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## CONCEPTUAL MODEL OF ORGANIZATIONAL AND ECONOMIC SOCIALIZATION IN THE IMPLEMENTATION OF THE PRINCIPLES OF SUSTAINABLE DEVELOPMENT

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### Abstract

Market organizational and economic structure of agricultural enterprises in practice means the creation of various formations (societies, cooperatives, private enterprises, farms).

Changes in the organizational and economic structure of agricultural enterprises have most negatively affected the mechanisms for addressing the social bloc of rural development. The criterion of unconditional profit maximization had a devastating effect on the social development of the village, infrastructure, etc. We believe that in the process of evolution of agricultural enterprises, approaches and motivations for social activity have changed.

**Keywords:** social price, socialization of entrepreneurship, social costs, social mission, social efficiency.

**The problem formulation.** Organizational and economic socialization of entrepreneurship in rural areas accordingly depends on the state agricultural policy - "strategic course of the state and a system of measures aimed at intensive development of productive forces of the village, improvement or radical change of existing economic relations, including types and forms of economic ownership, as well as the economic mechanism in order to significantly improve the living and living conditions of its inhabitants, to ensure food security of the country" [4, p. 12].

Traditionally, agricultural enterprises for the Ukrainian countryside have been and will remain the bearers of social in the full sense of the word. Among the main criteria of the socio-economic role of these enterprises is their contribution to the formation of a rural conservation model [5]. Socio-economic efficiency is regulated by law, but in practice depends on the social policy of the owner of the enterprise, the founders, who seek to maximize profits instead of social investment. Therefore, agricultural enterprises often limit their social activities to the criteria of compliance with legislation in the system of payment of taxes, social fees. That is, socio-economic efficiency, following the example of social, socially oriented, socially responsible entrepreneurship, is mainly the interest of an entrepreneur who is either interested in investing in the socio-economic development of a rural area. There are many positive and negative examples of social activities of agricultural entrepreneurs.

The social efficiency of enterprises engaged in economic activities in rural areas is to implement not only their business mission, but also the mission of infrastructure development. Directly socio-economic efficiency of management is formed by the structure of production, as a consequence - is the size of socially

oriented production costs, the number of employees (jobs). Enterprises, on the other hand, embarked on a predominantly capitalist path of development: Ukraine enters the world market mainly with raw materials for industrial and agricultural products. The most serious consequences are the loss of large livestock. Most companies no longer have any farms." [8] This conclusion fully reflects the general picture of the formation of socio-economic performance of agricultural enterprises. The causal link between their development and social efficiency is obvious in the system "structure of production - number of jobs - wages - the welfare of the peasant."

**Conditions and methods of research.** Accordingly, within the framework of methodological provisions, we propose to analyze the organizational and economic socialization of entrepreneurship by individual indicators. Again, we believe that the organizational and economic socialization of entrepreneurship means creating conditions and the actual spread of business structures (enterprises), as well as ensuring the creation of goods available to the consumer, the provision of services. In some places, the socialization of entrepreneurship can be interpreted as a synonym for inclusive development, in terms of effectiveness - socio-economic achievements.

**Research results.** Research has shown that the socialization of entrepreneurship is a multifaceted process that is associated with its spread in human life. In our opinion, the stated theoretical provisions of socialization of entrepreneurship give grounds to characterize this phenomenon as a process of formation, spread, development of the system of enterprises in the social and economic sphere, in particular in the countryside. We consider their organizational and

economic characteristics in terms of forms of management and production tasks to be important formal socializations. As a result, we note that the socialization of entrepreneurship in rural areas is implemented in the development of commercial (classic) and social enterprises. Both of these sectors have their own characteristics. Commercial enterprises traditionally develop in the agricultural and non-agricultural production sectors. Social - conduct mainly socially oriented activities, in which the social function is the main statutory activity. The socialization of agricultural enterprises changes depending on the transformations that take place in rural areas. In particular, today the attitude of the agricultural entrepreneur to support the development of rural areas, the creation of additional jobs has changed. Determinant in the motivation for such actions is the business, economic interest, which is the desire to make a profit, rather than social action. The organizational and legal form of the enterprise determines the criteria and principles of its socialization. Indicative is the fact that the cooperative has the characteristics of a socially oriented form of enterprise, which are clearly manifested in the economic and social sphere of socialization of these structures. Therefore, among the promising areas of further research is to determine the effectiveness of socialization of entrepreneurship depending on the characteristics of economic indicators of enterprise development of various organizational and legal forms operating in the countryside.

Analyzing the entrepreneurial structure of management as a place of employment, we note that the agricultural enterprise is associated with a workplace for the employee, which is a source of income for him, as well as the possibility of socialization of the individual. Therefore, in the assessments of the raised issue - the socialization of enterprises, the formation of social responsibility occurs through the mechanism of employment. We suggest that the more enterprises created in rural areas, the more opportunities for socialization of the population living in rural areas. To do this, we analyze the structure - the composition of enterprises operating in agriculture in Ukraine.

Socialization of entrepreneurship as a factor in meeting needs occurs through the following actions: production and supply of goods and services to the market; employment; social costs of production.

Entrepreneur, producing goods, providing services, incurs production costs, which (according to the cost structure) also includes social. That is, the cost of production includes elements that make up the costs of the social price of production - a part of the cost of the product, which can be directly attributed to the social unit of costs. The amount of social costs, their dynamics - an aspect of assessing the social contribution, which made the entrepreneur before selling products and meet the needs of the consumer, which meets the mission of the enterprise in the market.

The social mission of the enterprise and entrepreneurship is realized through economic activity and its corresponding results, so it corresponds to the benefits that the product or service brings to the consumer. For example, agricultural enterprises carry out a mission

to produce and supply agri-food products to the market. Accordingly, the value of the social mission is embodied in the cost of products that are sent to the market for consumption. From how high-quality products (and the consumer forms the demand), the social mission becomes desirable for the company, because it brings benefits.

Characterizing the social mission of an agricultural enterprise in the economic plane of assessments, we proceed from the fact that it should be considered in the system of methodological analysis on the concept of determining the benefits and costs. That is, the production of agricultural products (food) brings benefits and costs for the producer and for the consumer.

The producer spends resources by selling products and satisfying the needs of the consumer fulfills a social mission, and the consumer buys goods and benefits from consuming it - the value of this benefit means the price he pays for the ability to meet the need.

Also, the social mission of the enterprise can be assessed by the values that are directed to the construction of infrastructure, etc. - this is a clear social effect of entrepreneurship.

Costs are an internal economic factor in the development of social entrepreneurship, as well as classical entrepreneurship in the implementation of its social function.

Costs are a multifaceted category, so it is considered in many aspects:

- in functional terms - by purpose, scope, circulation, for example: economic, financial, production, social, economic, technological;

- in terms of belonging to the subject of incur-  
rence - the costs of the enterprise, the costs of the state, individual, organization.

In our opinion, according to the subject area of the study of social aspects of entrepreneurship, costs are the monetary equivalent, the expression of value, which is directed to economic and social circulation.

Social costs of the enterprise and directly the social costs of production - an economic phenomenon, which is rightly considered in the theoretical understanding of benefits and costs [1]. These costs go far beyond the activities of the enterprise, are derived from the results of management, and part of them is transferred to production. Therefore, social costs in the development of entrepreneurship, enterprises revolve in production and in the system of entrepreneurial activity as part of the profits, aimed at social goals.

In our study we consider the social costs of production on the example of agricultural enterprises. Agricultural enterprises are the main factor in the development of villages and rural areas. Social costs of agricultural enterprises are the motivational basis of their social activities. This dependence corresponds to the principles of agricultural activity. The social costs of production vary depending on market conditions and legislation, and the social costs of the enterprise depend on the motivation of the entrepreneur. These are two dependent components that determine the price, the social price of entrepreneurial activity. In

relation to these costs are comparable to the various benefits - production and social.

Turning to the approach to the analysis of benefits and costs [1], we can see that it methodically ensures the identification of promising results of projects, but the company - also a project, and social costs - derived from the implementation of this project. The concept of cost-benefit analysis can be used not only to analyze the prospects, but also to assess the actual state of organizations, enterprises, comparing the components of efficiency. Benefits and costs, their ratio according to the social criterion of classification of investments in production are presented in economic activity.

To analyze the benefits and costs, we take the cost on the example of agricultural enterprises. Analyzing the composition of production costs of agricultural enterprises, we rely on the methodological belief that:

- costs form the price that the producer, entrepreneur pays for the means of production and labor used;
- costs form the price of production, which is a monetary expression of the value of consumed assets, intellectual and information resources, labor;
- the social part of production costs in the amount is the social price of production.

The cost criterion for determining the methodological principles of social price formation is reasonably used to analyze the social aspects of entrepreneurship.

We allow the analysis of social benefits and costs that are practiced in the enterprise.

For an in-depth study of the theory of the problem and to prove the validity of positions to determine the essence of the price of production, we analyze the theoretical and methodological provisions for understanding the scientific circulation of the cost category.

The state of social orientation and social responsibility of enterprises, organizations that perform entrepreneurial function, we examine through the prism of:

- economic contribution to solving social problems and meeting social needs;
- social costs in production, namely the social price of production, which corresponds to the costs of this activity, ie attributed to the cost.

The idea of transferring the social price to the production system corresponds to the belief that the cost of social assets should be considered as an indirect factor of social performance, social function, phenomenon. However, it is necessary to reasonably propose theoretical principles for determining the social price of production.

The attitude to this concept meets the criteria of social entrepreneurship as an activity of an entity that carries out social actions, which, like the classical capitalist enterprise, is associated with innovation.

According to our proposed definition, the social price of production - is the cost of a social nature, which are embedded in the cost of production and their purpose form the results of social security of the person (employee). The composition of social costs include: labor costs; deductions for social events; rent.

This is not the price of the product for the socially disadvantaged, but the totality of social costs paid by the enterprise in carrying out economic activities.

The higher the costs, the higher the social price of production paid by the entrepreneur, but it is better for workers, society. Accordingly, we propose to determine the social price by the gradation of cost at the levels of: industry in the country; industries of the region (region); enterprises (aggregates); activities, industries, certain products.

The social price is related to many factors - it is the reason for motivation to buy goods, so the entrepreneur naturally tries to reduce social costs in the cost structure. This is part of the cost of production (cost) in the total cost of social orientation.

We show the social price of production on the example of agricultural enterprises as part of the cost, which includes costs of a socially oriented nature.

For example, with regard to the component of labor costs, the following: at the entrance to the production system and in its technological functioning is a natural measurement of costs in man-hours; at the exit from it - the value in monetary terms, which forms the cost, takes into account the market and legal factors of remuneration of workers in production. Ultimately, wages are included in the total cost of production, ie its social part, and hence the social price of production, industry, enterprise. The social price is presented as a socio-political phenomenon, but we offer the principles of determining its economic composition in relation to the activities of the entrepreneur.

In sociological science and institutional theory, the social price is interpreted as the result of political, structural and regulatory actions carried out by the ruling community, ie in fact the social price is the price paid by society as a result of a particular policy: according to O. Norgard [6]. The social price (value) of production for agricultural enterprises consists of costs that have a social nature of direction (characterize the quality of meeting human needs) - this includes: labor costs; deductions for social events; rent for land shares; rent for property shares [2, p. 12].

These components occupy a certain share in the structure of production costs. We offer to determine the shares of these costs: for all activities; for agriculture; by industries (crop and livestock); for certain types of products. Such a structural analysis is aimed at identifying the dynamics of changes in indicators that form the social price of production, which must be analyzed to characterize trends in the extent to which agricultural enterprises perform social functions. It is also desirable to analyze the social indicators of production efficiency in terms of organizational and legal forms of enterprises, because there are certain features, for example, in cooperatives.

Implementation of strategies and formation of institutional models of organizational and economic support for the development of entrepreneurship in rural areas, in agriculture should take place in the mechanism of balancing economic and social interest.

As shown in the previous sections of the dissertation theoretical and methodological generalizations of concepts and empirical assessments of the current

state of entrepreneurship with the analysis of socio-economic foundations of management - the rural sector needs to develop and implement an updated model of socio-economic development focused on socio-economic effects. Indicative of the general contours of this model, we note that in practical implementation it should provide organizational and economic socialization of entrepreneurship with maximum convergence of the principles of rural conservation and sustainable development. At the same time, we consider the systematic introduction of the mechanism of social entrepreneurship to be the central element and target strategic guideline in presenting the concept of organizational and economic socialization of entrepreneurship in rural areas.

We present the conceptual model of organizational and economic socialization of entrepreneurship in rural areas according to a two-segment approach - according to the organizational and economic segment of consolidation of priority ways to solve the problem. In accordance:

- organizational segment - a set of scientifically sound proposals for improving the regulatory market governance of the development of socially oriented business activities; conceptualization of the components of the institutional model of ensuring the priority of socialization of entrepreneurship; principles of convergence of the priority of building a rural conservation model of rural management with the UN Sustainable Development Goals for the period up to 2030;

- economic segment - economic and mathematical assessment of the priority of organizational and economic socialization of entrepreneurship in rural areas through the creation of an optimization model for the formation of income of the rural population through the structural balancing of the social price of production.

The stated contours of segmentation of the conceptual model correspond to the national features of the rural management system, the status of civil society, the state of socio-economic development of rural areas, financial and economic capabilities of the state, the characteristics of formation and implementation of corporate social responsibility.

We believe that in order to solve many problems today at the state level it is necessary to change the nature of the policy of regulating the development of entrepreneurship, as well as to build an effective strategy to support the development of the Ukrainian countryside. This should be a strategy based on a conceptual model of organizational and economic socialization of entrepreneurship with the current anticipation of achieving the criteria of corporate social responsibility. We consider the focus of the strategy on achieving rural conservation conditions by stimulating socially responsible business to be crucial.

Accordingly, the formation of a village-preserving model of management in the countryside, in agriculture of Ukraine, we rely on the development of socialization of entrepreneurship motivated by modern problems. At the same time, entrepreneurship should be positioned as an economic system that is socialized through the mechanisms of penetration

into various spheres of society for the realization of economic (profit) and social (satisfaction of social motivations) goals. To solve this problem, the model of socialization of entrepreneurship through organizational and functional penetration into various sectors of the economy, society, economic activity to obtain economic and (or) social benefits should be implemented accordingly [3, p. 91].

Social entrepreneurship should become a central element of organizational and economic socialization. Involvement of social enterprises in the market system will accelerate the formation of the foundations of the social economy and will help change the model of economic order from capitalist to socially oriented. The implementation of the concept of socially oriented state is directly correlated with the concept of social economy in which the exclusive role is given to social entrepreneurship.

Today in Ukraine, in particular in rural areas, it is necessary to strengthen the organizational and economic efficiency of entrepreneurship, but this must be done taking into account factors and changes in the system of public relations, mechanism and organization of rural management that have occurred in the last three decades

- the nature of the formation and involvement of labor in the production process;

- establishment of a market system of socio-economic exchange based on pluralism of forms of ownership and management;

- market-oriented specialization of enterprises and structuring of economic activities;

- liberalization of the market and the system of state support for industries and industries, as well as socio-economic development of the territories;

- changing the nature of society's demands with a reorientation to meet basic needs, in particular regarding the safety of life (biological safety);

- redistribution of functions of social responsibility in the system of rural development between the state, rural communities and entrepreneurs;

- democratization of management of rural development with practical implementation of public-private partnership mechanisms;

- reorientation of the economic mechanism of development of agricultural enterprises to meet the demands of foreign markets of agricultural products and food.

Noting the applied part of the stated proposals, we believe that in the organizational and economic model of entrepreneurship development with the priority of rural preservation it is necessary to allocate a hierarchy of priorities, namely - we prioritize the support of traditional classical and social entrepreneurship in promoting sustainable development and approval of socially responsible business.

We associate the celebration with the belief that today entrepreneurship and activity of enterprises is not so much economically conditioned by market interaction, but as socially significant, because economic formations remain village-forming.

Among other things, among the priority structures of organizational and economic socialization of

rural management should be noted the development of temporary purpose organizations, such as a consortium (following the example of Vinnytsia National Agrarian University), created in the formation of joint strategic tasks, consolidation of intellectual and material assets. in a certain direction.

We believe that in the formation of a village-preserving model of rural development on the basis of small and medium-sized businesses may intensify the inevitable processes of economic socialization of entrepreneurship. Namely, the motivated transition to the model of socio-economic consideration of the interests of rural residents in accordance with the concept of sustainable development, preservation of agriculture, natural ecosystem. But as noted by domestic researchers [7]: "a key component in the development of the country's agricultural sector is the development of agricultural production, aimed at stable provision of rural areas, improving working and living conditions, preserving the environment" [7]. This idea became the theoretical and methodological basis of our author's scientific beliefs about the need to form a village-preserving model of management on the basis of economic socialization of entrepreneurship [3, p. 94].

The proposed conceptual priorities of organizational and economic socialization of entrepreneurship in the implementation of the principles of sustainable development require economic and mathematical justification. For economic and mathematical assessment, an optimization model of income generation (rural) by balancing the social price of production as an indicator of socio-economic development of enterprises is proposed.

In this particular case, the social price is an indicator of participation in ensuring: socio-economic development of rural areas to implement the principles of sustainable management, introduction of the basics of socially oriented agriculture with increased participation of entrepreneurs in solving socio-economic problems of the village.

Note that our research to identify the behavioral characteristics of agricultural enterprises in the context of socio-economic development of rural areas has shown that mainly their activities are not aimed at performing social functions through:

- creation of a physical number of additional jobs for rural residents in areas where they use land for commercial production;
- ensuring decent working and living conditions for the rural population through ensuring the appropri-

ate level of wages and, accordingly, contributions to social funds, payment of rent for land and property shares involved in production processes.

In this regard, we conducted economic and mathematical studies of the impact of the social price of production as a measure of social responsibility of agricultural enterprises on the income level of the rural population. Realizing the fact that the category of social price is the embodiment of natural, climatic and socio-economic conditions of specific territories, which are significantly differentiated within the state, the calculations were carried out according to the relevant indicators in the regions of Ukraine.

The total household income (according to a sample survey of living conditions of households in Ukraine) in 2019 was chosen as the resulting indicator. In the collection, this indicator is defined as an average per household. However, since the size of households is significantly differentiated by region of the country, and to build adequate models, we have reduced the data to the indicator "total income per 1 conditional household member". This category of income includes both monetary and non-monetary income of households, including the assessment of consumed products obtained from personal subsidiary farms, where payments on shares in kind could be used. Therefore, we believe that this indicator most fully takes into account all possible revenues from agricultural enterprises. To take into account the natural and climatic features of the regions, the indicators of normative monetary valuation of agricultural lands in Ukraine as of 01.01.2020 \* (hryvnias per hectare) were used. The initial data for modeling are given in table. 1.

The calculated coefficients of variation allow to estimate the variability of indicators by regions. ) areas. Incomes from business activities are heterogeneous with the maximum in Transcarpathia - 808.75 g and the minimum in Poltava region. - UAH 17.47. The maximum social price of production is in Transcarpathia. The minimum - in the Kherson region - 14300.56 and 5681.66 UAH, respectively.

The regression analysis of the relationship between total income per 1 member of the household (dependent variable), the social price of production per 1 ha of agricultural land and the normative assessment of 1 ha of arable land (independent variables) allowed to obtain the following model:

$$Y=5279,024+0,098914*x_1-0,04203*x_2; (1)$$

where Y - estimated total income per 1 conditional member of the household (RZD), UAH; x1 - social price of production per 1 ha of agricultural land (CER), UAH; x2 - the value of the normative monetary valuation of arable land, UAH.

Table 1  
The main socio-economic characteristics of the formation and size of income of the rural population by region of Ukraine, 2019 \*

Areas	Total income per 1 conditional member of the household		Income from entrepreneurial activity per 1 conditional member of the household		Social production price per 1 ha of agricultural land *		Normative monetary valuation of arable land, UAH
	UAH	%	UAH	%**	UAH	%	
Ukraine	5015,83	x	274,4	x	8354,84	x	x
Vinnitsia	5493,41	109,5	691,06	251,8	10965,03	131,2	27184,00
Volyn	5300,17	105,7	51,81	18,9	8133,0	97,3	21806,00
Dnepropetrovsk	4716,82	94,0	23,09	8,4	7964,14	95,3	30251,00
Donetsk	4889,43	97,5	150,76	54,9	6242,42	74,7	31111,00
Zhytomyr	4833,56	96,4	149,04	54,3	6658,16	79,7	21411,00
Transcarpathian	5324,52	106,2	808,75	294,7	9332,421	111,7	27268,00
Zaporozhye	4476,72	89,3	92,15	33,6	6113,69	73,2	24984,00
Ivano-Frankivsk	5138,87	102,5	529,41	192,9	14300,56	171,2	26087,00
Kyiv	5244,63	104,6	70,33	25,6	11445,88	137,0	26531,00
Kirovograd	4508,86	89,9	43,70	15,9	8630,94	103,3	31888,00
Luhansk	4716,68	94,0	50,56	18,4	6699,81	80,2	27125,00
Lviv	5633,45	112,3	52,21	19,0	9710,05	116,2	21492,00
Mykolayivska	4865,74	97,0	435,55	158,7	7439,35	89,0	27038,00
Odessa	4954,01	98,8	302,91	110,4	6650,95	79,6	31017,00
Poltava	5052,20	100,7	17,47	6,4	9491,4	113,6	30390,00
Rivne	4850,65	96,7	145,13	52,9	6830,7	81,8	21938,00
Sumy	5429,39	108,2	115,18	42,0	8403,07	100,6	26793,00
Ternopil	5051,55	100,7	369,60	134,7	10049,39	120,3	29035,00
Kharkiv	4549,90	90,7	116,56	42,5	7321,35	87,6	32237,00
Kherson	4514,69	90,0	672,38	245,0	5681,66	68,0	24450,00
Khmelnitsky	4502,37	89,8	20,93	7,6	8998,07	107,7	30477,00
Cherkasy	5175,45	103,2	80,68	29,4	11587,53	138,7	33646,00
Chernivtsi	4412,64	88,0	271,86	99,1	7163,41	85,7	33264,00
Chernihiv	5359,38	106,8	30,71	11,2	7385,24	88,4	24065,00
The standard deviation	362,1	x	239,0	x	2098,2	x	x
Coefficient of variation	7,2	x	87,1	x	25,1	x	x

\* estimated taking into account the indicators of land use of agricultural enterprises on 1.11.2017

\*\* to the average in Ukraine

The values of the coefficient of determination (0.61), the level of significance of F-statistics and t-statistics allow us to assert the adequacy and sufficient statistical significance of the obtained model. This makes it possible to use it for our further research.

The obtained model of formation of the general income of the rural population gives the chance to pass successfully to realization of the following task - search of mechanisms of balancing and increase of the social price of production brought by the agricultural enterprises as the main users of land resources of territorial community in its social development.

To do this, it is proposed to use the possibilities of optimization modeling and find the optimal level for

each region of the social price per 1 hectare of agricultural land, taking into account the actual quality of natural and climatic conditions (through the normative monetary value of 1 hectare of arable land). areas within the country. In statistical calculations, the variability of values allows us to estimate the variance of a random variable, which is a measure of the scattering of values of a random variable relative to a certain average value.

The variance of the random variable D in the General case is calculated by the formula:

$$D[X] = M[(X - M[X])^2], \text{ where } M \text{ is the mathematical expectation.}$$

If the random variable X is discrete, then

$$D[X] = \sum_{i=1}^n p_i (X - M[X])^2 = \sum_{i=1}^n p_i x_i^2 - \left( \sum_{i=1}^n x_i p_i \right)^2, \quad (2)$$

where  $x_i$  is the  $i$ -th value of the random variable,  $p_i$  is the probability that the random variable takes the value of  $x_i$ ,  $n$  is the number of values that the random variable can take.

Thus, in order to achieve our goal of reducing heterogeneity and increasing the income of the rural population by regions of the country, it is necessary to minimize the variance of the estimated total income per household member (RZD).



Accordingly, the following mathematical model is formulated:

$$\sum_{i=1}^n p_i x_i^2 - \left( \sum_{i=1}^n x_i p_i \right)^2 \rightarrow \min_{x_i} \quad (3)$$

where  $x_i$  - value for the  $i$ -th area,

$p_i$  - the probability that the random variable takes the value of  $x_i$ ,

$n$  is the number of values that can take a random variable.

The values of the normative monetary value of 1 ha of arable land are set constant, and for the target values of the social price of production (SCVts) the following restrictions are provided:

$$SCV_i^c \geq SCV_i^f \quad (4)$$

$$SCV_i^c \leq 1,5 \times SCV_i^f \quad (5)$$

Table 2

Solving the problem of increasing the income of the rural population and eliminating disparities between regions through balancing the social price per 1 hectare of agricultural land in the use of enterprises, (calculated as of 2019) \*

Region	social price of production per 1 ha of agricultural land, UAH			total income of the rural population per 1 conditional member of the economy, UAH			Total income, thousand UAH
	actual	estimated	deviation	actual	estimated	deviation	
Vinnitsia	10965,0	10965,0	0,0	5493,4	5221,1	-272,3	-172,8
Volyn	8133,0	8133,0	0,0	5300,2	5167,0	-133,2	-52,7
Dnepropetrovsk	7964,1	11545,3	3581,2	4716,8	5149,6	432,8	187,3
Donetsk	6242,4	9363,6	3121,2	4889,4	4897,6	8,2	2,3
Zhytomyr	6658,1	7789,1	1131,0	4833,6	5149,6	316,0	131,5
Transcarpathian	9332,4	10277,8	945,4	5324,5	5149,6	-175,0	-107,4
Zaporozhye	6113,7	9170,5	3056,8	4476,7	5136,0	659,3	219,6
Ivano-Frankivsk	14300,6	14300,6	0,0	5138,9	5597,1	458,2	278,3
Kyiv	11445,9	11445,9	0,0	5244,6	5296,1	51,5	29,1
Kirovograd	8630,9	12240,9	3610,0	4508,9	5149,6	640,7	186,6
Luhansk	6699,8	10049,7	3349,9	4716,7	5133,0	416,3	86,9
Lviv	9710,1	9710,1	0,0	5633,4	5336,2	-297,3	-232,7
Mykolayivska	7439,4	10180,1	2740,7	4865,7	5149,6	283,8	83,2
Odessa	6651,0	9976,4	3325,5	4954,0	4962,2	8,2	5,1
Poltava	9491,4	11604,4	2113,0	5052,2	5149,6	97,4	43,5
Rivne	6830,7	8013,0	1182,4	4850,7	5149,6	298,9	144,2
Sumy	8403,1	10076,0	1672,9	5429,4	5149,6	-279,8	-77,4
Ternopil	10049,4	11028,6	979,3	5051,5	5149,6	98,0	44,8
Kharkiv	7321,4	10982,0	3660,7	4549,9	5010,4	460,5	200,1
Kherson	5681,7	8522,5	2840,8	4514,7	5094,4	579,7	189,1
Khmelnysky	8998,1	11641,4	2643,3	4502,4	5149,6	647,2	291,9
Cherkasy	11587,5	12987,9	1400,4	5175,4	5149,6	-25,9	-11,6
Chernivtsi	7163,4	10745,1	3581,7	4412,6	4943,8	531,1	219,9
Chernihiv	7385,2	8916,8	1531,6	5359,4	5149,6	-209,8	-63,6
Ukraine	8354,8	10507,3	x	5015,8	5170,5	x	1625,4
The standard deviation	2098,2	1598,7	x	362,1	136,1	x	141,5
Coefficient of variation	25,1	15,2	x	7,2	2,6	x	8,7

\* Built according to the State Statistics Service of Ukraine and analytical data of agricultural enterprises

The solution of the optimization problem was performed in the Excel environment by the method of the generalized decreasing gradient. The optimization results are shown in table 2. Confirmation of the value of the optimization model is the reduction of the coefficient of variation of the estimated income. Equalization of income levels by regions will increase the total income in the country by UAH 1,625.5 million. The determined estimated (target social price) for each oblast will become an indicative indicator, the achievement of which should increase social responsibility of entrepreneurial formations.

The next component of the mechanism is to ensure that the targets of social responsibility are brought to the level of agricultural enterprises. At this level, the social price of production is manifested in the creation of additional jobs through the proportional development of labor-intensive agricultural sectors, ensuring the appropriate level of wages and rent payments for property and land shares. Therefore, the following is proposed:

1. Determining the criteria for classifying agricultural enterprises as "socially efficient" or vice versa.

2. Creation of an appropriate fund for rural development, contributions to which will be made by enterprises that are not "socially efficient". The funds of this fund

should be used to support social initiatives and support the entrepreneurial activity of territorial communities, the development of social entrepreneurship.

To determine the criteria of social efficiency of agricultural enterprises, it is proposed to use one of the classification methods - the method of classification trees, which allows to assign objects to a certain class depending on the respective values of the selected features.

The calculations were performed in the software environment of the Statistica program, where the corresponding module was created. The parameters characterizing the structure of production of enterprises (share of grain; share of sunflower, share of livestock in the total income of enterprises) and rent for 1 hectare of agricultural land were considered as indicators. A categorical variable was also introduced, which reflects the territorial differentiation of the conditions for the formation of social responsibility - the identifier of the region where the agricultural enterprise is located. A database of agricultural enterprises

of Ukraine for 2016 was used to construct the classification tree. A regression and optimization model for regions of Ukraine similar to the above was previously calculated. Enterprises were previously divided into two classes: "socially efficient" and "socially inefficient" in relation to the target social price of the regions where these enterprises are located. The classification tree is built on the type of branching by the method of discriminant one-dimensional branching for categorical and ordinal predictors (QUEST). This method allows you to refine the analysis by pre-setting the prices of classification errors. In our case, we believe that it is more important to ensure the correct classification of "socially oriented enterprises". Therefore, the "price" of the incorrect classification of "socially efficient" enterprises compared to errors in the classification of "socially inefficient" we will define as 2: 1.

As a result of the analysis, 245 out of 1787 "socially efficient" enterprises (14%) and 1625 out of 5817 "socially inefficient" enterprises (28%) were mistakenly classified.

Table 3

Criteria for obtaining the status of "socially effective" by agricultural enterprises \*

Criteria variable	Criterion	A certain class of enterprises	Exclusion
Part of animal husbandry	> 8 %	"Social"	Rent <415.39 UAH / ha
Region	Volyn, Dnipropetrovsk, Kyiv, Poltava, Rivne, Sumy, Kharkiv, Khmelnytsky, Cherkasy	"Social"	Rent <2346 UAH / ha
Region	Donetsk, Zhytomyr, Zaporizhia, Kirovohrad, Odessa, Chernihiv	"Social"	Rent <1719 UAH / ha
Region	Vynnytsia, Zakarpattia, Ivano-Frankivsk, Luhansk, Lviv, Mykolaiv, Ternopil, Kherson, Chernivtsi	"Social"	The share of sunflower > 27%; Rent <1147 UAH / ha

*Exceptions are a qualitative indicative characteristic of borders and assignment of the enterprises of area to categories "social or socially effective"*

\* Suggested by the author

The numerical values of the obtained criteria were used to build an algorithm for assessing the social responsibility of enterprises (in 2016), shown in table 3.

According to the results of systematization of the proposed concepts and economic-mathematical modeling of scenarios of organizational and economic socialization of entrepreneurship in the countryside, the relevance and logic of the recommendations on:

- ensuring the socialization of agricultural entrepreneurship as a component of sustainable economic development is a multifaceted action to stimulate efficiency, energy efficiency, the formation of renewable management systems, ensuring socio-economic well-being;

- conceptualization of the mechanism of achieving sustainability through the socialization of entrepreneurship - the transition from classical to socially oriented management, especially in agriculture and rural areas, because it combines natural and entrepreneurial factors to ensure human life and they are interdependent;

- formation of socially effective entrepreneurship on the principles of sustainable development.

**Conclusions.** In general, the conceptual vision of the model of organizational and economic socialization of entrepreneurship in rural areas is positioned as a sys-

tem of scientifically sound proposals that set out the author's vision as a set of ideas for methodological improvement of the theory and recommendations for determining strategic priorities. Ukraine. The strategic priority of using the stated conceptual model is the approval of effective organizational and organizational and legal forms of management; increasing the socio-economic efficiency of agricultural enterprises; updating strategies for the development of social responsibility and the formation of social enterprises.

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## ТЕНДЕНЦІЇ СТВОРЕННЯ ТА ФУНКЦІОНУВАННЯ МОЛОКОПЕРЕБНОГО КЛАСТЕРУ КИЇВСЬКОЇ ОБЛАСТІ

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## TRENDS IN THE ESTABLISHMENT AND FUNCTIONING OF THE MILK CLUSTER OF THE KYIV REGION

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### Анотація

В статті автором визначені основні напрямки щодо розвитку та оптимізації виробничих процесів через необхідність виникнення різноманітних форм об'єднань, що сприятиме посиленню інтеграційних процесів на різних рівнях економіки. Автором було вивчені спроможність галузей та регіонів до створення кластерного об'єднання. Для визначення загальної тенденції розвитку молочної промисловості в цілому та окремих підприємств цієї галузі було застосовано метод експертної оцінки для виявлення факторів їх розвитку. Були встановлені сильні та слабкі сторони молокопереробної промисловості, виявлення конкурентні переваги та загрози з боку конкурентів та зовнішнього середовища.

### Abstract

In the article, the author identifies the main directions for the development and optimization of production processes due to the need for various forms of associations, which will strengthen integration processes at different levels of the economy. The author studied the ability of industries and regions to create a cluster association. To determine the general trend of development of the dairy industry as a whole and individual enterprises in this industry, the method of expert evaluation was used to identify the factors of their development. The strengths and weaknesses of the dairy industry, identifying competitive advantages and threats from competitors and the environment were identified.

**Ключові слова:** кластерні об'єднання, SWOT-аналіз, молочна промисловість, конкурентні переваги, можливості, загрози.

**Keywords:** cluster associations, SWOT-analysis, dairy industry, competitive advantages, opportunities, threats.

Для побудови якісно нової моделі економіки України на сьогодні необхідно розробити комплекс заходів щодо розвитку та оптимізації виробничих процесів, спрямованих на активізацію інноваційної та інвестиційної діяльності, налагодження ефективних механізмів взаємодії промислових підприємств, науково-дослідних, освітніх організацій.

Сучасний стан розвитку господарської системи на макро-, мезо- та мікрорівні характеризується високою конкуренцією в усіх економічних сферах. Це визначає необхідність виникнення різноманітних форм об'єднання, що, в свою чергу, сприяє посиленню інтеграційних процесів на різних рівнях економіки. Вирішення поставлених завдань може бути досягнуто через вивчення процесів організації формування кластерних утворень та механізмів їх реалізації. На даний момент кластери

сприймаються як одна з найбільш ефективних організаційно-економічних форм функціонування.

Вагомий внесок в теорію та практику формування та розвитку кластерів внесли такі зарубіжні та вітчизняні вчені: М.Портер [9], Є.Фезер [2], М.Єнрайт [1], Д.Якобс [11], Г. Хасаєв [11], А.Мігранян [7], М.Войнаренко [5], О.Петухова [8], А.Череп [10], О.Богма [4]. Однак в роботах зазначених авторів, не достатньо досліджено формування та розвиток кластерів в харчовій промисловості.

Кластер (англ. cluster — скупчення, кисть, кущ, гроно, концентрація, група) — об'єднання декількох однорідних елементів, які можуть розглядатися як самостійна одиниця, що об'єднана певними якостями та ознаками.

Вивчення кластерних структур, незалежно від середовища їх виникнення та існування, дозволяє виділити певні загальні принципи формування,