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MECHANISMS FOR IMPROVING ECONOMIC RELATIONS IN THE MILK SUBCOMPLEX OF THE AGRICULTURAL SECTOR: A CASE STUDY OF UKRAINE

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Abstract

Proposals for the formation of corporate and individual sector strategies are proposed. The dynamics of milk production and processing in Ukraine for 2010-2018 is analysed, where it is noted that the tendency to reduce milk production is still observed, and this, in turn, serves as a significant problem in the dairy subcomplex. The structure of milk purchase by processing enterprises is also considered and characterized, where, according to the requirements of European standards, only grade II milk is received from households for processing. A study was conducted on the author's vision of the development of the commodity dairy sector in rural areas. The main advantages of the participation of the territorial community in the creation and functioning of the procurement organization are investigated. The gradual implementation of measures for the formation of entrepreneurial initiatives in dairy farming in the countryside is demonstrated. There are a number of advantages for the territorial community of the formation of cooperatives, namely the creation of new jobs, increased financial capacity of local budgets due to increased tax revenues, improving the social situation in the united community, the arrival of new techniques and technologies. It was found that the basis for the creation of a production or service cooperative can be a procurement organization formed with the participation of the territorial community or without it. The results of the research on the improvement of organizational and economic relations of milk market participants are demonstrated and substantiated. Perspective directions of development of organizational bases of a dairy subcomplex which allow combining the economic success of business activity of rural households with development of rural territories are considered.

Key words**:** *dairy subcomplex, cooperation, milk producers, dairy cattle breeding, family dairy farms, territorial community*

INTRODUCTION

The development of the milk market is closely linked to the improvement of economic ties between its various elements and areas of production, the conflict of interests of which led to the decline of the entire dairy subcomplex as the material basis of the market. Finding ways to increase the efficiency of the market and the development of its organizational and economic principles, establishing mutually beneficial economic relations in the system "production – processing" of milk, including through the transformation of property relations, strengthening integration and cooperative processes can help eliminate the causes of the crisis in dairy production, and to improve the state of providing consumers with dairy products, which will contribute to the

scientific and practical solution of an important economic task.

Scientific aspects and practical problems of solving this problem are investigated in works of leading agricultural scientists V. Andriichuk, P. Berezivskyi, T. Bozhydarnik, M. Ilchuk, A. Popescu,, H. Cherevko, O. Shpychak, V. Dushka, V. Yakubiv, Y. Yanyshyn, and other researchers [1, 9, 14, 16, 17]. Their research covers the development of the milk market and its organizational and economic foundations, the effectiveness of market relations in the system of production – procurement – processing of raw milk and sales of dairy products, improving the mechanisms of economic relations between rural households and milk processing enterprises and milk market infrastructure.

Problematic aspects of the organizational and economic development of the cooperative movement are studied in the works of Ukrainian agricultural scientists: G. Kaletnik, T. Keranchuk, I. Kostyrko, and others [4, 5, 6].

MATERIALS AND METHODS

The theoretical basis of the scientific article is a dialectical method of understanding the essence of organizational and economic principles of the market, and its methodological basis is a set of methods, techniques, and principles of scientific research of its economic nature and the process of formation and development as an element of transformation processes in the agricultural sector.

Methods of analysis and synthesis, scientific hypotheses, grouping, analysis, system approach, time series, logical method and etc. were also used in the research process.

In the process of research general scientific and special methods and techniques were used, among which: abstract-logical (theoretical generalizations, formation of conclusions and proposals); monographic (identification of components that form the organizational and economic foundations of the formation and functioning of the milk market, form the mechanisms of cooperative relations, motives and incentives for the transformation of organizational and economic relations in the target market and the development of cooperative relations); economic and statistical (study of economic parameters of the target market and performance indicators of its participants, assessment of the dynamics and directions of development of economic relations, assessment of the market environment); tabular and graphical (demonstration of the dynamics of market processes and demonstration of schemes of relationships between the subjects of market relations); systematic analysis (substantiation of proposals for organizational activities for organizational and economic development based on the improvement of integration relations and cooperation in the system of "milk production and processing"). The reliability of the obtained results, conclusions, and proposals is based on a comprehensive analysis of statistical data and scientific generalizations.

RESULTS AND DISCUSSIONS

The milk market begins with the relationship of exchange between milk producers and processing enterprises, so the establishment of their mutually beneficial cooperation is the key to its successful operation.

Milk production is concentrated in two types of farms: agricultural enterprises and households. The dairy industry is an important component [2]. However, milk production and processing volumes in Ukraine tend to decrease from year to year.

Our analysis shows a clear tendency to reduce milk production in Ukraine. Over the last 8 years, production has decreased by 10.53%. Compared to 2017, processing enterprises received raw materials in 2018 less by 3.89% (or -169 thousand tons) (Table 1).

The low quality of raw milk in Ukraine and, as a consequence, dairy products significantly narrow its markets, especially in terms of exports. With the current quality of domestic raw milk, the main consumer of domestic dairy products is still the population of the country [4; 11].

Table 1. Dynamics of milk production and processing in Ukraine

Indicator	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2018/2010 %**
Milk produced, thousands of tons	11,249	11,086	11,378	11,488	11,133	10,615	10,382	10,281	10,064	89.47
Received milk from processing plants, total, thousands of tons, including:	4,793	4,615	4,716	4,570	4,647	4,251	4,183	4,348	4,179	87.19
From agricultural enterprises, thousands of tons	2,193	2,392	2,684	2,721	2,880	2,744	2,512	2,689	2,720	124.03
From households, thousands of tons	2,544	2,155	2,007	1,824	1,737	1,346	1,198	1,239	1,089	42.80
Marketability of milk, %	42.61	41.63	41.45	39.78	41.74	40.05	40.29	42.29	41.52	–

Source: systematized and built on the basis [10; 12; 15].

Table 2. The structure of milk purchase by processing enterprises

	Agricultural enterprises			**Households**		
	2018	2019 (half-year)	In % to 2018	2018	2019 (half-year)	In % to 2018
Weight of raw cow's milk, t	1,288,674	1,238,635	96.1	572,257	435,455	76.1
in terms of raw milk of the established basic fat content	1,368,423	1,328,495	97.1	582,994	445,837	76.5
including by grades:	X	X	X	X	X	X
Extra	287,735	340,298	118.3	-	-	-
specific weight, %	21.0	25.6	x	-	-	-
of the highest grade	532,841	498,277	93.5	1,366	436	31.9
specific weight, %	38.9	37.5	X	0.3	0.1	X
I grade	463,408	427,143	92.2	68,925	46,328	67.2
specific weight, %	33.9	32.2	X	11.8	10.4	X
II grade	80,558	54,249	67.3	492,672	377,138	76.5
specific weight, %	5.9	4.1	X	84.5	84.6	X
non-grade	3,881	8,528	219.7	20,031	21,935	109.5
specific weight, %	0.3	0.6	X	3.4	4.9	X
Of the total mass of raw cow's milk in kind	X	X	X	X	X	X
cooled to 10ºC	1,106,306	974,406	88.1	310,828	175,724	56,5
specific weight, %	85.8	78.7	X	54.3	40.4	X
Mass fraction of purchased raw cow's milk,%	X	X	X	X	X	X
Fat	3.61	3.65	X	3.46	3.48	X
Protein	3.10	3.12	X	2.96	2.94	X

Source: built and systematized on the basis [5, 7, 13].

Table 3. The influence of the concentration of dairy cows on the efficiency of milk production in agricultural enterprises of the Lviv region, 2019

Indicators	**Group of enterprises by number of dairy cows at the beginning of the year, heads**				**Collectively**
	up to 40	41-100	101-200	201 and more	
Number of enterprises	8	7	7	7	29
The average number of cows per enterprise	24	60	136	408	152
Hopes of milk per cow available at the beginning of the year, kg	2,595	2,886	2,966	5,044	4,285
Costs of milk production per cow, UAH	7,108	8,899	10,755	19,429	16,026
The cost of 1 quintal	273.96	308.34	362.56	385.19	373.92
milk, UAH	392.78	390.50	388.41	478.72	458.62
The sales price of 1 quintal of milk, UAH	3.8	3.8	3.5	18.1	15.0

Source: Calculated according to the data of financial and statistical reporting in the set of agricultural enterprises of the Lviv region of Ukraine, which submit these reports.

Volumes of extra-class milk production by agricultural enterprises increased by 18.3% in 2019 compared to 2018 (Table 2).

Second-grade milk (85% of the total) comes from the population for processing. Which, in accordance with the requirements of European standards is considered unsuitable for processing. And if so far this situation has led to a decrease in the quality of dairy products and increased costs for its production, at the present stage in the face of increasing competition, it poses a threat of failure of the domestic dairy industry to compete with foreign producers.

Concentrations of dairy cows are shown in Table 3.

It is very important as farmers to have high skills to be able to assure a sustainable resources, livestock and production management and benefit of a direct access to markets. Producers associations play an important role in providing low price farm inputs, in accessing the technical services, and in sustaining the delivery of the final products in the market to benefit of the increasing demand [8].

A more obvious trend of the relationship between production costs per unit of the dairy herd and the productivity of cows is illustrated by the graph (Fig. 1).

The results of data processing in the context of enterprises of the Lviv region, which report on the form №50-sg show that there is a well-defined direct link between production costs per unit of dairy herd and productivity of cows.

It is described by the formula:

$$Y_x = 0.2189x + 959.06 \quad \text{.....(1)},$$

where: Y_x - milk yield per cow, kg, x - annual production costs per dairy herd cow, UAH.

According to the results of the study, with the increase in production costs per cow per 1 thousand UAH, milk hopes per unit of livestock increase by 219 kg. The correlation coefficient is 0.82, which indicates a close relationship between the studied traits.

Since the average sale price of 1 quintal of milk by agricultural enterprises of the Lviv region in 2019 was UAH 459, the increase in production costs was covered by an increase in revenue, i.e. it was payback.

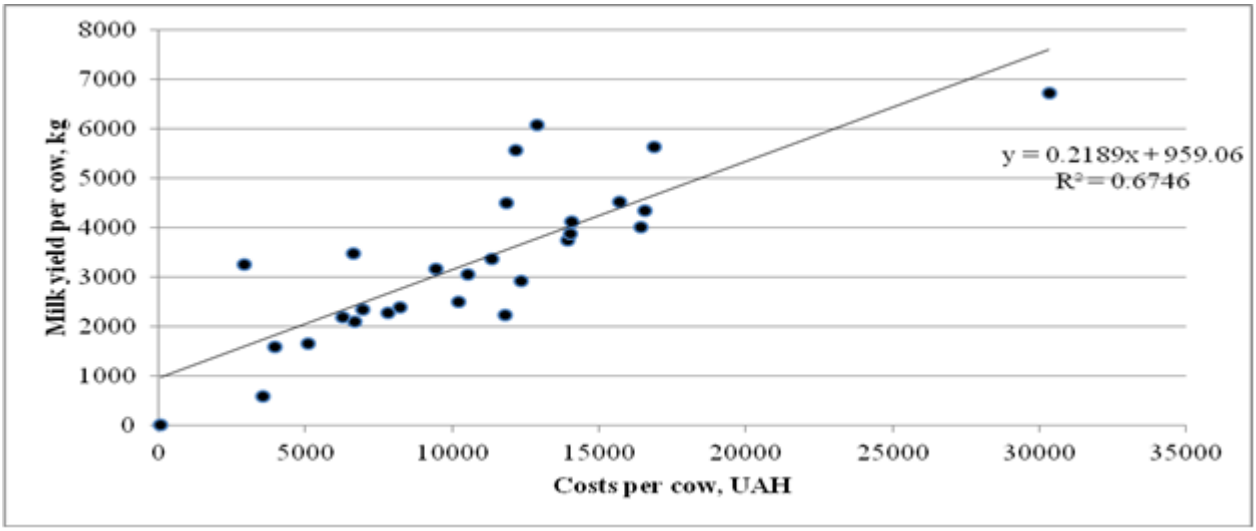

Fig. 1. The impact of costs per unit of livestock on the productivity of dairy cows in agricultural enterprises of the Lviv region of Ukraine, 2019

Source: developed and built on the basis of forms of financial and statistical reporting of agricultural enterprises of the Lviv region of Ukraine.

Having the value R^2=0.6746, we determine the significance of the relationship between the variables X and Y using Fisher's F-test

$$F = \frac{R^2}{1-R^2}\frac{(n-m-1)}{m} \quad \text{.....(2)}$$

The value of F=55.97, where m=1 pairwise regression.

The calculated actual value of the Fisher criterion F is compared with the tabular Ftable. With the degrees of freedom of the numerator (m1-1) = (2-1) = 1 and the denominator (n-m1) = (29-2) = 27 and the accepted level of confidence (1-α) = (1-0.05) = 0.95 Ftable for this model is equal to Ftable = 25.65. Since F> Ftable (55.97> 25.65), this means the significance of the relationship in the econometric model.

As long as the sum of the adjusted Y depending on X is equal with the sum of the empirical values, the parameters a and b of the regression model are correctly calculated.

Socio-economic reorientation of the formation of the model of domestic agricultural development in the process of market transformation of the national economy requires changes in development trends, the institutional environment, and the restoration of the multifunctional nature of Ukrainian agriculture. As a result of the fact that the processes that take place in the external environment are excessively rapid, agricultural enterprises of different types and forms of ownership (especially farms and households) cannot respond to all changes in a timely and appropriate manner. Therefore, due to the characteristics of a stable model of factors of production – land, labour, capital, we bring to the fore organizational and legal forms together with human capital, which are best adapted to external changes. Only cooperation and dissemination of mutually beneficial forms of vertically integrated agro-food formations from family farms and private farms with a harmonious combination of different industries and types of farms (large, medium, and small) will increase the overall level of productivity, competitiveness in the agricultural sector. This combination should open opportunities for rational use of land resources, as well as creating conditions for equal access of producers to technical, technological, and organizational innovations, finance, market infrastructure, benefits from exports and, consequently, maximizing profits and sustainable social development of rural areas and economy of the state as a whole.

In Fig. 2, consider the proposals for the corporate sector, and in Fig. 3.

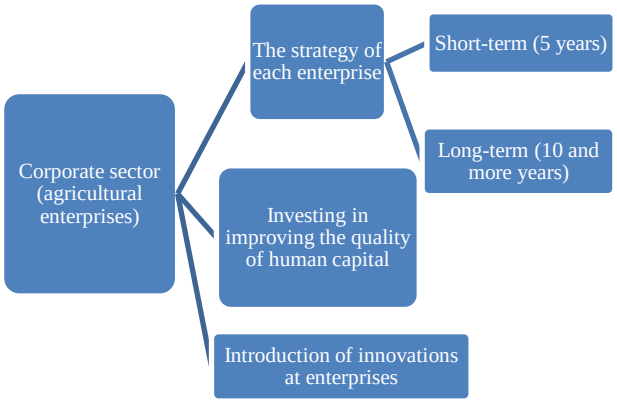

Fig. 2. Proposals for the corporate sector.
Source: own development.

To form a strategy for the development of agricultural enterprises, we make proposals for two groups of agricultural producers – the corporate sector [11], i.e. large agricultural producers, and the individual sector – farms and households.

In the absence of sufficient investment resources, the creation of dairy cooperatives will contribute to the formation of the necessary material and technical base to ensure the proper process of milking and primary processing of milk, which will help solve the problem of milk quality. Agricultural service cooperative is a non-profit organization that operates to provide its members with the services necessary for farming and seeks to increase the amount of their income [8, p. 7].

The operation of such a cooperative takes place on a contractual basis and provides for the sale of milk through a service cooperative. Instead, the service cooperative undertakes to provide services to provide producers with feed at the lowest possible prices, technical support of economic activities, etc. [6].

Modern realities – radical changes in the structure of local territorial communities and budget and tax decentralization – create unique conditions for cooperation between territorial governments and rural households

to legalize business, it's structuring, and streamlining.

As a result of budget decentralization, territorial communities receive significant financial resources that can be invested not only in infrastructure development, including social but also in economic projects [3].

We see the development of the commodity dairy sector in rural areas in the implementation of such a scenario.

First of all, it is necessary to create a business entity controlled by producers or members of the local community, which would be engaged in milk production. This entity must compete with existing buyers, and the purpose of its activities is to regulate the purchase prices of milk by market methods.

Such an economic entity may be created by the efforts of individual producers in the form of a cooperative association or with the participation of a government body – a united territorial community.

The second option, in our opinion, is currently optimal for the local community and individual producers.

On the one hand, sole proprietors will control the activities of the buyer formed with the participation of the territorial community with both economic and political levers. On the other hand, the territorial community is interested in the development of small businesses in the countryside, their legalization.

Typically, small businesses use a simplified taxation system, and the single tax administered under this system remains fully available to local budgets. That is, there are a clear interdependence and mutual interest between the needs of the territorial community and individual producers.

Funds may be allocated from the budget of the territorial community for the repair of premises, bringing them to sanitary requirements, financing the development of production infrastructure, including transport.

At the first stage of its activity, the procurement organization must operate with zero profitability, which will allow adjusting the purchase prices for milk and the profitability of its producers.

We believe that in this case, in the short term, the interest of the local community is not to make a profit, but to stimulate the entrepreneurial initiative of rural households. In fact, the local community will initiate the creation of a structure that in the future can be used as a platform for the formation of a cooperative association.

The participation of the territorial community in the establishment and operation of the procurement organization can be both financial and non-financial.

The territorial community may contribute financial assets to the authorized capital of the procurer or enter the participant as a result of the transfer for use of certain premises and other types of fixed assets.

The territorial community can sell or keep its share in the cooperative association. An unconditional condition for such cooperation is the legal conduct of small businesses, including through the creation of family farms. This is the next stage in the development of the entrepreneurial initiative of the territorial community.

The implementation of this stage will require a number of information and organizational measures, including:

– conducting training seminars;

– provision of consulting and advisory services;

– organization of cooperation with state authorities.

The phased implementation of measures to form a business initiative in the countryside aims to create the necessary conditions for starting your own business, running it on a self-sustaining and self-financing basis, phased development, structuring, etc. (Fig. 3).

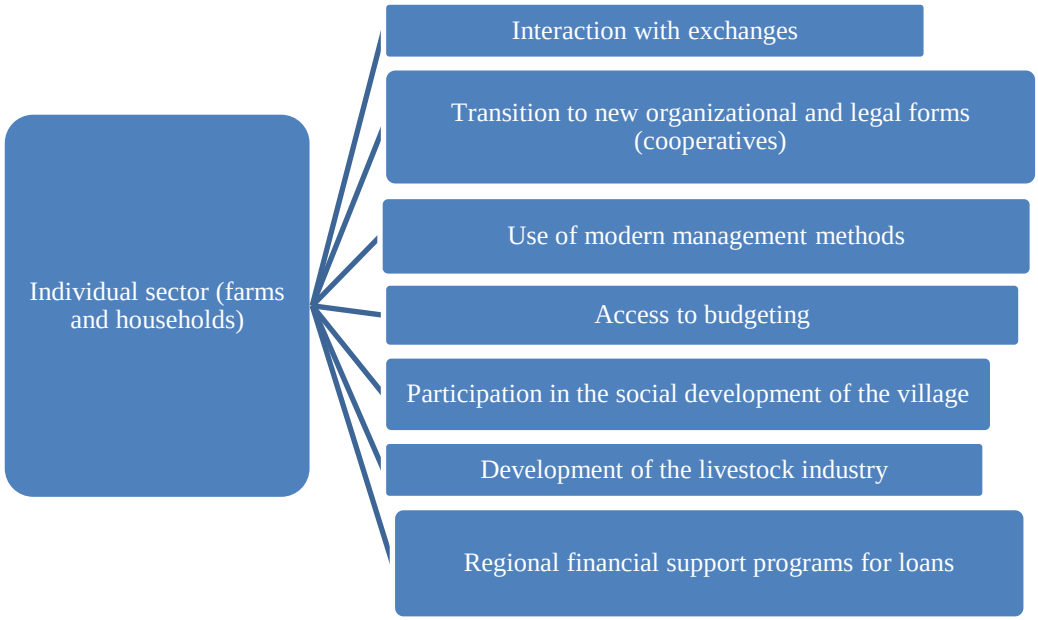

Fig. 3. Proposals for the individual sector
Source: own development.

The primary source of funding for a small business organization may be not so much the own funds of producers, the budgetary resource of the local community, as funds raised in specialized funds. For example, an unemployed small milk producer registers with an employment centre, draws up a business plan for setting up a family dairy farm, submits it to the relevant commission for consideration and approval, and registers as a business entity. Subject to the approval of the business plan, the milk producer is paid a lump sum of unemployment benefits in the amount corresponding to the number of benefits due to him for the entire period. The funds are earmarked and can be used only to start your own business and its development.

The next stages of change aimed at the development of dairy farming in rural areas and the formation of an efficient market for milk and dairy products should be the association of milk producers and other stakeholders on a cooperative basis and/or integration of producers with processors.

If the integration processes are mostly of indirect interest to local communities, they are directly interested in the formation of cooperatives.

The formation of cooperatives certainly has a number of advantages for the local community, including:

– creation of new jobs;

– growth of financial capabilities of local budgets due to increased tax revenues;

– improving the social situation on the territory of the united community;

– innovative way of development of production (a receipt of new technologies, equipment, productive breeds of cattle).

The participation of the territorial community in the creation of cooperatives should be reduced to a stimulating and regulatory role. The territorial community may provide the cooperative association with the necessary premises for production and non-production purposes for temporary use.

It is necessary to provide a mechanism for the gradual growth of rents, i.e. during the first year of operation of the rent of the premises should not be charged, during the second year, the rent should be paid at 20% of its amount and increase in subsequent periods by 20% annually and only in the sixth year reach the level of 100% of the amount.

Another indirect method of supporting the development of a cooperative association, especially if it is established as a service cooperative, may be the transfer to it for temporary use on preferential terms of land from the reserve fund for grazing livestock, the organization of loose camp pasture system in the summer, growing fodder, etc.

In this case, the participation of the territorial community is reduced to facilitating the

receipt of appropriate approvals from public authorities.

We believe that in the context of the financial crisis, the instability of the national currency, the high cost of credit resources, and the difficulty of obtaining them for newly established business associations, it is the territorial communities that should act as generators of entrepreneurial activity in rural areas. At the same time, they should not act as a co-founder of the business entity but perform a coordinating function, implement incentives and regulatory measures. The basis for the creation of a production or service cooperative may be a procurement organization formed with the participation of the territorial community or without it.

The results of our study to improve the economic relations of milk market participants are shown in Fig. 4.

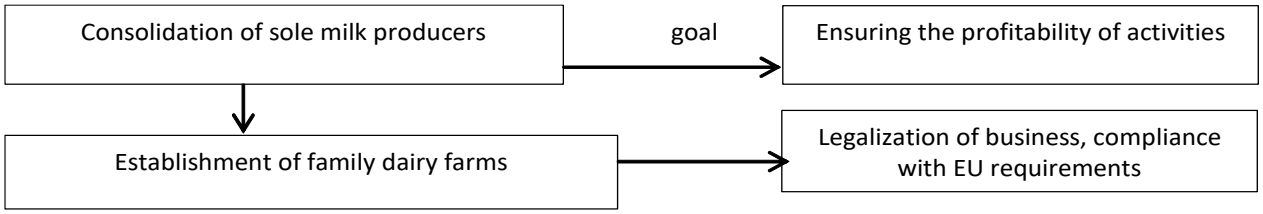

Fig. 4. Initial stages of supporting entrepreneurial initiative in dairy farming
Source: own development.

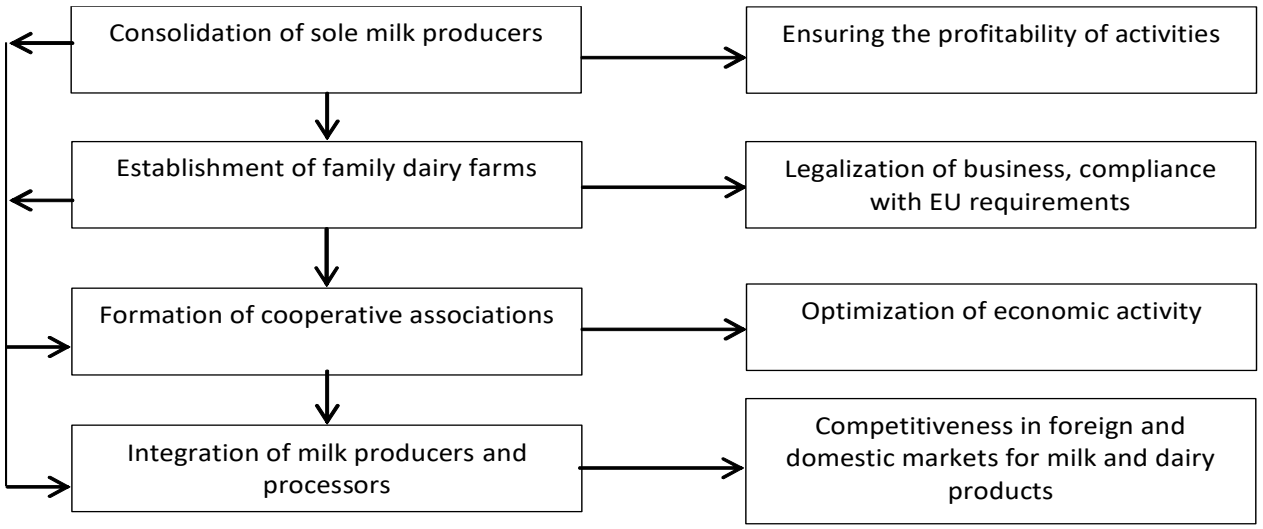

Fig. 5. Stages of improving the organizational and economic relations of dairy entities under the complex of Ukraine
Source: own development.

We believe that in order to be effective in the dairy market, small producers must go through three mandatory stages: consolidation, legalization, and cooperation.

This will allow them to compete with processing plants and procurement organizations, and thus influence the cost of raw materials, i.e. milk. The fourth stage - integration, in particular in the form of an integrated cooperative - will provide raw material producers with additional opportunities, including participation in the redistribution of income of processing enterprises, which are obtained from the sale of final products.

As we can see (Fig. 6), investing in the development of entrepreneurial initiatives will ultimately increase the income of local communities and, consequently, their financial capabilities.

The given scheme can be imposed also on other branches of agricultural production which functioning is economically expedient in the corresponding territory.

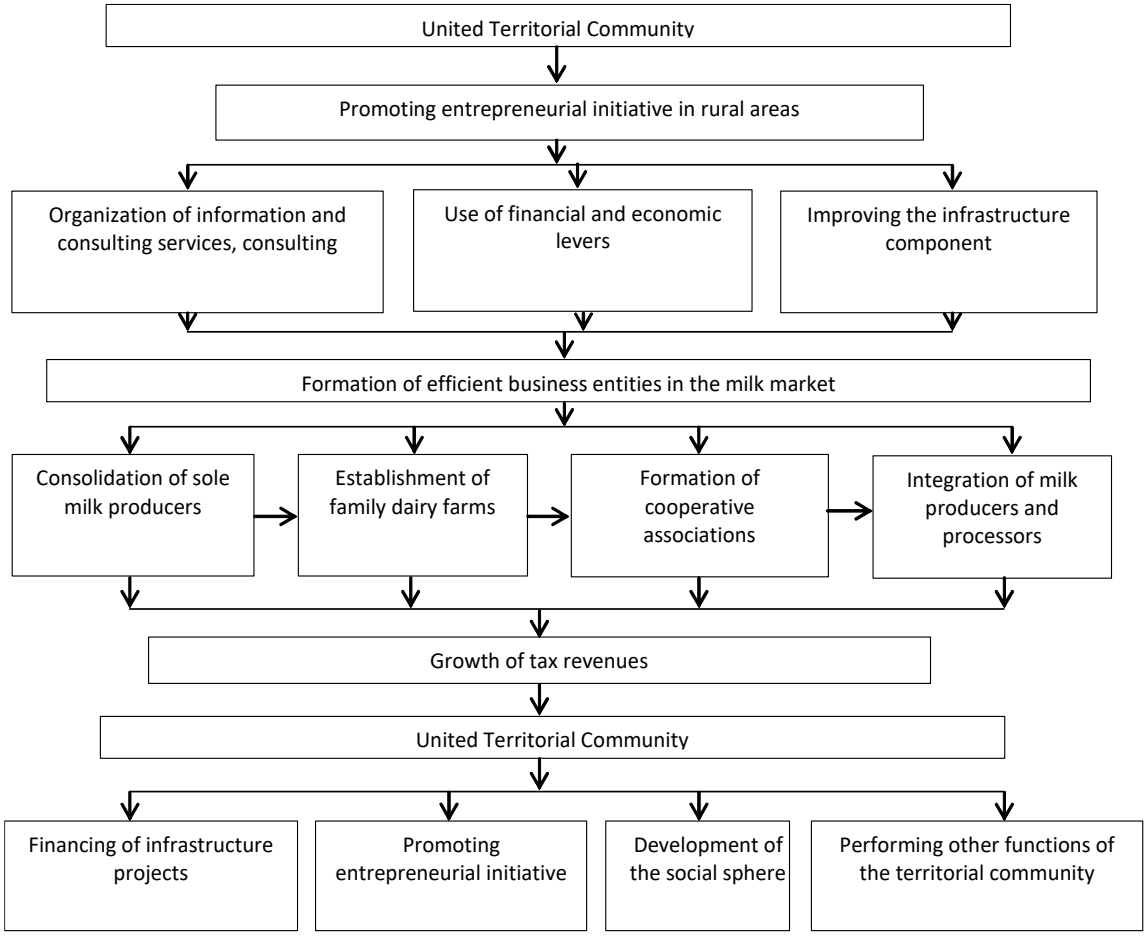

Fig. 6. The expediency of support of milk and dairy products market entities by united territorial communities
Source: own development.

CONCLUSIONS

The most promising ways to develop the organizational foundations of the dairy subcomplex are areas that combine the economic success of entrepreneurial activity of rural households with the development of rural areas. The conceptual organizational basis for the formation of an efficient milk market, in our opinion, is the best adaptation of private farms to modern market requirements through the widespread creation on their basis of small organizational and economic forms of management - family farms.

We believe that only through the organizational development of a set of disparate individual farms through their transformation into marketable family farms can a sufficiently large number of entities and a potentially competitive rural sector be formed, which will be able to stabilize the dairy market.

In order to be effective in the dairy market, small producers must go through three mandatory stages: consolidation, legalization, and cooperation.

This will allow them to compete with processing companies and procurement organizations, and thus affect the cost of raw materials, ie milk. The fourth stage - integration will provide raw material producers with additional benefits, in particular participation in the redistribution of income of processing enterprises, which are obtained from the sale of final products.

REFERENCES

[1]Binert, O.V, 2018, Analysis of organizational and economic conditions of milk producers in Lviv region. Economy and society. 2018. №14, 259-267.

[2]Binert O.V, 2016, Development of organizational and economic principles of milk producers in the market. Business Inform. 2016. № 10, 230–235.

[3]Dairy cooperatives: realities and prospects, https://msb.aval.ua/news/?id=24912, Accessed on Nov. 18, 2020.

[4]Kaletnik, G.M., 2013, Management of economic relations of enterprises of dairy subcomplex of agricultural sector of Ukraine: monograph, Vinnytsia: Console, 2013. 247 p.
[5]Keranchuk, T.L., 2017, Dairy industry of Ukraine: prospects and problems of development. Eastern Europe: Economy, Business and Management. № 3 (08), 133–136.
[6]Kostyrko, I.G., Binert, O.V., 2017, Development of organizational and economic conditions of functioning of milk producers: monograph. Lviv: Liga-Press, 192 p.
[7]Methods of scientific cognition: methodical advice for studying the topic "Consciousness and cognition". Lviv, 2003. 18 p.
[8]Popescu, A., Mărcuță, L., Tindeche, C., Mărcuță, A., Dorobanțu, D. M., 2020, Ewes and goats' contribution to the raw milk delivered to dairies in Romania in the period 2009-2018 and forecast for 2019-2023 horizon. Scientific Papers Series-Management, Economic Engineering in Agriculture and Rural Development, Vol. 20(2): 371-378.
[9]Popescu, A., Tindeche, C., Hontus, A., Marcuta, A., Marcuta, L., Angelescu, C., 2020, Ewes and goats' contribution to the EU-28 milk production in the period 2010-2018. Scientific Papers: Management, Economic Engineering in Agriculture & Rural Development, Vol. 20(3): 431-442.
[10]Receipt of milk to processing enterprises. State Statistics Service of Ukraine: website. http://www.ukrstat.gov.ua/, Accessed on Nov. 06, 2020.
[11]Regulations on milk quality for members of the cooperative: http://govuadocs.com.ua/docs/308/index-10929.html. Accessed on 06.04.2020.
[12]Rhizome, 2020, Wikipedia, website. https: // uk. wikipedia. org / wiki /% D0% A0% D0% B8% D0% B7% D0% BE% D0% BC% D0% B0. Accessed on Nov. 18, 2020.
[13]Sodoma, R., Shidnytska, G., Shvarok, A., Shmatkovska, T., Zurakovska, I., 2018, Peculiarities of agrarian receipts as a modern financial tool, Economic Annals- XXI. 2018. № 169 (1-2), 46-49. Doi: 10.21003 / ea.V169-09, http://soskin.info/en/ea/2018/169-1-2/Economic-Annals-contents-V169-09. Accessed on Nov. 18, 2020.
[14]Sodoma, R., Agres, O., Havryliuk, O., Melnyk, K., 2019, Innovation and investment development of Ukrainian industry. Financial and credit activity: problems of theory and practice. Vol 1, No. 28, 225-233 Doi: 10.18371/fcaptp.vli28.161882, Accessed on Nov. 18, 2020.
[15]State Statistics Service of Ukraine. http://www.ukrstat.gov.ua, Accessed on Nov. 18, 2020.
[16]Yakubiv, V., Sodoma, R., Hrytsyna, O., Pavlikha, N., Shmatkovska, T., Tsymbaliuk, I., Marcus, O., Brodska, I., 2019, Rozvytok elektronnogo bankinhu: na examples of Ukraine. [Development of Electronic Banking: a Case Study of Ukraine]. Entrepreneurship and Sustainability Issues, 7 (1): 219-232. http://doi.org/10.9770/jesi.2019.7.1(17) [In English] http://pa.stateandregions.zp.ua/archive/1_2015/15.pdf, Accessed on Nov. 26, 2020.
[17]Yanyshyn, Y, Sodoma, R., Markiv, G., Lipych, L., Shmatkovska, T., Shidnytzka, G., 2020, Economic efficiency of the nuts complex business in the agriculture of Ukraine. Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development Vol. 20(2), 531-536. http://managementjournal.usamv.ro/pdf/vol.20_2/volume_20_2_2020.pdf, Accessed on Jan. 23, 2021.