	41450	462	1,11	2,8
2	2020	41300	468	1,13	1,3
3	2021	41250	485	1,18	3,6
4	2022	40900	430	1,05	-11,3
5	2023	40500	398	0,98	-7,4
6	2024	40200	349	0,87	-12,3

Source: compiled by the author based on [10].

Against this background, there is an internal tension in the analysis. On the one hand, environmental requirements and demand for organic products remain, and on the other hand, production risks are increasing dramatically. The answer seems to be quite pragmatic: farmers are reducing their organic areas, while keeping those plots that are economically viable. The change in the number of organic market operators provides another dimension to this process, and it is less dramatic than the dynamics of the area, as shown in Figure 1.

Figure 1 shows a more complex adaptation. The number of operators is not falling as fast as the area. This is due to the fact that enterprises do not leave the sector completely, but rather reconsider the scale of their activities. As a result, a compression effect is formed, when a smaller amount of land is serviced by approximately the same number of entities. This raises another point. Does this mean a crisis in the agricultural sector? Most likely, it is a phase of structural adjustment, when weaker players leave and more adapted ones stay.

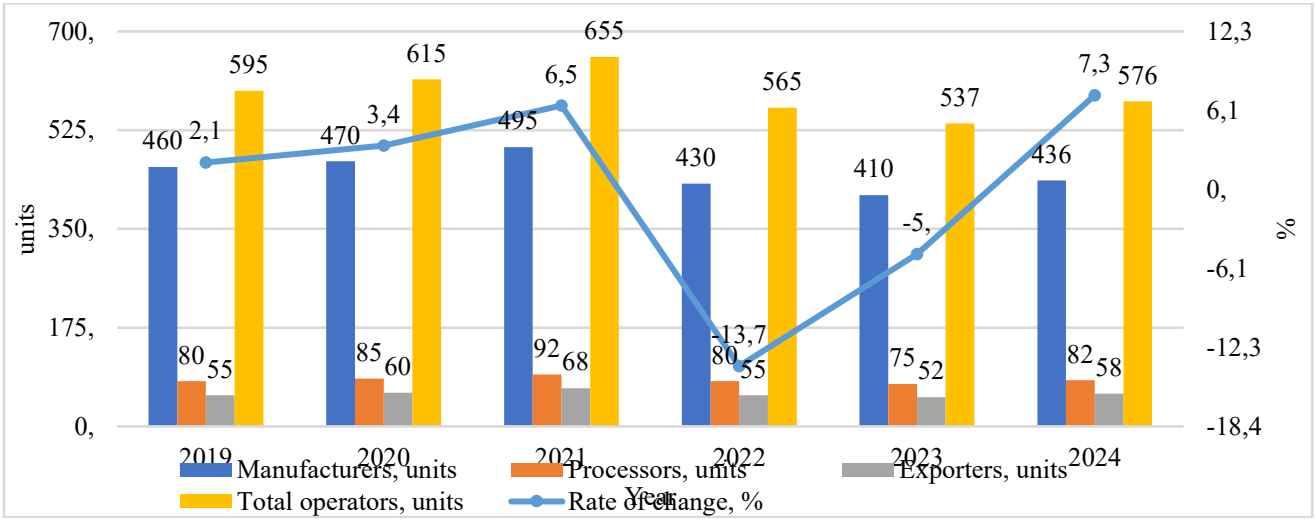

Fig. 1. Number of organic market operators in Ukraine (2019–2024)

Source: constructed by the author based on [15]

Environmental parameters add another layer of complexity to this analysis that cannot be ignored, even if it is not always obvious at first glance (Table 2).

Table 2. Indicators of the environmental status of agricultural production in Ukraine (2019–2024)

No.	Year	Nitrates in water, mg/L	Fertilizer use, kg/ha	Pesticide use, kg/ha	Humus content, %
1	2019	46	108	1.40	3.3
2	2020	48	112	1.45	3.2
3	2021	50	118	1.52	3.1
4	2022	55	120	1.60	3.0
5	2023	57	122	1.63	2.9
6	2024	60	125	1.68	2.8

Source: constructed by the author based on [10, 14]

The trends in these indicators are quite alarming. Nitrate levels are rising, and the use of fertilizers and pesticides is also showing a gradual increase. At the same time, a decrease in humus content is observed. This means that the overall land use model remains intensive, despite the development of the organic sector in Ukraine. And here a certain contradiction arises. Organic production is touted as an alternative to degradation processes. But its share does not yet allow for a systemic change. The answer to this seems quite simple, though not optimistic: the scale of

the organic sector in Ukraine's regions is still insufficient to produce a systemic effect. The regional breakdown in Table 3 illustrates how these processes are distributed spatially [18].

Table 3. Regional distribution of organic production in Ukraine (2024)

No.	Region	Area of organic farmland, ha	Number of operators	Share in the region, %
1	Vinnytsia	24,500	32	1.8
2	Volyn	13,200	18	1.5
3	Dnipropetrovsk	9,800	14	0.9
4	Donetsk	1200	3	0.2
5	Zhytomyr	17,800	21	1.6
6	Transcarpathian	8,600	12	1.7
7	Zaporizhzhia	5,200	9	0.6
8	Ivano-Frankivsk	15,400	20	1.9
9	Kyiv	20100	27	1.4
10	Kirovohrad	11,300	16	1.0
11	Luhansk	900	2	0.1
12	Lviv	18,900	25	1.8
13	Mykolaiv	7,600	11	0.7
14	Odesa	22,400	29	1.3
15	Poltava	14200	19	1.2
16	Rivne	12,100	17	1.5
17	Sumy	9700	13	1.1
18	Ternopil	16,800	22	2.0
19	Kharkiv	8,400	12	0.8
20	Kherson	6100	8	0.6
21	Khmelnytskyi	17,500	23	1.9
22	Cherkasy	13,100	18	1.3
23	Chernivtsi	9400	13	1.6
24	Chernihiv	11,800	16	1.2

Source: compiled by the author based on [10]

Table 3 shows the concentration of organic production in the western and partly central regions. Where the agricultural structure is less intensive, the transition to organic practices is easier. This is due to the fact that the initial level of chemicalization is lower and environmental risks are lower. At the same time, the eastern and southern regions demonstrate much lower rates. The main reason is not only the military events, although they play a significant role. The fact is that these regions have traditionally been focused on intensive agricultural production, which makes the transition to organic standards difficult.

Domestically, the consumer segment proved to be the most sensitive. The pre-war trajectory was still upward, but after the outbreak of a full-scale war, the purchasing power of the population decreased, and organic products, which were already more expensive than mass-produced counterparts, began to lose some of their domestic demand. This does not mean the destruction of the market as such. Rather, it is a matter of its over-compaction, when sales are concentrated in narrow segments, and producers are forced to reconsider sales channels, processing volumes, and product niches. This shift is particularly evident in the dynamics of the domestic market in 2020-2024 (Table 4).

Table 4. Dynamics of Ukraine's domestic organic market in 2020–2024

No.	Year	Domestic market volume, million euros	Base index, 2020 = 100	Year-over-year change, %	Deviation from 2021 peak, %
1	2020	38.0	100.0	0.0	-2.6
2	2021	39.0	102.6	2.6	0.0
3	2022	29.0	76.3	-25.6	-25.6
4	2023	25.0	65.8	-13.8	-35.9
5	2024	27.0	71.1	8.0	-30.8
6	Average for 2020–2024	31.6	83.2	-7.2	-19.0

Source: compiled by the author based on [15, 17]

The values in Table 4 show not a one-time slump, but a structural contraction in domestic organic consumption. In 2024, the market partially recovered from its 2023 low, but it is still almost a third behind its prewar peak. This seems to mean not only a decline in demand, but also a change in its composition. Consumption is likely to be concentrated in larger cities, in direct sales channels, and in products with higher trust in origin, while the broader everyday segment has not disappeared, but has become more cautious [19, p. 171]. Thus, organic producers are increasingly working not with mass buyers, but with a narrow, more stable group of consumers.

The recorded internal decline is also interesting because it does not literally coincide with the market exit of producers from the industry. Some farms remained on the market, but started operating in a different mode, with smaller areas, a changed product structure, and a greater emphasis on processing or export contracts. That is why it is advisable to look not only at the absolute number of operators or hectares, but also at the density of organizational presence per unit of land area. This situation better shows whether the sector is becoming smaller or more concentrated. Materials [15] show that in 2020-2024, the number of operators and the area of organic and transitional land changed unevenly, with 2023 showing a temporary rebound and 2024 showing a shrinkage again (Table 5).

Table 5. Density of organizational presence in Ukraine's organic sector in 2020–2024

No.	Year	Total number of organic operators, units	Operators per 100,000 ha of organic and in-conversion land, units	Average land area per operator, ha
1	2020	549	118.8	841.9
2	2021	528	125.0	799.8
3	2022	462	175.3	570.6
4	2023	481	102.1	979.6
5	2024	436	124.8	801.3
7	Change from 2024 to 2020, %	-20.6	5.1	-4.8

Source: compiled by the author based on [10, 17]

Table 5 shows that in 2022, the average land area per operator decreased sharply, while the density of operators per 100 thousand hectares, on the contrary, jumped. This suggests that the sector has experienced not only a reduction but also fragmentation. Some large farms lost access to land or shut down operations, while other operators maintained their certification status in a much narrower land contour. In 2023, the picture is changing significantly. The area of organic and transitional land is being restored faster than the number of operators is growing, which is why the average land area per entity is increasing dramatically. And already in 2024, a new adjustment is taking place. That is, the sector does not move in a straight line. It is being rebuilt in waves, and this makes it less predictable, but not necessarily weaker [6, p. 166; 10].

We should also look at how the institutional sustainability of organic production has changed. The articles provided directly state that in 2021, 13 foreign certification bodies provided certification services, in 2022 there were eight of them left, and in 2023 the situation partially improved due to the work of 10 certification bodies.

Another block of materials records that in 2024, seven certification structures were active in the active field, as well as Ukrainian registration mechanisms, within which 260 producers were included in the register of organic operators under national law, and the area of land certified in accordance with Ukrainian requirements was 61,267 hectares (Fig. 2) [17].

What is interesting in Figure 2 is not the decline in 2022, which was expected, but the fact that in 2024 the institutional recovery was much stronger than the consumer recovery. Exports to the EU in 2024 rose to 203.9 thousand tons, Ukraine's share in EU organic imports reached 7.7%, and total exports of organic products from Ukraine were estimated at 243 thousand tons worth USD 141 million. The European market accounted for 93% of sales. This, in our opinion, shows a clear structural shift. While the domestic market has not yet recovered its pre-war capacity, the foreign market is already acting as the main stabilizer of the sector [10].

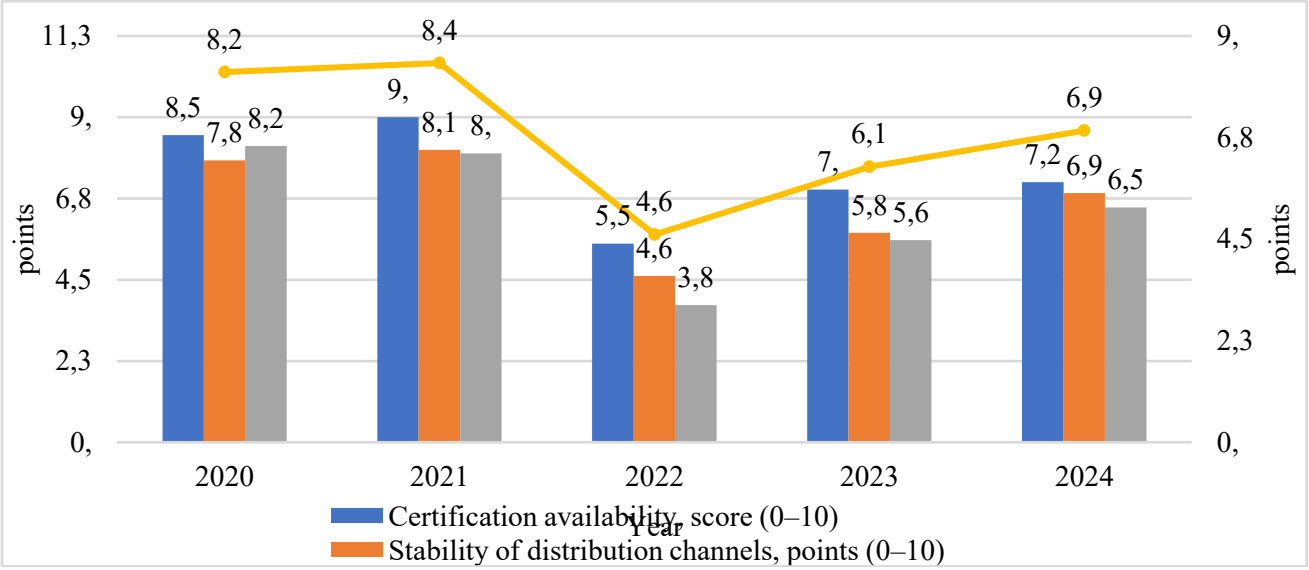

Fig. 2. Institutional stability of Ukraine's organic sector in 2020–2024

Source: constructed by the author based on [2, 17]

The territorial picture, by the way, shows this heterogeneity even more clearly. Analytical materials [26] emphasize that most organic farms are concentrated in Kyiv, Odesa, Kherson, Poltava, Vinnytsia, Zakarpattia, Lviv, and Zhytomyr regions, while the frontline regions have suffered more significant losses. The number of operators in Zaporizhzhia and Kherson regions, as well as in other regions close to the combat zone, was also emphasized. This means that the regional potential of the organic sector in 2024 was determined not only by agricultural specialization, but also by a combination of security, logistical accessibility, processing integration, and stable contracts (Table 6).

A regional cross-section shows that the highest recovery potential is not necessarily in those areas that historically had the largest land resources, but in those where several conditions coincide. These include access to western logistics corridors, the presence of a processing environment, a relatively safe business environment, and a higher level of cooperation with export partners. That is why Lviv, Kyiv, Vinnytsia, Ternopil, Khmelnytsky, Zakarpattia, and Volyn regions look stronger. Instead, Donetsk, Luhansk, Zaporizhzhia, and Kherson regions have objectively lost some of their opportunities not because of a lack of agricultural potential as such, but because of a combination of physical risk, destruction of routes, and difficulties with certification control [21, p. 124-125].

Table 6. Assessment of the current potential for the recovery of the organic sector by region of Ukraine as of early 2025

No.	Region	Logistical accessibility, points	Processing integration, points	Security resilience, points	Aggregate recovery potential, points
1	Vinnytsia	8	8	7	7.7
2	Volyn	8	6	9	7.7
3	Dnipropetrovsk	6	7	4	5.7
4	Donetsk	2	2	1	1.7
5	Zhytomyr	7	7	8	7.3
6	Transcarpathian	8	6	9	7.7
7	Zaporizhzhia	3	4	2	3.0
8	Ivano-Frankivsk	7	6	9	7.3
9	Kyiv	9	9	7	8.3
10	Kirovohrad	7	6	6	6.3
11	Luhansk	1	1	1	1.0
12	Lviv	9	8	9	8.7
13	Mykolaiv	5	5	4	4.7
14	Odessa	9	8	6	7.7
15	Poltava	7	7	6	6.7
16	Rivne	7	5	9	7.0
17	Sumy	5	5	4	4.7
18	Ternopil	8	6	9	7.7
19	Kharkiv	4	5	3	4.0
20	Kherson	3	4	2	3.0
21	Khmelnytskyi	8	7	8	7.7
22	Cherkasy	7	7	7	7.0
23	Chernivtsi	7	5	9	7.0
24	Chernihiv	6	5	6	5.7

Source: developed by the author based on [15, 20]

There is a noticeable shift from spontaneous development to more coordinated strategies, where enterprises begin to take into account not only their own production capabilities, but also the requirements of foreign markets, institutional constraints, and regional resources. This process does not appear to be uniform. Some agricultural enterprises focus on exports and certification, others on the domestic market and short supply chains, and still others try to combine these approaches [5, p. 6]. But the problem is that the lack of a coherent institutional framework hinders the synchronization of these strategies (Table 7).

Table 7. Strategic directions for the development of Ukraine's organic sector and expected results by 2030

No.	Development Direction	Implementation tools	Expected effect	Implementation period, years	Projected growth in indicators, %
1	Harmonization with the EU	Adaptation of standards, certification	Expansion of market access	2–3	15–20
2	Digitalization of production	ERP, agricultural analytics, GIS	Cost reduction	2–4	10–15
3	Export development	Contracts, logistics, branding	Growth in foreign currency revenue	1–3	20–25
4	Clustering of regions	Cooperation, agri-hubs	Improving efficiency	3–5	12–18
5	Innovations in agricultural technologies	Biotechnology, organic fertilizers	Increasing crop yields	2–5	8–12
6	Educational programs	Staff training	Competency Development	1–3	6–10
7	Localization of processing	Investments in processing	Increase in value added	3–6	15–22

Source: developed by the author

The areas presented demonstrate that the development of the organic sector is no longer limited to the production level. It is shifting toward ecosystem management, where businesses, government agencies, research institutions, and logistics operators interact.

Another aspect is noteworthy. The highest growth rates are expected in the areas of exports and institutional harmonization. This is because foreign markets impose stricter requirements but simultaneously create stable incentives. It is precisely these areas that are becoming catalysts for change. Economic support mechanisms, in turn, appear less straightforward. Formally, the tools exist, but their effectiveness depends on the method of implementation and regional specifics (Table 8) [4, p. 50].

Table 8. Economic mechanisms for supporting organic production and their projected effectiveness

No.	Support mechanism	Source of funding	Expected result	Impact level (1–5)
1	Subsidies to producers	State budget	Reduction in expenditures	4
2	Tax breaks	Government policy	Increased profitability	5
3	Grant programs	EU, international funds	Innovative development	5
4	Investment loans	Banking sector	Expansion of production	3
5	Risk insurance	Public and private funds	Reducing uncertainty	4
6	Support for cooperation	Local budgets	Increasing efficiency	3
7	Funding for science	Government programs	Technological development	4

Source: developed by the author

The distribution of strategic components of the organic sector's development shows that further integration cannot occur as a single process across the entire country. Regions demonstrate varying rates of adaptation, different starting conditions, and, in fact, different constraints that determine their economic behavior. This is due to the fact that natural resource potential, logistical accessibility, and the level of institutional support do not align spatially. As a result, there is a need for a more complex analytical model that takes into account not only production indicators but also the regions' capacity for cooperation, recovery, and integration into external markets [22]. The cluster approach is not a

formal typology but a tool for aligning management decisions with the actual structure of Ukraine's agricultural economy.

Table 9. Cluster model for integrating organic production into Ukraine's regional development

No.	Cluster	Regions	Type of specialization	Integration mechanisms	Projected economic effect	Level of integration, %
1	Western export-oriented cluster	Lviv, Volyn, Zakarpattia, Ivano-Frankivsk, Chernivtsi, Ternopil	Export of organic products, processing	Cross-border logistics corridors, EU certification centers	Growth in exports and added value	78
2	Central integrated agro-industrial cluster	Vinnytsia, Khmelnytskyi, Zhytomyr, Kyiv, Cherkasy, Poltava	Mixed production and processing	Agri-industrial hubs, cooperatives, agri-logistics	Increased productivity and stability	72
3	Northern resource-oriented cluster	Rivne, Volyn (north), Chernihiv, Sumy	Raw material-based organic production	Local cooperatives, environmental programs	Expansion of the raw material base	64
4	Southern Logistics and Export Cluster	Odesa, Mykolaiv, Kherson	Raw material exports and primary processing	Port logistics, export hubs	Growth in foreign exchange earnings	68
5	Eastern renewable energy cluster	Kharkiv, Dnipropetrovsk, Zaporizhzhia	Production recovery, local markets	Government support programs, investments	Gradual economic recovery	55
6	Crisis cluster with low integration	Donetsk, Luhansk	Limited production	Humanitarian and recovery programs	Minimal economic impact	25
7	Transitional mixed cluster	Kirovohrad, Cherkasy (periphery), Poltava (periphery)	Combined production	Investment projects, digitalization	Moderate growth in efficiency	60
8	Innovative and urbanized cluster	Kyiv (metropolitan area), Dnipropetrovsk (metropolitan area)	Processing, innovation, short supply chains	Smart-agri technologies, digital platforms	Improving technological capabilities	75

Source: developed by the author using materials from [16, 20]

The results of the clustering demonstrate that the regional development of organic production is shaped by the principle of uneven concentration of resources and opportunities. Western and partially central regions are characterized by a higher level of integration, which is likely due to the presence of stable export channels and better institutional support. The southern regions retain potential, but their efficiency depends on logistical conditions and access to port infrastructure. Eastern regions show limited development opportunities, due to a combination of economic and security factors. The result will be a new multi-level system in which each cluster performs its own function, and the overall efficiency depends on the coherence of these functions.

Conclusions and prospects for further research

Ukraine's organic sector is not developing on a linear growth trajectory, but rather demonstrates complex adaptive dynamics. It is shaped by institutional changes, market constraints, and territorial disparities. The study showed that even in the face of declining acreage and low domestic demand, the sector maintains its structural stability. This stability is ensured by reorientation to export channels and changes in organizational models. Thus, it can be said that organic production is entering a phase of qualitative transformation, where the focus is not so much on scale as on efficiency and the ability to adapt to external conditions.

An analysis of the regional distribution of organic production in Ukraine has shown the formation of an asymmetrical spatial model. Some regions accumulate the lion's share of resources and opportunities. This is due to differences in logistical accessibility, security and institutional support. As a result, there is an increasing concentration of production in relatively stable regions, while other areas are losing momentum or partially losing their existing potential. This situation obviously makes it difficult to achieve balanced regional development.

The results obtained allow us to confirm the thesis that the efficiency of the organic sector in Ukraine is determined not by individual economic instruments, but by their coordinated combination within regional clusters. It is the combination of innovation, infrastructure, and institutional mechanisms that creates a more

sustainable development model than isolated support measures. Hence the need for a transition to integrated management, in which organic production is integrated into broader economic systems and begins to have a real impact on the structure of the regional economy.

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