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Bobrovska Nadia, Candidate of Economic Sciences, Senior Lecturer of the Department of Management and Marketing, Mykolayiv National Agrarian University, Mykolayiv, Ukraine

ORCID ID: 0000-0001-9178-0425
e-mail: bobrovskaN@mnau.edu.ua

Sukhorukova Anna, Candidate of Sciences in Public Administration, Associate Professor of Management and Marketing, Mykolayiv National Agrarian University, Mykolayiv, Ukraine

ORCID ID: 0000-0002-6170-4955
e-mail: a.l.sukhorukova83@gmail.com

Burkovska Anna, PhD Student, Management and Marketing Department Assistant, Mykolayiv National Agrarian University, Mykolayiv, Ukraine

ORCID ID: 0000-0003-0563-6967
e-mail: burkovskaai@mnau.edu.ua

Transformation Processes of the Business Environment in the Context of European Integration of Ukraine

Abstract. Introduction. Globalization creates the preconditions for strengthening the integration policy of Ukraine in the agro-industrial sphere (AIS) and establishing cooperation with foreign countries. Research of the global business environment and identification of major trends in transformation processes is particularly relevant given a number of issues. First, it is impossible not to pay attention to the impact of reengineering on international business processes. Secondly, the study of the US experience with the implementation of clusters in agriculture will allow us to identify additional ways for their implementation in the agro-industrial complex of Ukraine. At the same time, this experience will be useful for improving the general business climate in Ukraine.

Purpose. The aim of the article is the analysis of the main transformation processes of the global business environment and identification of prospects for the implementation of US experience in the field of agriculture in Ukraine; study of transformational trends in the global business environment in the context of the COVID-19 pandemic; research of the concept of reengineering as an innovative method of business process management; analysis of the US experience in using the cluster approach in agricultural development.

Results. Ukraine seeks to become a worthy player in world markets for agricultural products. Balanced agricultural management is a prerequisite for saturating domestic demand for quality food and expanding Ukraine's niche in world agriculture.

Conclusions. The best basis for these purposes is the proven use of US experience in the cluster approach to agricultural development. It is advisable to coordinate and control agricultural results within the clusters of strong, medium and weak agricultural production. The obtained macroeconomic conclusions would be useful for substantiation of state programs of agricultural development.

Keywords: transformation processes; global economy; reengineering; agro-industrial complex; cluster; COVID-19.

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Бобровська Н. В., кандидат економічних наук, старший викладач кафедри менеджмента та маркетинга, Миколаївський національний аграрний університет, м. Миколаїв, Україна

Сухорукова А. Л., кандидат наук з державного управління, доцент кафедри менеджменту та маркетингу, Миколаївський національний аграрний університет, м. Миколаїв, Україна

Бурковська А. І., аспірант, асистент кафедри менеджменту та маркетингу, Миколаївський національний аграрний університет, м. Миколаїв, Україна

Трансформаційні процеси бізнес-середовища в контексті європейської інтеграції України

Глобалізація створює передумови для посилення інтеграційної політики України в агропромисловій сфері і налагодження співпраці з зарубіжними країнами. Дослідження глобального бізнес-середовища та визначення основних трендів в трансформаційних процесах є особливо актуальним з огляду на ряд питань. По-перше не можна не звернути уваги на питання впливу реінжинірингу на міжнародні бізнес-процеси. По-друге дослідження досвіду США з провадженням кластерів у сільському господарстві дозволить нам виділити додаткові шляхи для їх впровадження в АПК України. При цьому, корисним стане цей досвід і для покращення загального бізнес-клімату в Україні.

Метою даної статті є аналіз основних трансформаційних процесів глобального бізнес-середовища та визначення перспектив імплементації досвіду США в галузі АПК в Україні; дослідження трансформаційних трендів в глобальному бізнес середовищі в умовах пандемії Коронавірусу; дослідження поняття реінжинірингу як інноваційного

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методу управління бізнес-процесами; аналіз досвіду США з використання кластерного підходу у розвитку сільського господарства.

Україна прагне стати гідним гравцем на світових ринках аграрної продукції. Збалансоване управління сільським господарством є обов'язковою умовою для насичення внутрішнього попиту на якісні продукти харчування та розширення української ніші у світовому сільському господарстві. Найкращою основою для цих цілей є практично перевірене використання досвіду США у кластерному підході до розвитку сільського господарства. Доцільно здійснити координацію та контроль за аграрними результатами в рамках кластерів сильного, середнього та слабкого сільськогосподарського виробництва. Отримані макроекономічні висновки були б корисними для обґрунтування державних програм розвитку сільського господарства.

***Ключові слова**: трансформаційні процеси; глобальна економіка; реінжиніринг; АПК; кластер; Коронавірус.*

***JEL Classification:** F14; F15; F20; F29.*

Formulation of the problem. Globalization creates the preconditions for strengthening the integration policy of Ukraine in the agro-industrial sphere (AIS) and establishing cooperation with foreign countries. Research of the global business environment and identification of major trends in transformation processes is particularly relevant given a number of issues. First, it is impossible not to pay attention to the impact of reengineering on international business processes. Secondly, the study of the US experience with the implementation of clusters in agriculture will allow us to identify additional ways for their implementation in the agro-industrial complex of Ukraine. At the same time, this experience will be useful for improving the general business climate in Ukraine.

Analysis of recent research and publications. The issue of main transformation processes of the global business environment have been covered by many foreign and national researchers such as: G. Webber, N. Vasilieva,

O. Velichko, R. Daft, J. Carvandi, A. Ortega, K. Ryan, P. Phillips. However, some aspects of this multifaceted scientific and practical the problems remain insufficiently disclosed. This applies, first of all, study of globalization trends in the development of transnational activitiesnand systematic assessment of the impact of environmental factors. In addition, it is extremely important today to substantiate the strategic directions and priorities of the business environment in Ukraine for the formation of institutional conditions for effective transnationalization of the national economy.

Formulation of research goals. The aim of the article is the analysis of the main transformation processes of the global business environment and identification of prospects for the implementation of US experience in the field of agriculture in Ukraine; study of transformational trends in the global business environment in the context of the COVID-19 pandemic; research of the concept of reengineering as an innovative method of business process management; analysis of the US experience in using the cluster approach in agricultural development.

Outline of the main research material. Historical events over the years have shaped the global business environment and allowed it to grow further. The advent of financial technology was the result of the international economic crisis of 2008-2009, and the COVID-19 epidemic that shook the world economy in 2021 marked the beginning of a new era in transforming the global business environment into quarantine measures.

The collapse of dotcoms in the early 2000s led to the creation of technology giants such as Google, and the COVID-19 epidemic led to the collapse of the oil market and the fall of the tourism industry.

Currently, global business is constantly determined by new trends in various fields and the latest advances in science and technology. All these factors lead to changes that are noticeable in many areas of business.

In this context, it is worth exploring the impact of COVID-19 at the global level on the formation of new trends in global business. COVID-19 led to a sharp decline in world trade. The World Trade Organization (WTO) forecasts a 9.2% decline in world trade in 2020. While trade in goods is recovering rapidly, trade in services is lagging behind. And again we observe different patterns in the regions. Although global supplies now exceed pre-pandemic levels, China is the leader in this growth. We propose to analyze the dynamics of international trade of the G20 countries for the period 2019-2021 quarterly (see Fig. 1).

According to the World Travel and Tourism Council (WTTC), which represents the international tourism industry, the contribution of tourism to the world economy in 2019 amounted at 8.9 trillion dollars. Or 10.3% of world GDP. The Council estimates that the travel and tourism industry accounts at 330 million jobs worldwide (1 in 10 jobs worldwide).

Even before the COVID-19 pandemic, the world economy was ready for a recession: stock markets overheated, economic growth in developed countries slowed, and Trump's aggressive protectionist policies helped disrupt global supply chains and increase global risks. Already in the second half of 2019, it became clear that the world economy is gradually entering another recession, showing sluggish economic growth, but there was widespread expectation that in 2020 the situation will improve due to large emerging economies, and by 2021 there will be a return to global growth [3, 4].
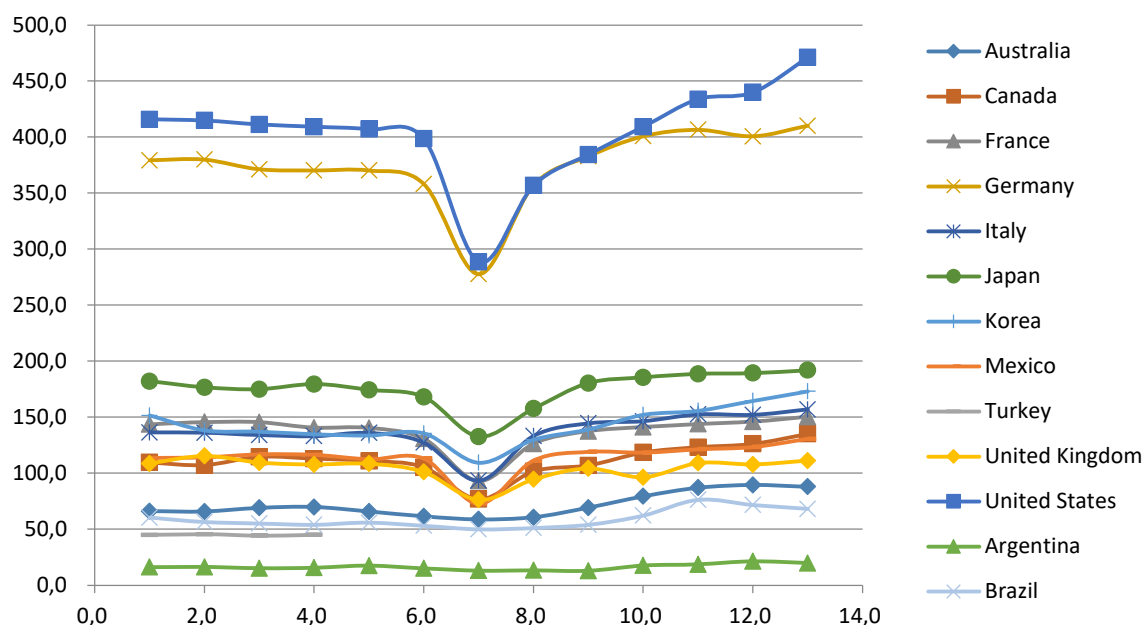
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Figure 1 – **Dynamics of international trade of the G20 countries for the period 2019-2021, billion dollars**

Source: built by the authors according to [1]

We believe that growth may be even weaker if the incidence spreads even more widely. In the short term, the main negative risk is that the effects of COVID-19 will be longer and more intense than expected. If the outbreak continues to spread in the Asia-Pacific region or in the developed countries of the northern hemisphere, the negative impact on global growth and trade will be much stronger.

It is estimated that comprehensive fiscal compensation for loss of income due to the COVID-19 epidemic will amount at 10% of world GDP and up to 25% of US and EU GDP.

The epidemic severely affected carriers and the tourism industry, including many multinational companies (TNCs) such as Space Travel, Ultramar Express, TEZ TOUR, AnexTour, and major airlines. The figure above shows the main reason for the failures of this industry - the closure of the borders of most countries and almost complete isolation to prevent the spread of COVID-19 [5].

Another big problem for global business is that COVID-19 came from China. And China - the first country with which to stop all contact, but, as it turned out, China and other Asian countries play a crucial role in the production of TNCs [6].

According to the order of the Chinese government, companies in Shanghai had to close their offices and not resume operations until February 9, 2020. Among the companies that were obliged to freeze the business, there was the plant of the electric car manufacturer Tesla [6].

One of the world's largest carmakers, Hyundai, said in May 2020 that it had to close all of its car plants in South Korea after running out of components from China. The automaker announced the suspension of production in China, said the giants of the automotive industry BMW and Volkswagen, which froze until February 10, joint production with Shanghai Automotive Group and First Automotive Works [6].

Due to the COVID-19, which was recorded in December last year in China, oil prices on world markets continue to fall. Thus, the price of Brent fell from the beginning of the year by almost 12% to $ 58.16 per barrel [7].

China is the second largest consumer of oil in the world after the United States. On average, over the past five years, the country has accounted for about 40% increase in consumption of raw materials. As a result, China has reduced consumption of petroleum products, for example, by reducing the number of flights and reducing road traffic within the country.

As a result, in the first half of 2020, world oil supply exceeded demand. Countries participating in the so-called OPEC + agreement have already begun to assess the situation. Among the options discussed - the extension of the agreement until the end of 2021 or even an additional reduction in production, according to the Financial Times (FT), citing sources in OPEC.

The COVID-19 epidemic, which began in 2020, has a significant impact on the further development of the global business environment, as not only companies but also countries begin to adapt to new business trends, the main of which are online commerce and total digitalization of the world economy.

The emergence of such managerial innovation as business process reengineering was caused by the introduction of information technology management practices that improve the quality of management.

The specific results of informatization include the following [8].

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1. Improving the efficiency of staff, which occurs by removing temporary and geographical barriers, access to databases can be carried out from anywhere and at any time.

2. Increasing labor productivity, as information technology significantly accelerates production and technological processes, reduces costs and increases staff productivity.

3. Redistribution of powers, as a result of the introduction of information technology changes the principles of information distribution in the organization, access to it is a wider range of employees, and lower-level employees need to make decisions that were primarily made by their managers.

4. The development of cooperation both within the organization and with the external environment, there is an opportunity to exchange information and ideas between employees of the organization, scattered around the world.

5. Team spirit in the creation, information technology accelerates the identification of problems and opportunities, accelerates decision-making, increases the ability of the organization to learn through a wide exchange of both information and knowledge.

Thus, the competent introduction of modern information technologies, which are accompanied by reengineering of business processes, allows to achieve new business positions of the organization. Reengineering is the systematic restructuring of business processes to achieve a radical, abrupt improvement in the organization.

High-quality implementation of reengineering methods is extremely necessary for the effective development of the agro-industrial complex of Ukraine. Since most Ukrainian agricultural enterprises use outdated technologies and do not introduce innovations in production. That is why we proposed the application of US experience in using the cluster approach in agricultural development as an effective method of reengineering business processes in agriculture.

Management of agriculture should promote the cyclical process of agricultural production. In this regard, it is proposed to start improving the management of agriculture by agreeing on producers who have similar conditions and prospects for development. The most appropriate way to make such a distribution by volume of agricultural products was to use the mathematical apparatus of cluster modeling [9]. This approach allows you to combine the elements of the sample into clusters of strong, medium and weak agricultural production with the smallest total square deviations from previously unknown centers.

The results of calculations according to the described method were obtained from samples of agricultural production in 24 regions of Ukraine and 50 US states in 2019 [10, 11]. The distribution of clusters by states and contingents and regions by volumes of agricultural products was made by the method of artificial neural networks built into the computer tool NXL Clusterizer. The content of clusters with strong, medium and weak agricultural production was aggregated in Tables 1 and 2. Quantitative characteristics of the obtained clusters for agriculture in Ukraine and the United States are summarized in Tables 3 and 4.

Table 1. **Cluster groups of regions of Ukraine by volumes of agricultural production**

A cluster of strong agricultural production		Cluster of medium agricultural production		A cluster of weak agricultural production	
Region	Agricultural products, million dollars	Region	Agricultural products, million dollars	Region	Agricultural products, million dollars
Cherkassy	488,92	Chernihivska	402,3	Chernivtsi	166,82
Dnipropetrovsk	562,64	Kherson	411,53	Donetsk	284,33
Kyiv	538,02	Kirovohrad	383,66	Ivano-Frankivsk	221,84
Kharkiv	524,24	Lviv	362,5	Luhansk	174,03
Khmelnytsk	510,05	Mykolayiv	326,35	Rivne	259,42
Poltava	528,53	Odesa	433,96	Volyn	253,72
Vinnytsia	758,26	Sumy	378,47	Zakarpattia	145,48
		Ternopil	336,5		
		Zaporizhzhia	355,92		
		Zhytomyr	366,38		

Source: generated and supplemented by authors based on materials [10]

The main directions of agricultural production determine the specialization of agricultural activities and clarify the assessment of the quality of management in the planning of agricultural production. The main specialization typical of

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crop production in the United States and Ukraine is the
production of wheat, corn, sunflower, soybeans, vegetables,
potatoes, fruits, berries, nuts and fodder crops.

Table 2. **Cluster groups of US states by volume of agricultural production**

A cluster of strong agricultural production		Cluster of medium agricultural production		A cluster of weak agricultural production	
State	Agricultural products, million dollars	State	Agricultural products, million dollars	State	Agricultural products, million dollars
California	49474,39	Arkansas	9840,06	Alabama	6317,6
Iowa	32105,19	Colorado	8470,42	Alaska	55,65
Nebraska	25517,25	Florida	8840,61	Arizona	4354,79
Texas	28235,52	Georgia	10445,96	Connecticut	648,15
		Idaho	8176,58	Delaware	1383,08
		Illinois	17313,82	Hawaii	819,02
		Indiana	11291,89	Kentucky	6643,29
		Kansas	18326,71	Louisiana	3545,34
		Michigan	8677,12	Man	810,74
		Minnesota	20223,65	Maryland	2476,79
		Missouri	10472,22	Massachusetts	516,18
		North Carolina	12558,42	Mississippi	6084,01
		North Dakota	9249,59	Montana	4486,14
		Ohio	10161,53	Nevada	823,92
		Oklahoma	8738,34	New Hampshire	299,04
		Pennsylvania	8153,49	New Jersey	1142,91
		South Dakota	11160,93	New Mexico	3303,08
		Washington	11310,39	New York	5728,27
		Wisconsin	12481,61	Oregon	5510,58
				Rhode Island	94,59
				South Carolina	2657,72
				Tennessee	4059,99
				Utah	2232,26
				Vermont	891,07
				Virginia	4137,76
				West Virginia	858,95
				Wyoming	1932,45

Source: generated and supplemented by authors based on materials [11]

The main specialization typical of animal husbandry in the
United States and Ukraine is the production of beef, pork,
poultry.

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Table 3. **Characteristics of clusters for agricultural production in Ukraine**

Indicator	A cluster of strong agricultural production	Cluster of medium agricultural production	A cluster of weak agricultural production
Weight by number of regions,%	29,17	41,67	29,17
The total volume of agricultural products, million USD	3910,65	3757,57	1505,63
Share in total agricultural production,%	42,63	40,96	16,41
Average volume of agricultural products, million USD	558,67	375,76	215,09
Deviation between the average level of agricultural production in the cluster and the country,%	46,15	-1,7	-43,73

Source: generated and supplemented by authors based on materials [10]

The data in Table 3 indicate that the planning and organization within the cluster of strong agricultural production in Ukraine has led to the predominant production of corn (50.5%), fruits, berries and nuts (43.6%), pork (37.1%), poultry (79.1%) and eggs (50.8%). The regions of Ukraine defined by the cluster of medium agricultural production took the leading positions in the cultivation of wheat (48.6%), sunflower seeds (47.2%), vegetables and potatoes (41.7%), fodder crops (41.2), and also in the production of beef (40.2%) and milk (39.3%). Farmers in the cluster of weak agricultural production were particularly successful in producing pork (28.8%) and growing fruits, berries and nuts (30.3%) [10].

The data in Table 4 showed that planning and organization within the American cluster of strong agricultural production led to outstanding production of corn (31.5%), soybeans (21.9%, the most productive state - Iowa). Thanks to California, this cluster is an unattainable winner in the cultivation of fruits, berries and nuts. Cluster livestock produces 30.2% of beef (the most productive state is Texas with a share of 13.2%). Iowa farmers alone provide 31% of the pork. The country's leader in the dairy segment is California (18.6%). In addition, the discussed cluster contains 24.8% of eggs (the most productive state is Iowa with a share of 14.9%).

Table 4. **Characteristics of clusters of agricultural production in the United States**

Indicator	A cluster of strong agricultural production	Cluster of medium agricultural production	A cluster of weak agricultural production
Weight by number of regions,%	8	38	54
The total volume of agricultural products, million USD	135332,35	215893,31	71813,35
Share in total agricultural production,%	31,99	51,03	16,98
Average volume of agricultural products, million USD	33833,09	11362,81	2659,75
Deviation between the average level of agricultural production in the cluster and the country,%	299,88	34,3	-68,56

Source: generated and supplemented by authors based on materials [11]

Agricultural advantages of American farmers included in the cluster of medium agricultural production, such 3

states of clusters are the TOP-3 wheat producers. 8 states are among the top 10 producers of soybeans and corn, in

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particular, Illinois provides 13.9% of soybeans. States 6, 8 and 7 of the clusters are included in the lists of the 10 largest producers of beef, pork and eggs. 3 states are among the top 5 broiler producers. Finally, the considered cluster provides 48.3% of milk. Agricultural activity in the group of weak agricultural production is focused on the production of beef, poultry (especially turkeys) and milk, where the state of New York ranked third among the

largest American dairy producers. Cluster yields are mainly represented by forage crops, local berries and mushrooms, with the exception of Montana, which is the best producer of wheat, famous for its ideal durum wheat [11].

The calculated wage indicators as motivation criteria in the management of agriculture in Ukraine and the United States were collected in Table 5.

Table 5. **Characteristics of wage clusters in agriculture**

Country	Indicator	A cluster of strong agricultural production	Cluster of medium agricultural production	A cluster of weak agricultural production
Ukraine	Average salary in agriculture, $ per month	236,86	228,12	216,49
	The average wage in agriculture relative to the minimum wage,%	171,77	165,44	157
USA	Average salary in agriculture, $ per month	2095,2	2023,58	2041,72
	The average wage in agriculture relative to the minimum wage,%	155,27	159,83	163,41

Source: generated and supplemented by authors based on materials [10, 11]

The current achievements of the entire agricultural sector of Ukraine could rank 18th among the states of the United States between North Dakota and Florida. Thus, the obtained coordination on the levels of strong, medium and weak development of agriculture allowed us to reconcile the states of the USA and the regions of Ukraine in accordance with the relative success in agricultural activity. It will be followed by more focused recommendations for improving agricultural management in Ukraine, obtained through positive results in the planning, organization and motivation of US agriculture.

The data in Tables 3 and 4 explain that the US states are much more differentiated in terms of agricultural performance than the Ukrainian regions. This is due to the fact that today the agricultural sector is the most powerful and stable in Ukraine, and each region is engaged in agriculture. The accumulation of powerful agricultural production in the United States covers only 8% of the states. In addition, the ratio of their contribution to the total amount of agricultural production is 1: 4.23, which is about 4 times higher than the corresponding average in the United States.

Such a cluster in Ukraine covers about 29% of regions. However, the ratio of their effect to the total amount of agricultural products is only 1: 1.46, which exceeds the average value in Ukraine by only 46.15%. The share of states and regions in clusters of average agricultural

production is almost equivalent. But the total contribution of American farmers exceeds the relative weight of Ukrainian production by more than 10 percentage points. It should be noted that the share of Ukrainian regions with low agricultural production is about 25 percentage points less than in the United States. Ukrainian farmers in the cluster in question work better on a relative scale, but American farmers produce 12.37 times more in absolute terms.

Improvements in the organization of agriculture in Ukraine include better storage and sales logistics to increase revenue and ensure a stable supply of vegetables and potatoes in the domestic market [12]. Success in growing fruits, berries and nuts in the United States correlates significantly with irrigation. The average share of irrigated land in the United States is over 6%, while it exceeds 40% in the states specializing in fruits and berries. Farmers practice collecting water from rain and melting snow in a chain of artificial ponds for further irrigation through underground pipes. Drip irrigation is used in orchards to reduce water consumption. Such ways of organizing effective gardening are worth actively implementing in the agricultural sector of Ukraine.

In general, high-performance management in the U.S. agricultural sector is supported and encouraged by the U.S. Department of Agriculture, which includes agricultural marketing, economic research, animal and plant health inspections, nutrition, food safety and

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quality, foreign trade, statistics, and natural resource conservation, risk management, rural development, etc. Regular monitoring of US agricultural development will contribute to the continuous and stable improvement of agricultural management in Ukraine.

Conclusions. Ukraine seeks to become a worthy player in world markets for agricultural products. Balanced agricultural management is a prerequisite for saturating domestic demand for quality food and expanding Ukraine's niche in world agriculture. The best basis for these purposes is the proven use of US experience in the cluster approach to agricultural development. It is advisable to coordinate and control agricultural results within the clusters of strong, medium and weak agricultural production. The obtained macroeconomic conclusions would be useful for substantiation of state programs of agricultural development.

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